Improving Methods of Accounting for Working Time in the Context of Digitalization

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Abstract. The article is devoted to the study of the impact of digitalization on the accounting of working time. The paper considers the traditional methods of accounting for working time, and modern methods, the use of which is associated with the development of digitalization: methods based on the use of software and hardware control and automated systems for recording working time. The advantages and disadvantages of modern methods of accounting of working time are revealed, their functionality is described. It has been established that the organization of the system for monitoring and recording working time based on the use of modern methods allows automating the elements of the analysis of the activities of each employee and the enterprise.

1 Introduction

Digitalization as a modern condition for the functioning of enterprises has a direct impact on all aspects of their activities. The introduction of digital technologies is aimed at improving the production and technical process, modernizing and updating fixed assets, increasing the turnover of working capital, increasing labor productivity, and reducing the cost of resource support for activities. Active changes are observed in the field of control and accounting of working hours.

Researchers of our time pay great attention to the issues of working time management. So, A.V. Pobelyanskaya, E.A. Kipervar. analyze the efficiency of working time from the standpoint of the quality of its use [1]. Berezyuk L.A. considers working time as a socio-economic and legal category [2]. Vasiliadi S.M., Enilina A.V., Petrova R.E. investigate the problems of the institution of working time and its types [3; 4; 5]. O.S. Reznikova characterizes in more detail the accounting of working time as a component of personnel control in the activities of the enterprise [6].

Some scholars show the importance of digitalization in the formation of the modern labor market. So, Tomashevsky K.L. notes the impact of digitalization on the development of the labor market as a whole [7], and Simchenko NA - on labor relations in the team of a separate enterprise [8].

However, when considering working time, researchers pay more attention to the legal essence of the concept, and consider working time control methods as a component of

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personnel records, without highlighting what transformations have taken place in working time accounting in the context of digitalization.

The purpose of the article is to consider the improvement of methods for recording the working time of enterprise employees in the context of digitalization.

2 Materials and Methods

The research was carried out using the methods of generalization, systematization and structuring of the material.

3 Results and Discussion

Working hours, according to the Labor Code of the Russian Federation, "this is the time during which the employee, in accordance with the rules of the internal labor schedule and the terms of the employment contract, must fulfill his labor duties" [9].

Time tracking is "recording and monitoring the actions of subordinates during the working day, in order to maintain work discipline at the enterprise and ensure compliance with the work schedule" [2].

The dynamics of labor productivity, labor intensity of work, organization of the labor process depends on how effectively the employees of the enterprise use their working time. At the same time, the rational use of working time is "a guarantee of the implementation of technical and technological indicators of activity and an increase in the efficiency of work at the enterprise while reducing the cost of personnel management" [10].

According to labor legislation, "the employer is obliged to keep records of the time actually worked by each employee" [9], with the aim of "establishing the structure of time spent during the working day and determining the actual time spent on performing certain operations" [10]. According to Crowd Research Partners, "94% of organizations use some kind of systems to monitor their employees, and 93% track access to sensitive data. [11]

Accounting for the costs of working time as part of the control system allows you to solve the following tasks:

− fixing the time of coming to work and leaving it;
− checking the presence of an employee at the workplace during the working day;
− identification of absenteeism;
− control of work discipline.

According to a survey of Internet users, 80% of the company's employees are daily distracted by social networks, news, personal correspondence, spending at least 10% of their working time on this [12].

It should be noted that when organizing the recording of working hours and controlling the work schedule, it is important to comply with labor legislation, which "guarantees each employee the right to rest during the working day: lunch break and 10-minute rest every 1-2 hours" [9].

In addition, when organizing a system for controlling working hours, it is important to maintain a distance and not make control total, as well as to warn personnel in advance about the methods that are used at the enterprise for recording working hours.

Violation of this rule can become the main demotivator of staff, and negatively affect the effectiveness of its work.

Despite the fact that the methods of accounting for working time in the context of digitalization have significantly evolved, nevertheless, it is necessary to highlight the traditional accounting models:

1. Verbal control over the fulfillment of the assigned tasks, which provides for oral interaction between the immediate supervisor (controller) and the employee (controlled) by identifying the degree of readiness to perform tasks.

2. Daily reports with detailed chronology, which provide for the independent maintenance of records of completed tasks and the time spent on their implementation. At the same time, intermediate tasks are also recorded that do not have a specific result.

3. Keeping a journal of working hours responsible for fixing the time of arrival and departure from work.

4 The establishment of standards, that is, certain key indicators that must be achieved while performing labor functions.

These methods are still relevant, and are actively used by enterprises of various industries, but their range of influence is mainly aimed at controlling the work schedule and identifying its violators, while modern methods of accounting for working hours based on the use of IT solutions make it possible to automatically record information, process it and prepare reports in order to display not only the performance of each employee, but also to ensure the economic security of the enterprise. These methods include:

1. GPS-monitoring - "a specialized system designed to record the working time of a vehicle, which will allow you to determine the exact location and route of the employee driving it" [13].

In the Russian Federation, vehicle monitoring is carried out through the Russian satellite navigation system - GLONASS, which, in addition to recording working hours, allows you to reduce the risk of theft, avoid uncoordinated routes, improve engine efficiency, and control fuel consumption. "These advantages provide a 30% savings in fleet maintenance costs" [13].

2. Video surveillance is a method of recording working hours, which consists in installing cameras with image and sound recording in the premises of the enterprise, allowing you to see in real time how the employee uses his working hours during the day.

It should be noted that the installation of video cameras in the workplace must be agreed with the staff in writing. In accordance with the Criminal Code of the Russian Federation, inconsistent video surveillance may entail for the employer "imprisonment for up to 4 years, or a fine of up to 200 000 rubles." [14]

3. The access control and management system (hereinafter ACS) provides for the use of special proxy cards with an identification number to enter and exit the "work area". With the integrated use of the ACS, it makes it possible to carry out round-the-clock monitoring of the working area, keep statistics on the use of working hours, compile reports on working hours, work schedules and a personal log of hours worked.

A variety of access control systems are biometric systems, the actions of which are based on the principle of identification using the individual biometric indicators of each employee: fingerprint, retinal scan, voice recognition, etc.

The advantages of using biometric systems include the definition of the exact time spent in the "working area", and "the individual nature of the biometric identifier, which practically excludes the substitution of the user and unauthorized hacking" [10].

However, from the point of view of the efficiency of using working time directly at the workplace, this system is useless, since it does not provide access to such information.

4. Cloud services.

In the context of digitalization, cloud services designed for automated accounting of working hours have become especially widespread. They make it possible to comprehensively solve problems, since they provide not only recording of working time, but also analyze the productivity of employees, carry out online video surveillance with recording the results, record violations of the schedule, generate a time sheet, reports for calculating wages and bonuses to employees.

Among the popular software products Boss Control, CrocoTime, Disciplina.ru, Mobiforce, Kickidler and others can be distinguished.

Let's consider the functionality of cloud services using the kickidler software as an example [11]:

- report on working hours - automatic recording of hours worked on a personal computer;
- time sheet - detailing the employee's work time with hourly fixation;
- the report "Details of the day" shows the employee's productivity in% ratio of types of activity (productive activity, unproductive activity, neutral activity, inaction) (Fig. 1);
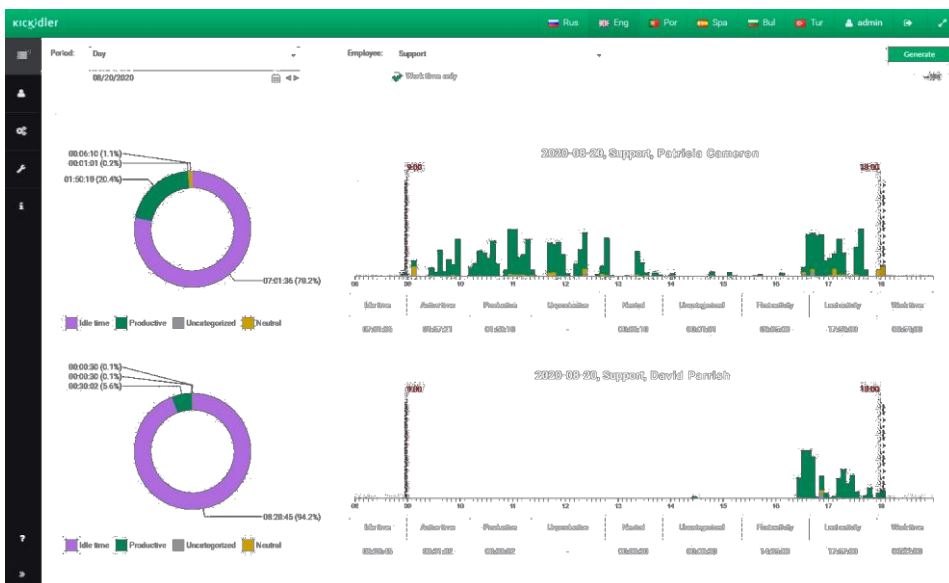

Fig. 1. Screenshot of the employee productivity diagram [12]

- the production calendar allows you to automatically form the employee's work schedule, taking into account the beginning and end of the working day, lunch break, technological breaks, vacation, sick leave, work on holidays and pre-holidays;
- online monitoring of employees provides viewing of user screens;
- automatic sending of notifications;
- self-control interface allows the employee to track his own personal performance;
- remote access allows remote control of employees' computers, regardless of the operating system used;
- time tracker for freelancers and freelancers by analogy with full-time staff.

Thus, automated working time management systems allow to implement the function of personnel control in a comprehensive manner, taking into account not only the use of the operating time of each employee, but also to obtain information about the actions of employees in the "working area", the productivity of their tasks and the achievement of a personal motivation plan.

The data obtained in the process of using automated working time management systems is systematized and accumulated, which makes it possible for the employer to analyze changes in indicators in dynamics, identify deviations from the planned volume and standards, and assess the quality of staff work.

4 Conclusion

In general, in the context of digitalization, the employer has the opportunity to choose methods of control and recording of working time that allow organizing this process as efficiently as possible. The use of software and hardware, cloud services will allow the employer not only to obtain data on the use of working time by the employee, but also to develop a motivation program based on the information received, as well as to increase the economic security of the enterprise and prevent information leakage due to insider attacks.

Thus, the organization of control and accounting for the use of working time using modern methods based on IT-solutions is not only an element of an effective personnel policy, but also a competitive advantage of the enterprise.

In table 1, the conclusions drawn from the analysis of modern methods of accounting for working time are systematized and summarized.

Table 1. Modern methods of working time management

Methods	Benefits for the organization	Disadvantages for the organization
GPS- monitoring	- determines the exact location, - reduces the risk of theft, - excludes uncoordinated routes, - improves efficiency of operation engine, - saving fuel costs	- installation of the GLONASS system, - modernization costs, - staff dissatisfaction
Video surveillance	- online control, - workplace safety, - increase in labor productivity	- official approval with the staff, -"blind" zones of control
The access control and management system	- security the enter and the exit in the "work area", - reporting automation, - personalization of accounting for working time	- lack of the workplace control, - transfer of the proxy card to a third person
Biometric Access Control	- excludes user substitution, - determines the exact time spent in the "working area"	- lack of the workplace control, - timely updating of bases information
Cloud services	- complex approach to personnel management, - analysis of indicators in dynamics, - quality control of the work staff	- the costs of purchasing a software product, - training of the staff, - staff dissatisfaction

References

1. A.V. Pobiyanskaya, E.A. Kipervar, Labour economics, 1169 (2019)
2. L.A. Berezyuk, Bulletin of the Belarusian state University of Economics, 103 (2017)
3. S.M. Vassiliadi, Theory and practice of social development, 115 (2016)
4. A.V. Enilina, Humanitarian, socio-economic and social Sciences, 173 (2017)

5. G.O. Jakovenko, M.I. Bushmarinov, SKIF. Questions of students science, 293 (2019)
6. O.S. Reznikova, Service in Russia and abroad, 26 (2019)
7. K.L. Tomashevsky, Bulletin of the Saint Petersburg University, **2**, 398 (2020)
8. O.S. Reznikova, *Personnel management organization in the conditions of digitalization: monograph* (2020)
9. The labour code of the Russian Federation (2001)
10. A.Y. Kuralesin, Science Symbol, 79 (2016)
11. Andrey Pismenny, *Software product Kickidler overview* (2018)
12. S.P. Kirilchuk, E.V. Shevchenko, Integration of Sciences, 33 (2016)
13. A. Kiselev, The Age of Quality, 46 (2011)
14. Criminal code of the Russian Federation (2020)