

6/2022,
noyabr-
dekabr
(№ 00062)



MODERN METHODS OF WORKING TIME ACCOUNTING IN THE MANAGEMENT AND PERSONAL RECORDS ACCOUNTING SYSTEM: IT SOLUTIONS

Mirzakhililova Damira Salikhovna

Branch of the Russian State University of Oil and Gas (NRU) named after I.M. Gubkin in Tashkent, Ph.D., Acting Associate Professor

dmirzakhililova@gmail.com

Udirbaeva Amaliya Bekmuratovna

Branch of the Russian State University of Oil and Gas (NRU) named after I.M. Gubkin in the city of Tashkent, student

amaliaudirbaeva@gmail.com

DOI: https://doi.org/10.55439/EIT/vol10_iss6/a30

Abstract

To effectively manage the working time of employees, it is necessary to have reliable information about the content of working time costs and the structure of the functions performed by them during the working day. Based on the information obtained as a result of studying the costs of working time, most tasks related to the organization of labor and its rationing are solved. The study of the labor process involves the analysis of all its characteristics that affect labor costs and the efficiency of the use of production resources. The article touches upon the issue of rational use of working time as one of the conditions for labor efficiency. The work spelled out the main goal of considering modern methods of working time accounting in the management and personal records accounting system. A comparative analysis of classical methods of accounting for working time and IT solutions is made. An example of calculating the efficiency of using working time at one of the enterprises in Uzbekistan is given. The author has mentioned the modern software products for working time accounting.

Keywords working time, accounting system, IT-solutions, labor costs.

Introduction

The long-term strategy for sustainable development in Uzbekistan sets annually high parameters of economic growth at least 7% of gross domestic product (GDP), which depend on a large extent on the growth rate of labor productivity. GDP growth in Uzbekistan over the past 20 years has been quite rapid — on average about 5% annually, and 91% of this growth was associated with higher levels of labor productivity. However, the existing potential has been underutilized. Average productivity of labor in Uzbekistan is 54% is lower compared to countries with high-average per capita incomes (USA, Germany, Japan, and Luxembourg) [7].

In order to effectively manage the working time of employees, it is necessary to have reliable information about the content of working time costs and the structure of the functions performed by them during the working day. The problem is that the existing methods of accounting for working hours are losing their relevance and significance.

Currently, there are a large number of information systems that allow for a more accurate study of the labor process and analyze all factors affecting the labor intensity and efficient use of production resources. The purpose of this article is to study modern methods of working time accounting in the management and personnel accounting system. To achieve this goal, it is necessary to solve a number of tasks. The first task is aimed at reviewing and comparing classical and modern methods of working time accounting. The second task is to study the efficiency of using the working time of an employee working at one of the enterprises in Uzbekistan. The third task is aimed at studying modern software products for working time accounting that have practical value in the management and personnel accounting system.

Literature review

The study of the use of working time of enterprises in Uzbekistan is reflected in researches, scientific works and articles of foreign and republican research institutes. Among foreign research institutes, World Bank Group researched this topic in their works. (World Bank Group "Growth and Job Creation in Uzbekistan: An In-depth Diagnostic", 2020) [8].

The Labor Code of the Republic of Uzbekistan unequivocally obliges the employer to keep records of the working hours of the employees hired by him, and therefore each enterprise must organize it at least in a minimal form. The employer independently decides how to monitor the working time (Labor Code) [1].

Based on the information obtained as a result of investigate the input of working time, most tasks related to the organization of labor and its rationing are solved. The investigate of the labor process involves the analysis of all its characteristics that affect labor inputs and the efficiency of the use of production resources. The study of the working time costs of the company's employees is aimed at solving at least two problems:

1) establishing the structure of time spent during the working day;

2) determination of the time actually spent on performing certain operations.

(Pobiyanskaya, Potudanskaya, 2019) [6].

The analysis of the use of working time allows us to assess the rationality of the use of labor resources and the conditions of the labor plan. The efficiency of the enterprise and the implementation of technical and economic indicators depend on the rationality of the use of working time. It is important to note that the analysis of the use of working time plays an important role in the management and assessment of the personnel of the enterprise (Bogatyreva, 2021) [2].

Nearly every survey of remote working shows increases in productivity. JD Edwards and American Express, companies that develop software for enterprise resource planning (ERP), found their workers to be 25% more productive than their colleagues, who do not have a time tracking system on their computers. Employee monitoring and time tracking tools in different industry verticals across the globe to make their employees work more productively. Information systems for recording working hours allow not only to control the activities of employees of the company, but also to prevent information leakage. For example, in mid-June 2018, a Tesla employee hacked into the production management system and transferred large amounts of sensitive information to third parties. What happened in the USA is a typical example of how a business suffers financial losses due to information leakage. The role and importance of time tracking information systems is growing, because they allow not only to monitor employees, but also to identify intruders even before they harm the company (Bloomberg, 2022) [10].

Methodology

In this article scientific abstracting, comparative analysis, grouping, systematic approach was used by the author. All the variety of working time accounting methods allow us to group them into two large groups: traditional and modern (fig. 1).

Enterprise practice shows that the reasons for low productivity of workers are the insufficient degree of labor organization and inefficient usage of working time

The value of studying the working time costs of employees of the enterprise. Firstly, it is the establishment of the structure of time spent during the working day; secondly, the determination of the actual time spent on certain operations, sorting them by importance to achieve the organization's goal, reasonable distribution of work among employees, which eliminates duplication of functions [4].

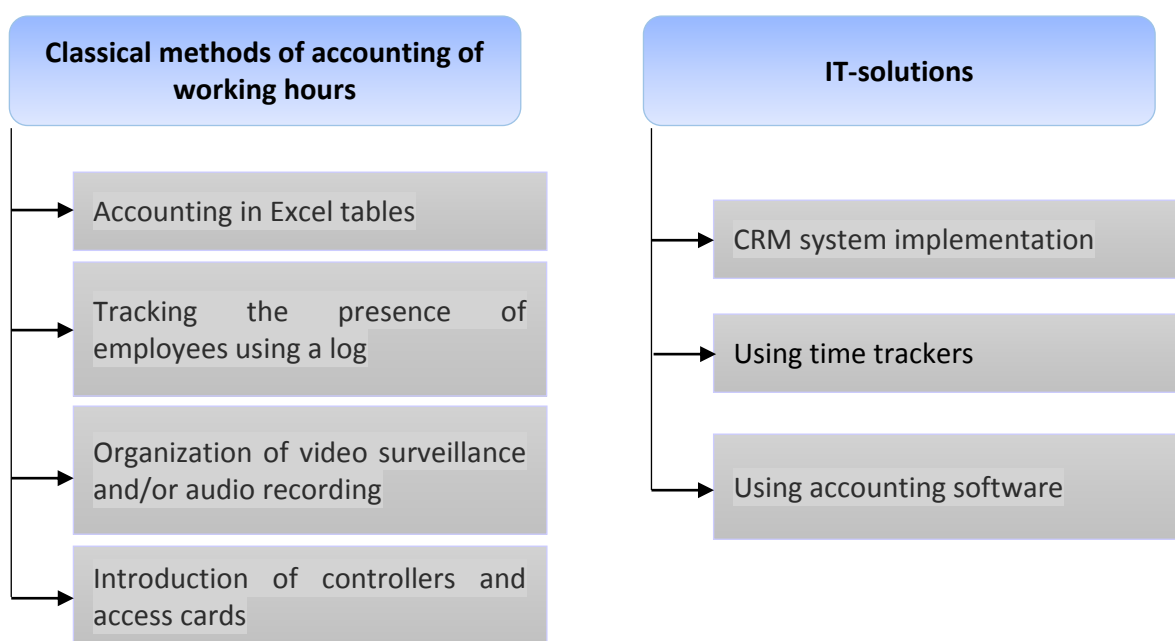


Figure 1. Working time accounting methods.

Source: compiled by the author based on the results of the study

In addition, based on the study of the structure of working time costs, it is possible to get an actual picture of the irrationality of costs and losses of working time, to consider the causes, to help to identify methods for combating them that are most suitable for each employee in the organization [5].

One of the classical methods was chosen as a method of accounting for working hours – keeping time records in Excel tables. As an object of research, the best employee is usually chosen to disseminate his experience among other workers, project the most rational distribution of work shift time according to the classification groups of time spent, analyze the loss of working time and the organizational and technical reasons that cause them. All activities are carried out in order to develop troubleshooting measures and improve the use of working time.

The chief specialist of the Department of “Economic Research and feasibility study of projects” was selected as the analyzed worker (Table 3).

The definition of the sequence of analysis of the use of working time losses is shown in the figure 2.

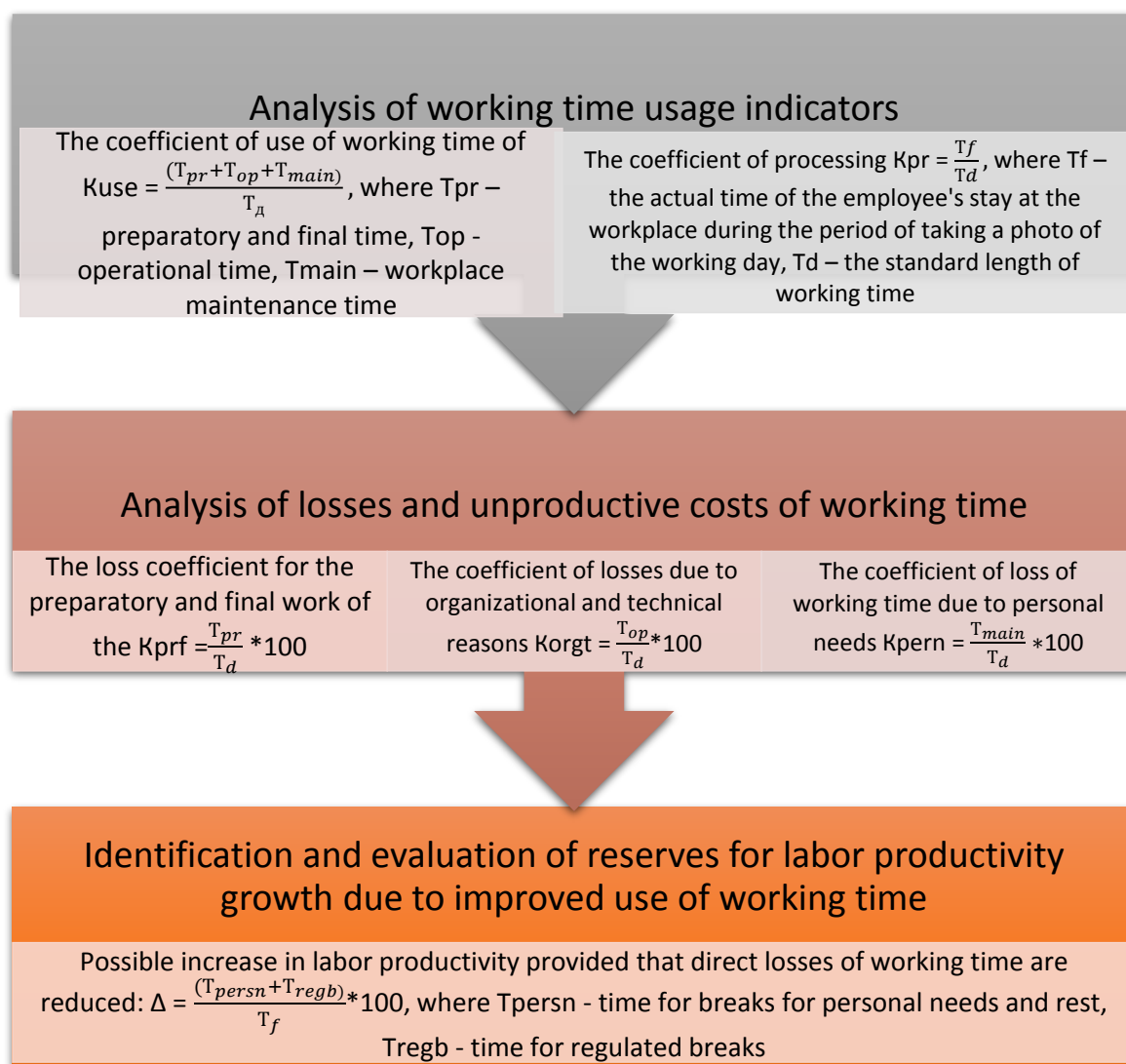


Figure 2. Assessment of the impact of working time on labor productivity

Source: Gandina N.M. Economics and labor rationing

Analysis and results

One of the most common methods - accounting in Excel tables - is simple and affordable, maintaining a table does not require additional expenses, is suitable for inspections of regulatory authorities and payroll. Minor changes should be made to the table once a month. However, despite the advantages of this method, there is a number of disadvantages that need to be mentioned. The method is not suitable for the system that must take into account not only the number of hours, but also their effectiveness. The one, who is responsible for maintaining the table, forced to spend plenty of time filling it out manually. As a result, the human factor that leads to the increase in the risk of errors is involved. This is especially important if the staff works on a shift schedule. Also, these tables are suitable only for small firms. In large companies, business processes need to be automated. In addition, the report card in Excel must be sent to the accounting department every month.

The presence log is a proven option for detailed control, which is still in demand in many organizations. The magazine is on the checkpoint, employees note when they came to work and left the building, and put signatures.

Today, employers are increasingly using the video surveillance method. The installation of video surveillance often causes psychological discomfort to people, so there must be good reasons for choosing this method. It is important to remember that it is illegal to keep a hidden record. Before installing a video surveillance or audio recording systems, the consent of employees should be necessarily obtained. One of the striking disadvantages of the method is the need for an employee who will view records and note violations of the schedule, otherwise the method will be ineffective.

Table 1

Advantages and disadvantages of classical methods of working time accounting

Advantages	Disadvantages
Report card in Excel	
A simple and clear way	The method is not suitable if the system must take into account not only the number of hours, but also their effectiveness
Maintaining the table does not require additional costs	The responsible for maintaining the table spends a lot of time filling it out manually
Such a system is familiar to many workers	The human factor increases the risk of errors
	Tables are suitable only for small companies. In large companies, processes need to be automated
Surveillance system	
	Feeling of psychological discomfort
	Keeping a hidden record is illegal
	An additional employee responsible for viewing the records is needed

Source: compiled by the author based on the results of the study

Today, new IT solutions allow us to reach a new level, tracking not only quantitative, but also qualitative indicators. Indeed, the software system of employee time tracking is effective due to accurate analytics. In addition to the start and end time of work, it shows a large array of information related to the efficiency of the company's employees.

One of the modern accounting systems is an accounting program. Many accounting software is equipped with the function of generating specialized reports, which speeds up and simplifies work. Owing to the software, it takes much less time to fill out specialized reports. Due to the reduced interaction of the human factor, software products minimize the risk of errors occurred out of negligence of the staff. When using the software, extra means need not be paid for accounting operations working time.

Table 2

Advantages of modern methods of working time accounting

Modern methods of working time accounting	Advantages
Accounting programs	Automation of calculations
	Less waste of time filling out statements
	Reducing the risk of errors through the use of software
CRM-system	The program disciplines employees and develops self-control skills
Time trackers	Assessment of the quality of the work
	Obtaining the consent of the staff is optional

Source: compiled by the author based on the results of the study

Based on the analysis of working time, a summary table of the same-named costs of working time was compiled - the actual balance of working time. According to the table, it can be said that operational work is 65% or 6 hours 27 minutes of the shift, the rest of the time (3 hours 28 minutes or 35%) falls on non-production costs of working time. These tables allow you to calculate the following indicators of the use of the working time fund.

Table 3

The balance of working time

Name of time cost	Duration		
	Hours	Minutes	%
Preparatory and final costs of working time	0 : 10	10	1,68
Workplace maintenance time	0 : 15	15	2,52
Operational time	6 : 27	387	65,04
Time for breaks for personal needs and rest	2 : 28	148	24,87
Time for regulated breaks	0 : 35	35	5,88
TOTAL	9 : 55	595	100

Source: compiled by the author on the basis of personal calculations

Table 4

Calculation of indicators of the use of the working time fund

Analysis and evaluation			
a) indicators of the use of working time:			
Working time usage indicators	symbols	Calculation	Result
The coefficient of work processing	Kp	$\frac{595}{480}$	1,24
Working time utilization factor	Kut	$\frac{10 + 15 + 387}{480}$	0,86
b) the causes of lost and unproductive working time:			
The coefficient of losses due to organizational and technical reasons	Kl	$100 * \frac{15}{480}$	3,125%
The coefficient of losses for preparatory and final work	Klpw	$100 * \frac{10}{480}$	2,083%
The coefficient of loss of working time due to personal needs	Klpn	$100 * \frac{148}{595}$	24,874%
Calculation of a possible increase in labor productivity provided that direct losses of working time are reduced			
ΔLP		$100 * \frac{148 + 35}{595}$	30,756%

Source: compiled by the author on the basis of personal calculations

The calculation results showed that the processing coefficient is greater than one. This allows us to conclude that the employee is at the workplace for more than the time required by the norms. The working time utilization factor is less than one, which indicates that the time norm is not met. There is downtime in the work that needs to be found out by calculating additional coefficients.

The coefficient of losses for organizational and technical reasons is 3.125% and according to labor standards, this indicator for an employee working in an office is within the norm. The average rate of the coefficient of losses for preparatory and final work is no

more than 2-3% of the standard time. The coefficient of loss of working time due to personal needs is 25%, despite the fact that the coefficient of use of working time is less than one, strict measures should be applied to the employee to reduce the loss of working time for personal needs. The loss of time due to violations of labor discipline is caused mainly by conversations at the workplace on personal topics. Employee productivity can be increased by 31%, provided that the actual working time remains unchanged.

One of the existing monitoring system for PC activities is a CRM system. This system has timers to control the total operating time. They also help to monitor how long an employee has been performing a particular task. Principle of operation: an employee comes to work, opens the program and sets a timer, which must be stopped at the end of the work. In addition to the functionality already described, the access control and time tracking system can be equipped with additional functionality, namely call recording. This helps to listen to conversations later to understand how effectively managers or operators work.

In foreign practice, there are modern software products for working time accounting (table 5).

Table 5

Modern software products for working time accounting

Name of the system	Brief description
Staffcounter	A fully automated time management system that works by monitoring a computer. Information about the employee's activities at the computer is recorded and stored on a cloud server, completely protected from third-party penetration there. The agent program sends information to the server every 10 minutes. It is stored there for 1 month
Timedocor	Online time tracking program, the purpose of which is to collect statistical data on the volume of work performed over a certain period of time
Workly	Online time tracking program, the purpose of which is to collect statistical data on the volume of work performed over a certain period of time
TIME TRACKING primaerp	A time tracking system that allows you to conveniently keep track of working hours using a biometric terminal or an Android tablet
"Big Brother"	A system of working time accounting that allows you to monitor the effectiveness and deadlines of tasks, generate various reports and schedules
"Hamburg Account"	A time tracking system that allows you to record the time spent at work, lunch break and downtime; monitor Internet traffic, build reports on the use of time.
FRV-professional software	The system of automated measurement of working time by the method of "Working time photography", which allows you to immediately analyze the results after the measurement is completed. The user receives information on the structure of working hours, an assessment of the standards for the observed operations, the ability to fix suggestions for improving processes

Source: Mandritsa O.V. Theoretical and methodological foundations of accounting, analysis and control in modern economic conditions

The next type of existing PC activity monitoring systems is time trackers. They include a variety of products with wide functionality, among which any employer will be able to choose the optimal tool for himself and immediately begin to improve the organization's performance. Installing a time tracker on computers helps to assess the quality of work. The program records the time when an employee turned on and switched off the PC, and also takes screenshots of the desktop with a certain frequency. To use such programs, the employer does not need to obtain the consent of the staff. With the help of a time tracker, management can assess how productively an employee spends time. The program records

all the actions of employees during the day. The snapshots are stored on the company's server in a compressed format. The manager can see at any time how employees allocate their working hours.

Conclusion

Cost accounting is necessary for either employers or employees, being a guarantee of compliance with labor agreements. Abuses are possible on both sides: the company is interested in increasing the volume of work with minimizing labor costs, and employees are happy to reduce their workload and not lose wages. The process of an accounting the working hours' balances both sides, obliging the employer to pay for overtime or compensate them with additional days of rest, and the employee to work efficiently and be involved fully during the work hours.

As a result of the conducted research, it was revealed that work on the effective use of working time should be carried out directly at the enterprises of Uzbekistan. The proposed softwares for accounting for the loss of working time will help enterprises to use the working time fund productively, thereby increasing the productivity of personnel and the efficiency of the entire enterprise.

Thus, there are many ways to organize the accounting of working hours at the enterprise. The importance of keeping track of working hours is beyond any doubts – in order for employees not to abuse the trust, perform their duties and be disciplined constant monitoring is necessary. Nevertheless, in the process of accounting, it is important not to overdo it and not to violate the Labor Code, according to which any employee has the right to rest during the working day.

References

1. Labor Code of the Republic of Uzbekistan (Approved by the Law of the Republic of Uzbekistan dated December 21, 1995). Access from the legal system «lex.uz»
2. Bogatyreva I.V. Improving labor productivity based on the effective use of working time: methodological foundations and practice of application / Bogatyreva I.V. // Labor Economics – 2021. – 407-418.
3. Gandina N.M. Economics and labor rationing: Textbook. I.: IGEA Publishing House, 2014 – 412 p.
4. Jung Jaeyoup, Kim Gyuree, Kim Kyusung, Paek Domyung, Cho Sung-il Association between working time quality and self-perceived health: analysis of the 3rd Korean working conditions survey. Annals of Occupational and Environmental Medicine.
5. Mandritsa O.V. Theoretical and methodological foundations of accounting, analysis and control in modern economic conditions: monograph / O.V. Mandritsa, L.A. Serebryakova, T.A. Kulagovskaya, A.V. Chernyavskaya, E.S. Nemtsova, A.A. Babich, E.S. Mezentseva, E.E. Puchkova – NCFU, Stavropol, 2013
6. Pobiysanskaya A.V., Potudanskaya V.F. Quality of use of working time // Labor Economics. - 2019. - No. 2. - p. 883-894. – doi: 10.18334/et.6.2.39879.
7. The concept of the development strategy of the Republic of Uzbekistan until 2035 Buyuk Kelajak, 2019 – 443 p.
8. World Bank Group "Growth and Job Creation in Uzbekistan: An In-depth Diagnostic" // 2020 – p. 71.
9. Accounting of working time: types, methods, solutions - [Electronic resource]. – URL: https://xn--80aidjgwzd.xn--p1ai/news/uchet_rabocheho_vremeni_vidy_metody_resheniya/#h2-1 (Accessed 23. 03. 2021)
10. BLOOMBERG // Financial information provider for professional financial market participants. - 2022. [Electronic resource]. URL: <https://www.bloomberg.com/>