

## **CORPORATE TRAVEL AS A MEAN FOR IMPROVING PERSONNEL PERFORMANCE**

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**Abstract.** *The purpose of the article is to identify the role of corporate travel in improving the efficiency of industrial enterprise personnel. Materials and methods: employees actively participating in corporate travel events and agreeing to undergo diagnostic procedures were taken from the enterprise's team. The sample included workers of both physical and mental labor of which 3 groups were formed. Determining the level of performance was carried out using the Harvard step test; Anfimov test; analysis of labor results; SAN methods (health, activity, mood); photos of the working day; observations; surveys and interviewing. Results: the study showed that corporate travel activities increased the time of steady working hours, while there was a reduction in the time of involvement into work and a delay in the onset of fatigue. This leads to an increase in labor productivity. It was also established that the first three days after the event, employees were very active in their work, they had good health and mood. There was an improvement in the socio-psychological climate and increased cohesion both among employees and between departments. Conclusion. Corporate travel results in improving the efficiency of enterprise personnel as proved from monitoring the effectiveness, well-being, activity and mood of respondents.*

**Key words** - corporate travel, personnel, intellectual performance.

### I. INTRODUCTION

The present is characterized by two obvious contradictions. The first of them is associated with the emergence of new technologies, the digitalization of many production processes, which provided each person with a large amount of funds, allowing them to save their strength and energy. In this case, the "benefits of civilization" radically reduced physical activity. In the early twentieth century, mechanical work was performed manually by 95%, now only 1% [1]. At the same time, there is an intellectualization of labor and an increase in psychoemotional stresses on a person. This creates an imbalance between a decrease in physical costs on the one hand and an increase in intellectual and emotional costs on the other.

The second contradiction is due to the fact that the emergence of innovative enterprises focused on sustainable development and increasing their competitiveness actualized the search for mechanisms to improve staff performance: expert consultants are invited, further training and education are conducted, new methods of incentives and motivation are determined. In other words, business owners seek to find

effective rational ways and means of influence on their employees. However, in our opinion, irrational means of control are still underestimated. The search for such tools that enrich the ongoing events with emotions should most likely be concentrated in the field of leisure activities, since rich emotional experiences at work are likely to slow down the work process. At the same time, the use of irrational means of influence will fully correspond to the needs of a modern person for a bright emotionally saturated life. It is no coincidence that our time is called the "era of impressions and sensations."

One of such irrational means of influence can be corporate travel, which is gradually gaining more and more popularity. In this case, it is necessary to assess the role and degree of influence of corporate travel on staff performance.

An analysis of literary sources suggests that research on the impact of tourism on the human body is still insufficient [2]. Even less studied is the impact of corporate travel on human performance. The present work is an attempt to make up for missing studies.

### II. LITERATURE REVIEW

The tourism industry is a dynamically developing sector, which inevitably causes the emergence of new directions, programs, forms and new terms around which scientific disputes are conducted. One of these terms is corporate travel. Based on the study of specialized literature, three approaches to the interpretation of the concept were distinguished.

For the first time the concept of corporate travel was formulated by R. Davidson, who defined corporate travels as trips with business (professional) goals [3]. Later, the scientist improved this definition by combining the performance of functional responsibilities, business interests, and enriching the knowledge of the employee with his encouragement for good work [4]. Currently, the essence of the definition made by R. Davidson well reflects the concept of business tourism, which characterizes the trip of employees for commercial or educational purposes [5]. This is the first and the most general approach to the interpretation of corporate travel.

The second approach is associated with the further development of the concept of corporate travel connected with the emergence of the abbreviation "MICE", which includes M - meetings, I - incentives, C - congresses, E -

exhibitions (sometimes Events). Later, congress and exhibition tourism and incentives tourism became independent types of corporate travel. In the framework of this approach, V.A. Spivak [6] notes the specifics associated with the fact that the organizers of all tourism events are the specialized department of the enterprise.

The congress and exhibition type of tourism does not provoke controversy compared to incentives tourism. The complexity of this type of corporate travel is manifested in multi-purpose parameters that determine the division of its programs into incentive, motivational and team-building.

The third approach to the definition of corporate tourism is associated with its special subtype called team-building. A. Peresolova believes that corporate tourism is an event that provides the team with work in unusual situations and allows its members to get to know each other better [7]. Indeed, many corporate tourism events aim at team building, improving the efficiency of team activities of employees, etc.

We believe that there is a need for integrated programs that combine the goals of all approaches. In other words, more ambitious goals should be set. For example, the recreation of employees. Recreation is the intensive recovery of the physical, intellectual and emotional resources of a person [8]. We believe that special attention should be paid to activities in nature, since the beneficial effect of nature on human life has been proven long ago. Such programs will help restore employee performance, increase engagement, loyalty and commitment to the enterprise, develop a corporate culture and team cohesion [9].

The concept of "human performance" is quite developed, however, there are various accents that allow the authors to consider it from different perspectives:

- the maximum possible targeted activity [10];
- the ability to mobilize functionality [11];
- potential ability to perform the maximum possible amount of work [12];
- the ability to qualitatively perform certain activities and endurance [13];
- a characteristic of the body's reserves that determine its performance [14];
- one of the main socio-biological properties of man [15].

Usually, researchers distinguish physical and mental performance, which are closely related and interdependent. Moreover, one of them is often dominant, which depends on the type and nature of professional activity. So, office, engineering and technical workers are dominated by mental performance, and workers whose work is associated with physical effort, is dominated by physical performance.

The term physical performance, despite its widespread use, does not have a universally recognized definition. The scientists who suggested this term [16; 17 et al.] did not always reflect its complexity, in other words, did not take into account all the necessary aspects. Therefore, as a working definition we take the definition proposed by I.A. Sapova, A.S. Solodkova, V.S. Shchegolev and V. I. Kuleshov and stated as "the ability of a person to carry out professional activities in specified parameters and specific conditions, accompanied by reversible (within the terms of

regulated rest) functional changes in the body" [18]. Physical performance can be assessed by direct indicators (criteria for professional activity) and indirect indicators (functional status of the body).

The term "mental performance" was first developed by Kraepelin in 1898. Since then, scientists have repeatedly clarified it, changed the content and shifted emphasis, but still have not created a universally recognized term.

In our study, we will understand mental performance as intellectual activity (collection, analysis of information and decision-making) performed with appropriate quality and without reducing the established functions of the body.

The analysis of the studies of human performance showed that physical performance was mainly studied in relation to the physical preparation of an athlete, and mental performance was studied in educational systems where schoolchildren or students were the objects of research.

Common in such works was the orientation either on the physiological, or on the psychological and pedagogical nature of the study. Proponents of physiological orientation sought to determine the ability and willingness of a person to perform the maximum number of tasks of appropriate quality and in a timely manner, and supporters of psychological and pedagogical research investigated the influence of a factor on a particular performance.

As methodological approaches to the study of health most often scientists chose a systematic or integrated approach. A systematic approach has allowed scientists [19; 20] to consider working capacity as a functional system, which is a behavioral act determined by motivation, assessment of previous experience and external stimuli. An integrated approach has enabled researchers [21; 22] to consider working capacity as a large number of physiological and psychological processes taking place in parallel, including both types of working capacity.

We support the proponents of a systematic approach, therefore we will interpret working capacity as a functional system that has two subsystems: functional stress and recreation.

Most scientists are unanimous in the fact that human performance depends on the ratio of the time of physical or mental activity and rest time. Therefore, the task of recreation is to restore the optimal ratio of nervous processes (excitation and inhibition), while it should be noted the appropriateness of using new forms of relaxation. Such forms are new stimuli that provoke the cortical processes of the brain to switch to new brain structures.

Unlike physical, mental activity is poorly dosed, since mental operations are carried out not only at the workplace, but also at home, even while sleeping. Therefore, the recovery of mental activity must not be sought in its reduction, but in the effective restoration of the expended efforts, in rest. Active rest is considered the most effective form of recovery, both for physical and mental performance.

The effectiveness of outdoor activities in restoring physical performance was first proved by I.M. Sechenov, noting that a tired hand is restored faster when performing simple work compared to the situation of complete rest [23]. Later, scientists found that outdoor activities have a positive effect on mental performance. However, these studies were

devoted to daily outdoor activities after work. The impact of periodic corporate travel events on the physical and mental performance of employees remains insufficiently studied.

### III. MATERIALS AND METHODS

The study was conducted on the premises of one of the largest engineering enterprises in the South Ural region.

The respondents were 56 employees aged from 40 to 50 years, of which 32 workers and 24 engineering and technical personnel. The ratio of men and women was approximately equal: men — 29, and women — 27. The participants were divided into 3 groups:

- Group 1 - highly skilled workers;
- Group 2 - workers of average skill;
- Group 3 - engineering and technical workers.

The work schedule for all employees was a 5-day work week; working hours from 8 to 17.00, with an hour break for lunch. It should be noted that the participants in the study were employees of the enterprise who showed interest in events related to corporate travel and expressed their consent to undergo diagnostic activities.

The study was carried out in several stages:

I. Preparatory, on which criteria were developed and appropriate diagnostic methods were selected. A research program was also developed at this stage.

II. Ascertain, on which an ascertain experiment was carried out. The performance of each employee was evaluated 9 times during the month (on Monday - 3 times, on Tuesday - 3 times and on Friday 3 times).

III. Research, where corporate travel events were held according to the developed plan.

IV. The final stage, on which the final diagnosis was carried out, the results were analyzed and compared, conclusions were drawn.

At the preparatory stage, relevant criteria and indicators were identified to assess the health status. In this matter, the developments of V.V. Seliverstova, D.S. Melnikov [24] and V.V. Kalnish [25] were used, adjusted for the specifics of the study. As a result, we decided to evaluate the changes at three levels: physiological, production (labor results) and psychological. The physiological level was assessed by the degree of employee fatigue. Labor results were evaluated using the following criteria: accuracy (the number of errors and omissions), speed of performance, the amount of work. The psychological level included such criteria as well-being, activity, and mood of employees.

Research methods were: Harvard step test; Anfimov test; analysis of labor results; SAN technique (health, activity, mood); photo of the working day; observation; surveys and interviews. To ensure a uniform assessment, scaling was carried out, according to which, the assessment was carried out in a 7-point scale. 1 point is the minimum, 7 points are the maximum, the average value is 4 points.

Research hypothesis: if employees spend active holidays, then their performance improves.

Corporate travel was carried out according to the following types: climbing the Zyuratkul, Taganay mountains, guided tours to the region's cities (Kyshtym, Zlatoust, Miass), eco-picnics, orienteering quests in the forest, corporate squadron, rafting on the Ai and Belaya rivers, visiting rock caves Sabakay (the location of the famous film "Eternal Call"). Note that the selection of such corporate travel events was carried out after a survey of participants. There were a total of 14 events.

The study was conducted from April to September 2019, tourism travels were organized each 2-3 weeks.

At the ascertaining stage, we assessed the health of employees who expressed their desire to participate in corporate travel events. To exclude the influence of various unexpected or new factors (conflict in the family, colleagues, etc.), we took measurements several times to determine the average performance and diagnose the time of the various phases of the parameter studied.

It should be noted that workers carry out different, but typical tasks, each of them works with his/her own equipment and is technologically not very dependent on his/her colleagues. Engineering workers are specialists engaged in mental work, performing a certain range of duties, which is subject to minor changes.

### IV. RESULTS AND DISCUSSION

Four weeks prior to the tourism events, the performance of the participants was measured. This circumstance made it possible to record the average performance of each respondent. Further monitoring was carried out in the first three days after the tourist event and selectively on one of the days of the next week.

The results obtained after two events (corporate squadron and rafting on the Ay river) showed that the working capacity of some respondents was increasing, while for others it was decreasing. The interviews and surveys made it possible to establish the relationship between the physical activity and working capacity. In other words, if an employee is physically tired in a camping trip, then his/her working capacity decreases.

This circumstance prompted us to divide the respondents into three subgroups, each of which had its own route of corresponding complexity. For example, the "corporate squadron": the first group made a trip for 5 km, the second group - for 9 km, and the third for 15 km. Each group had its own speed and its own route. In the end, everyone met in one place and returned by bus to the city. Such a division of employees by levels of their physical fitness and selection of the appropriate load made it possible to obtain consistently positive results after each corporate travel event.

TABLE 1. AVERAGE VALUES OF CHANGE IN WORKING CAPACITY CRITERIA AFTER CORPORATE TRAVEL EVENTS

Criteria	Group 1		Group 2		Group 3	
	Before	After	Before	After	Before	After
Work accuracy	5.2	5.2	5.1	5.1	5.2	5.3
Work speed	4.6	4.7	4.6	4.8	4.8	5.0
Amount of work	4.9	5.2	5.0	5.4	4.8	5.3
Fatigue	5.1	4.5	4.9	4.4	5.0	4.4
Well-being	4.0	4.9	4.1	5.0	4.1	4.8
Activity	3.9	5.1	3.8	4.9	3.9	4.7
Mood	4.1	4.9	4.2	4.8	4.7	5.9

The data obtained allowed us to record that corporate travel events:

- do not have a statistically significant effect on the accuracy and speed of work;
- significantly increase the amount of work performed;
- reduce fatigue;
- improve well-being and mood;
- increase activity.

The next stage of the study was to determine the duration of the positive impact of corporate events. Measurements were taken on 1-2-3-5 and 10 days after the event. The Figures 1 – 5 demonstrate the results of these measurements.

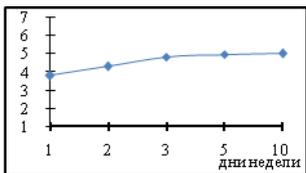


Fig. 1. Fatigue

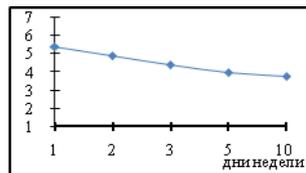


Fig. 2. Activity

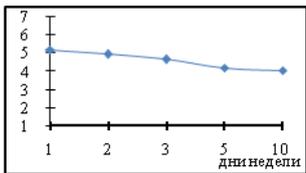


Fig. 3. Well-being

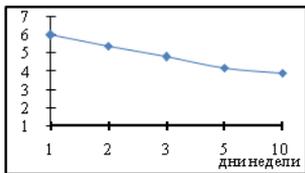


Fig. 4. Mood

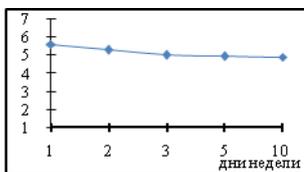


Fig. 5. Amount of work

The first day after a corporate travel event is characterized by the highest values for the amount of work performed, well-being, activity and mood, as well as by the lowest values for fatigue. At the same time, by the fifth day, all indicators returned to the average values. Therefore, corporate travel events have a significant impact on working capacity in the first three days after the event.

The data on the phases of positive shifts in working capacity are of significant interest. Scientists show unanimity in identifying the phases of working capacity:

- involvement into work
- stable performance
- fatigue, lunch break
- involvement after lunch (secondary)
- stable performance
- fatigue.

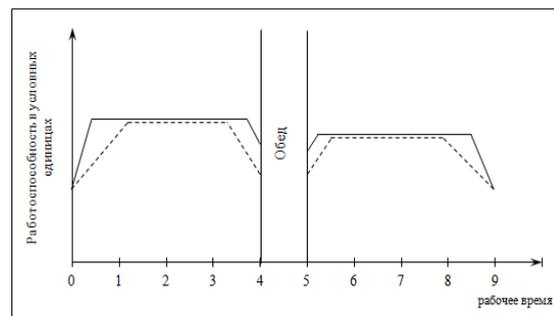
The measurements taken using the “photography of the working day” method allowed establish the following:

a) if the involvement rate of engineering and technical personnel at the beginning of a working day usually averaged 43 minutes, then after corporate travel events it averaged 24 minutes (first day), 29 minutes (second day), 35 minutes (third day). A similar situation is with involvement into work after a lunch break. In a standard situation, it takes 21 minutes. After tourist events, 14 minutes (first day), 17 and 20 minutes, respectively, on the second and third days.

Measurements of involvement time among workers showed that usually, it is 34 minutes, after corporate travel events this time is reduced to 24 minutes (first day), 27 minutes (second day) and 31 minutes (third day). After the lunch break, involvement into work is also reduced by 8.6 and 3 minutes, respectively;

b) if some fatigue of engineering and technical personnel before the lunch break becomes noticeable in 32 minutes, then after a tourist event, the period of working capacity increases and the fatigue phase occurs on the first day 18 minutes before the lunch break, on the second day - 23 minutes and on the third day - 29 minutes before the break. The phase of fatigue also underwent a change at the end of the working day: on the first day it decreased by 16 minutes, on the second and third - by 13 and 8 minutes, respectively.

The fatigue of workers before lunch was recorded 38 minutes before the break, and after a tourist event it was recorded 27 minutes (the first day), 31 minutes (on the second day) and 35 minutes (on the third day) before lunch. At the end of the working day, fatigue after a tourist event occurred later by 14 minutes on the first day, by 9 minutes on the second day and by 5 minutes on the third day (Fig. 6).



---- average working capacity of employees in a standard situation;  
— average working capacity of employees after participating in a corporate travel event

Fig. 6. Schedule for changes during the working day

c) on the 5th and 10th days, the “photography of the working day” method showed that the phases of the working capacity of both engineering and technical personnel, as well as workers returned to the average values of involvement into work and fatigue. Thus, we can conclude that outdoor activities and their impact on performance last for three working days;

d) an increase in the time of steady performance due to a reduction in the time of involvement into work and a delay in the onset of fatigue has affected the increase in the amount of work performed, i.e., labor productivity.

At the same time, we were interested in how the overall performance has changed over the six months.

To record changes in mental performance, we used the Anfimov test. We conducted the test 2 times: before the

study and six months later. Respondents received a special form on which they crossed out a given letter for 4 minutes. At the end, we assessed the total number of characters viewed, the number of crossed out letters, the number of letters that needed to be crossed out, and the number of errors made.

The results were processed using mathematical methods, which allowed us to calculate the accuracy coefficient of the completed task, the amount of visual information, the processing speed and the stability of attention.

Based on personal processing of the results, the average values of the criteria for the group and their deviation according to Wilcoxon were established.

The average group results before and after the study are as follows (in parentheses - the data after the study):

- performance accuracy - 0.95 (0.96);
- total productivity - 28675.47 (28713.25);
- the amount of visual information - 667.63 (671.36)
- task performance speed  $2.68 \pm 0.12$  ( $2.69 \pm 0.15$ ) bit/s;
- attention stability - 8.34 (8.35).

The average group results of workers before and after the study are slightly different:

- performance accuracy - 0.84 (0.85);
- total productivity - 2957.14 (2996.43);
- the amount of visual information - 639.88 (641.52)
- task performance speed  $2.41 \pm 0.2$  ( $2.44 \pm 0.2$ ) bit/s;
- attention stability - 7.38 (7, 62).

A comparison of performance indicators between workers and office personnel allows us to establish the differences between respondents engaged in mental and physical activity, and to conclude that mental activity has a beneficial effect on maintaining mental performance.

Thus, the Anfimov test showed that statistically significant changes did not occur in total productivity, both among workers and among employees.

To assess changes in physical performance, we used the Harvard step test, which is a simple method for determining the status of the heart muscle. Quantitative indicators before and after the study turned out to be very close, so we do not give them in this article. A similar result was expected, since 11 corporate travel events for 6 months could not have a significant impact on the physical fitness of respondents. However, we recorded the difference in physical fitness between engineering and technical personnel and workers. Physical training among workers turned out to be higher than among office personnel. Thus, physical work positively affects the fitness of the body.

In addition, the SAN methodology, surveys, and observation allowed us to record some improvements, in particular:

- the average value of fatigue decreased (by 0.22 points);
- increased activity (by 0.26 points);
- mood and well-being improved (by 0.37 points).

Despite the changes that have taken place are not very significant, but there is hope that a year or two of systematic tourism events within the enterprise will lead to more significant results.

It is necessary to note the indirect results, to which we did not strive, but which also play a significant role in the sustainable socio-economic functioning of the enterprise.

These results were improving the socio-psychological climate and increasing team cohesion.

For the first time, these circumstances were noted by the participants in questionnaires and oral discussions after the 3rd event. To confirm the ongoing changes, the "360 degrees" method was used, which allows to objectively evaluate a phenomenon or process, since it is a combination of different points of view. The first questionnaire concerned the personal impressions of the participants. It consisted of 15 questions about the emergence of new sympathies for colleagues such as willingness to help in difficult situations; establishing new friendships; continuing informal communication outside corporate travel events, etc. All respondents (without exception) gave affirmative answers to the questions.

The second questionnaire was intended to assess the socio-psychological climate in the departments where participants worked. The questions concerned the level of conflict and tension in the departments; personal qualities of team members; ease of adaptation for new employees; assessment of team cohesion, etc.

The results turned out to be different: in those departments where at least 3 employees participated in the travel events, qualitative changes occurred in the socio-psychological climate; in those departments where 1-2 employees participated in corporate travel events, no changes were recorded; moreover, in one department the climate worsened. In an interview with employees, it turned out that some colleagues could not take part in such events for family reasons, but at the same time envied the one who participated, and often expressed unreasonable claims against him. We had to conduct preventive discussions and a week later the situation in the department returned to normal.

The third questionnaire was intended for managers of employees who participated in the events. The questions were aimed at studying their opinions on the impact of corporate travel on the performance of functional responsibilities and employee behavior. All, without exception, managers noted positive changes in the behavior and mood of employees, but most found it difficult to express their opinion on changes in the performance of professional duties.

The fourth questionnaire was designed for representatives of the immediate environment, i.e. those with whom the departments interact: customers, suppliers, related structures, various public services. In the questionnaires, such positive aspects were noted as the efficiency of performing tasks by the employees of the enterprise, friendliness and even increased humor in communications.

Thus, the "360 degrees" method showed that the communication between employees and the socio-psychological climate in the departments really improved, and the cohesion increased.

## V. CONCLUSION

The conducted study allows us to consider corporate travel as an irrational means of increasing personnel performance. At the same time, several patterns were established and proved for employees participating in corporate travel events:

1) labor productivity is increased by reducing the period of involvement into work and the period of onset of fatigue in the first 3 days after the event;

2) corporate travel events improve mood, vitality and well-being;

3) the selection of a travel event and its organization should take into account the physical fitness of group members and, if necessary, different options for routes or the forms of participation;

4) regular professional mental activity increases mental performance, and regular physical work increases physical performance;

5) with the participation of at least 3 employees in events, the socio-psychological climate and communications within the department are improved;

6) new informal relations provide increased cohesion of the department;

7) a positive mood allows for the implementation of positive external communications.

The obtained results allow us to conclude that regular corporate travel events will create the basis for increasing working productivity, improving the socio-psychological climate and personnel cohesion.

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