



UNDERSTANDING WORK TO TRANSFORM IT: AN INVESTIGATION OF STRESSORS IN A CALL CENTER

João Pedro Martins Silva^{1*}

Vitor Figueiredo²

Lílian Barros P. Campos³

Ronara Cristina Bozi dos Reis⁴

Michelle Figueiredo⁵

Abstract

This article uses Ergonomic Work Analysis (EWA) to evaluate the customer support sector, known as Contact Center, in a telecommunications company located in the interior of Minas Gerais. The application of EWA was carried out in response to an internal demand from the company, with the purpose of identifying the stressors present in the activities of telemarketing operators. The study covers all stages of EWA, which include demand analysis, task analysis, activity analysis, diagnosis and recommendations. During the research, field observations and interviews with workers were conducted, aiming to obtain information about their know-how. Based on these observations and interviews, key diagnoses were identified. First, it was found that demands made by leadership were made in public, generating discomfort and cognitive pressure on workers. Additionally, faults in work equipment were identified, impairing workers' performance and efficiency. Another factor identified was serving aggressive customers, causing stress and negatively impacting the well-being of professionals in the sector. Based on the diagnoses identified, the study presented recommendations to improve working conditions in the contact center and broadened the perspective of leaders in relation to the activities of operators. The study also highlighted that merely physical improvements, such as chairs and tables, were not enough to promote a healthier work environment.

Keywords: ergonomic work analysis; telecommunications company; stress; contact center.

1. INTRODUCTION

The business environment is becoming increasingly competitive. In this context, organizations and their competitors are seeking to conquer and expand their operations (SLACK, 1997). A consequence of this high competitiveness is the increase in the workload of operators, which can result in physical and psychophysiological exhaustion.

¹UNIFEI.* joaopedro1289@gmail.com.

²UNIFEI.

³UNIFEI.

⁴UNIFEI.

⁵SADA.



Ergonomic Work Analysis (AET) is an effective method for identifying causes of imbalance between the demands of the organization and the ability of workers to face challenges. The method begins in the demand survey stage and the sequential phases go through the general knowledge of the company, open observations, systematic observations (interviews with operators and photographic record of the situations), elaboration of hypotheses and diagnoses, and finally, co-construction of recommendations. According to Abrahão and Pinho (1999), ergonomics is necessary in several situations, including manual work, highly complex work, and issues related to workers' health. The application of the ELA is broad and essential to adapt the working environment to the needs of operators in different types of companies and services.

In this study, the AET was carried out in the customer service sector of a *contact center* of a telecommunications company located in the interior of Minas Gerais. The company offers telephone, *internet* and television services. This sector is composed of interns, training technicians, *omnichannel*¹, leaders, supervisors, managers, and service technicians. The focus of the research was the service technicians.

The main characteristic of the *contact center* is to provide support for possible problems that customers may face with the services offered by the company. The company's "image" is directly related to the way the support service is offered, requiring workers in the sector to communicate well to solve customer problems.

The objective of this article was to carry out an ELA to identify the stressors present in the activity of *telemarketing* operators. Through this study, we sought to understand in detail the demands and working conditions of these professionals, analyzing how these factors can influence stress and well-being in the work environment.

2. DEVELOPMENT AND METHODOLOGY

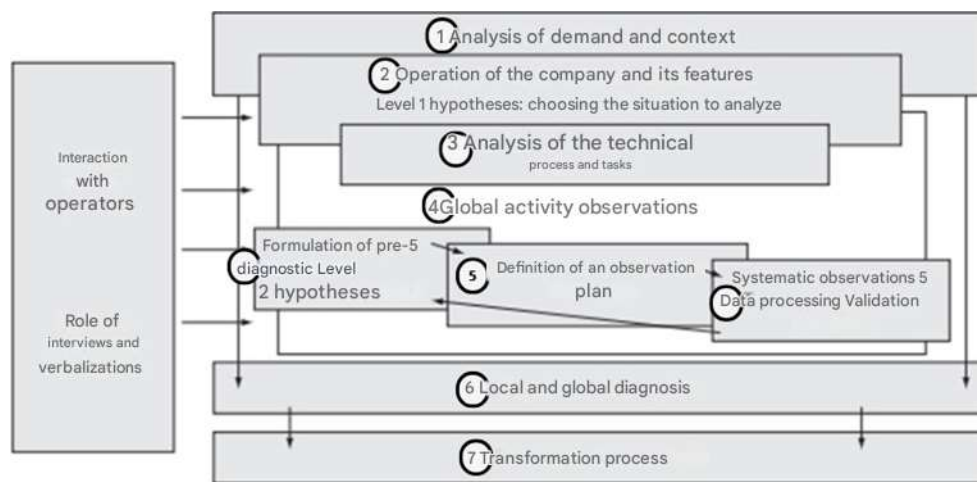
According to the Brazilian Association of Ergonomics - ABERGO (2012), ergonomics is defined as a scientific discipline whose objective is to promote human well-being through theories and methods applied in projects, covering the interaction between individuals and elements. In line with this definition, Corrêa and Boletti (2015) state that ergonomics aims to offer comfort, meet people's needs and ensure a healthy work practice. These aspects extend to also encompass the organizational, psychosocial, and political scope of a system.

¹ *Omnichannel* is the worker responsible for customer service through digital channels and *WhatsApp*.



As outlined by Santos (1997), the AET seeks to adapt the work environment to improve the conditions of workers and maximize the productive potential. The ELA encompasses several steps to be followed to arrive at recommendations aimed at solving or mitigating identified problems. Figure 1 presents a sequential description of the stages of the ELA. Each of these steps encompasses different phases of ergonomic action, which will be detailed later in subsequent topics.

Figure 1 – General scheme of the ergonomic action approach.



Source: Adapted from Güérin *et al.* (2001)

1 - Demand and context analysis: the manifestation of a problem by managers and leaders within the company is the starting point. In addition, field research is carried out to better understand the nature of the issues and the concrete problems of the operators. This step lays the foundation for the subsequent phases of ergonomic action.

2 - Operation of the company: in this stage, information about the organization is collected, the characteristics of the population are surveyed (level 1 hypothesis) and the choice of analysis situations.- Task analysis: the next step involves directing strategies to the sector in question, the contact center. The analysis of the task covers all attributions within this sector, with the main focus on the Jr1² service technician. In addition, specific interviews are conducted for each function performed by

² Service technician Jr1 is the worker responsible for service through telephone contact.



- 3 the employees, aiming at the detailed elaboration of the tasks. All interviewees signed a Free and Informed Consent Form (ICF) and were informed about the confidential and ethical nature of the research.
- 4 - Activity analysis: the objective is to thoroughly understand the activities carried out by the Jr1 service technicians. To do this, all the tasks performed by the operator during a typical working day are closely monitored, from their arrival to the end of the shift. In other words, the approach consists of monitoring the entire routine of the worker during his activities.
- 5 - Level 2 hypothesis: in this phase, a more detailed data collection is carried out, through interviews and thorough analysis of the data gathered. This culminates in the elaboration of the level 2 hypothesis.
- 6 - Diagnosis: the main objective is to detect possible problems that may affect the health, safety and performance of workers. This phase is also a response to demand.
- 7 - Recommendations: for the preparation of recommendations, the data collected in the research field, the speeches and the systematic and open observations must be taken into account.

For the construction of the EWS, it was necessary to structure the research as a case study, characterized by its exploratory and descriptive nature. In this type of study, researchers' concepts are correlated and analyzed together with facts or phenomena observed in real organizational environments, through systematic surveys and observations.

As emphasized by Yin (2001), the case study approach is the most appropriate to investigate a phenomenon within its real context, and the use of multiple sources of evidence is recommended. This type of research has an exploratory character, aiming to create familiarity with the problem to make it more understandable and to establish premises (GIL, 1991). Furthermore, this approach is descriptive, since it aims to define the nature and present the characteristics of a phenomenon in a specific group (SELLTIZ, 1987).

Data collection encompassed two main sources of evidence: fieldwork, through the recording of data from the company, and interviews. These sources proved to be appropriate for obtaining information about people's perceptions and how they deal with the variables present in the work environment.



The interviews were conducted using a semi-structured approach, as outlined by Triviños (1987, p. 146). This approach consists of questions based on theories and hypotheses related to the research theme. The answers obtained from the interviewees generated new hypotheses, with the central focus being established by the researcher-interviewer.

The company selected for data collection is an *internet* provider located in Itabira-MG, which also has branches distributed throughout the state of Minas Gerais. This company offers a variety of services, including telephone, pay TV, and various Value Added Services (VAS). However, the main service is the provision of broadband *internet*, both through radio and fiber optic connections. The company's staff consists of about 1000 workers.

The sector of the company that will be held the AET is the *contact center*, which is responsible for assisting customers and solving any defects and, if necessary, requesting a technician to go to the site.

3. RESULTS AND DISCUSSIONS

Initially, an interview was conducted with the manager of the sector, in which he was asked about the main issue faced within his area. The answer obtained was as follows:

"Generally, the contact center sector is the gateway to the first job of many young people who do not have a qualification for their workforce, in addition, the low salary and the scale being done in shifts, with work on holidays and weekends being mandatory, end up leading employees to choose to leave the company when they have a better job opportunity, thus leading to a high turnover rate, 16 to 20 employees in the last 6 months, being one of the sectors that have the highest dropout". Sector manager (emphasis added).

Within the response, significant points are visible, highlighted, which require a more in-depth analysis during the conduct of the AET. In order to more comprehensively address the crucial aspects of the scenario, demand was redefined as: "Triggering factor for worker turnover within the *contact center sector*".

After the restructuring of demand, the exploration and general operation of the company began. In this phase, several activities were carried out, including a comprehensive data survey that incorporated organizational charts and time scales of the sector in which the demand was identified. In addition, specific information was obtained about the characteristics of the workers involved. Finally, the scope of the situation to be analyzed was defined, establishing the focus of the investigation.

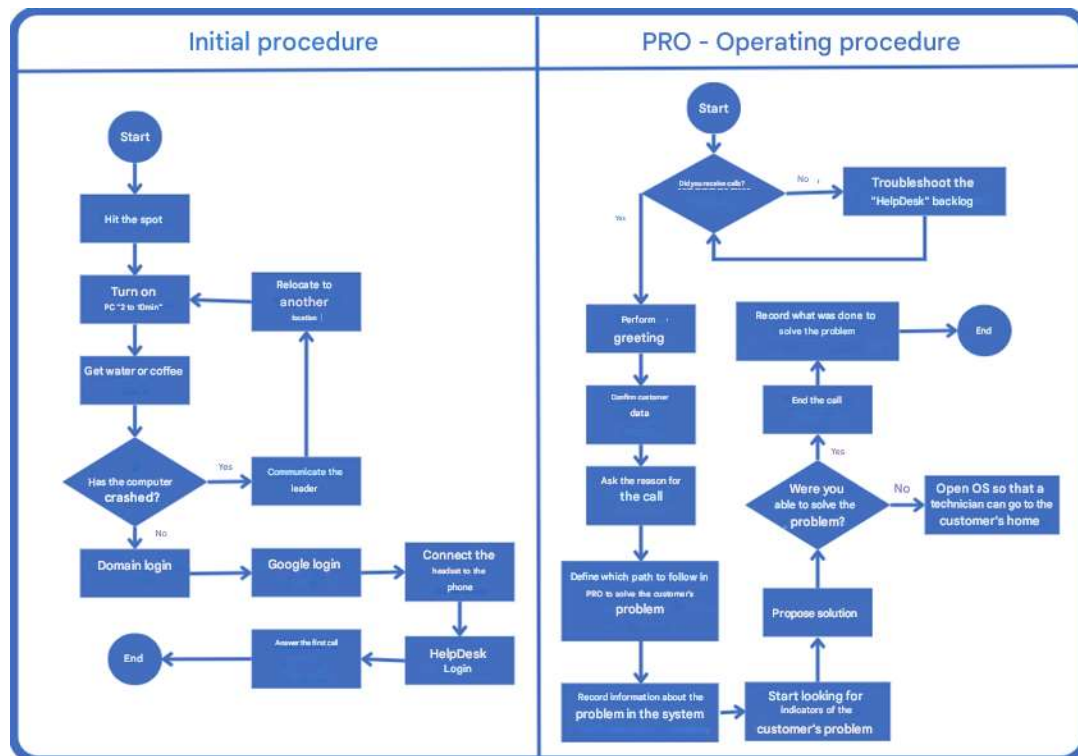


The *contact center* sector is composed of eight teams, consisting of: 7 Jr. service technicians; 2 *omnichannel*; 1 operational leader and 1 supervisor (responsible for two teams). Attendance workers Jr have a 6-hour workday. During this workday, they have a 20-minute break with time registration, as well as two additional breaks of 10 minutes each, which do not need to be recorded.

Among the employees, some have fixed work schedules, while most follow a schedule of 4 days of work followed by 1 day off. On each of these working days, the shift schedules vary, being established as follows: 06:00 - 12:20; 07:50 - 14:10; 09:40 - 16:00; 13:40 - 20:00; and 3:50 pm - 10:10 pm.

By conducting a more thorough analysis of the data related to the Jr attendant role during the period between December 2021 and June 2022, a revealing picture emerged with regard to worker turnover in the sector. In this time interval, the following trends were identified: a total of 16 workers left the company, divided equally between those who chose to leave voluntarily and those who were terminated. Within this set, it was noted that 3 individuals were admitted after December 2021. The average age of the workers who chose to leave the company was 24 years, while the average period of permanence was 15 months. In terms of gender, 82% of the departures corresponded to men, while women represented 18% of this total.

After the stage of understanding the general functioning of the company, the next step was the analysis of the task of the Jr. service technician. He is responsible for serving the customer, through telephone contact, in order to maintain the loyalty and satisfaction of all the company's customers. The initial procedures of your task are presented in the figure below (Figure 2).

**Figure 2** – Initial procedure / Operational procedure - PRO.

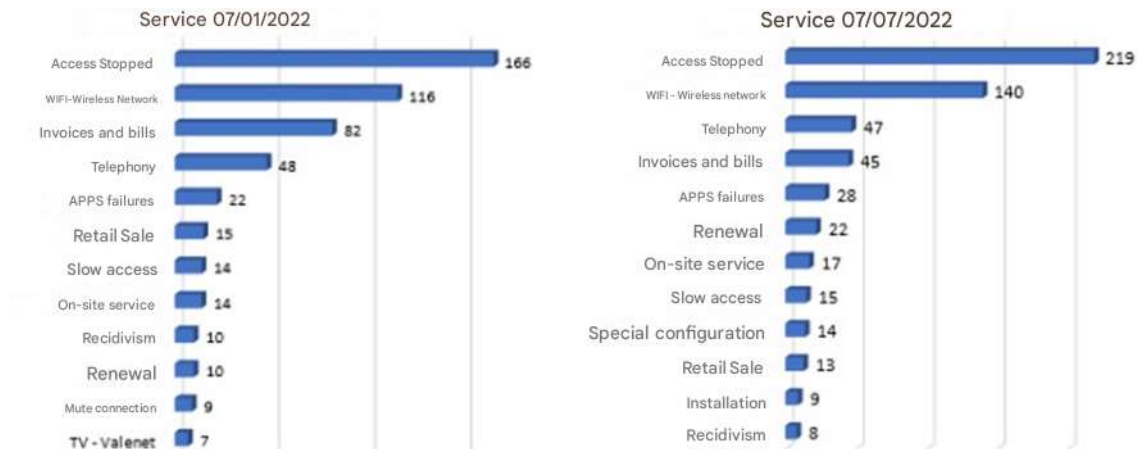
Source: Own material (2023).

In the right part of Figure 2, it is possible to notice the steps that the technician must adopt when interacting with the customer, in order to identify and solve the issue presented. In the company's view, accurate and complete adherence to this procedure is directly correlated with the speed and effectiveness of the service, as well as the discovery of the solution.

By moving from the task analysis stage to the activity analysis, some nuances of the work begin to be revealed. As an example, in two follow-up visits, it was possible to make the following comparison (Figure 3):



Figure 3 – Quantity and modality of the problem that the attendant needed to solve.



Source: Own material (2023).

For the purpose of understanding, below is a service transcribed in full with explanations of why the attendant chose to perform certain actions:

Attendant: "How could I be helping you today?"

Customer: "My internet is very slow and the router is not far from me."

Attendant: "In this case, what are you slow to do exactly? How do you check this slowness? Could you be giving me examples?"

Customer: "Movie on Netflix is crashing and Globo plays the same thing". Attendant: "Which device do you access these other services?"

Client: "Cell phone, computer and TV".

Attendant: "Is the computer a desktop or notebook? Connected by Wi-Fi or cable?"

Client: "Computer and cable".

Attendant: "Is your TV a Smart TV or is there a device that you turn on the TV? Connected by cable or Wi-Fi?"

Client: "Smart TV and Wi-Fi". Attendant: "Right".

The attendant emphasized the importance of collecting relevant information in the face of customer questions. He cited the example of the Smart TV running on cable, while another TV connected to Wi-Fi was not working. The attendant highlighted the need to record everything from the beginning, to identify the problem and solve it.

Attendant: "Inform me your full name" Customer: "_____"

Attendant: "_do you use the Wi-Fi device that the company provided or do you have another one?"

Client: "I use the company's equipment"



Attendant: "Do the main failures occur when you are closer or farther away from the router? Both from the computer and the TV"

Customer: "I use the TV in a different room, but there are no walls for the partition and it is next to the place where the router is, while the cell phone and computer are next to it".

The attendant explained that the use of this type of connection is considered outside the room. He then went to the customer's router settings website, where he modified the channel and band of the 5g network, and restarted the router. He made these changes to adjust the frequency to a common pattern, as too many neighbors using the same channel can cause problems with the connection.

Attendant: "Are you in the same room as the router?" Client: "Yes"

Attendant: "Please, I'll be asking you to access the YouTube or Netflix you mentioned on your cell phone"

Client: "Just a moment"

Attendant: "Is it working normally?"

Customer: "Globoplay is looking like a message that is not coming in"

Attendant: "Globoplay is undergoing internal maintenance at the moment, is there a way to test it on Netflix?"

Client: "Netflix is going, but it's just that Globoplay is much heavier than Netflix"

Attendant: "So, both Netflix and Globoplay are light. I'll ask you to monitor the internet on these days to see if you continue with these failures, but here it is showing that it is working properly"

Customer: "Ok, but every week I have to keep calling to complain that the internet is slow, this makes it very difficult"

Attendant: "I understand, in this case these failures are occurring when you are far from the device and the further away it is slower due to the coverage radius that the Wi-Fi has"

Customer: "What's that ray?"

Attendant: "I won't know the right footage, but the wall and objects get in the way. So, I'm just going to ask you to be monitoring it, because I changed some settings so that these failures are no longer occurring" Client: "All right"

The transcript above evidences a call that reveals the diversity of activities involved in customer service. Each call is intricate and, sometimes, the attendant cannot meet all the demands. It is crucial to note that, in the highlighted part, the customer expressed frustration regarding the quality of service due to the need to make calls on a recurring basis. Even in such a scenario, the attendant followed the established protocol. However, over time, this reaction results in emotional exhaustion and increased stressors in the workplace.



By advancing through the stages of the EWS, the hypothesis of level-2 is reached. At this stage, data collection becomes more specific, involving visual observations in the field of work. In addition, semi-structured interviews were conducted to contribute to the construction of the level 2 hypothesis. In addition, an anonymous survey was conducted, containing a set of questions, with the purpose of obtaining a deeper understanding of the workers' daily lives.

In the analysis of the responses, a difference emerged between workers who follow a fixed schedule and those who adopt a sliding schedule. In the fixed scale group, 100% of the workers expressed satisfaction with their schedule, while 70% of those who follow the sliding schedule expressed the same level of satisfaction. In addition, it was possible to observe that, on average, for every 10 calls answered, 4 of them were considered stressful. In addition, demands were observed in public to reduce the average time of service (AHT).

In addition to this data collection, semi-structured interviews were conducted with 5 Jr. attendants. Through the key question "What factors influence your performance at work?", subsequent questions were developed, without prior formulation, with the objective of identifying the elements that contribute to increase the level of stress in the work environment and that could result in loss of motivation to remain in the company. Among the answers obtained, one of them stood out:

"Difficulty in asking questions with the supervisor, because there are you and 5 other people in line to ask questions". Attendant 2.

"It goes from person to person to be able to deal with the wear and tear of some calls, due to the curses from customers that is common in the support sector". Attendant 4.

"In the beginning it takes a while for you not to take the stress of work home." Attendant 5.

Through a detailed analysis of the data and information presented, the level 2 hypothesis could be formulated: *"It seems that the factor that contributes to the departure of workers from the contact center sector is linked to the stress resulting from phone calls"*. Contrary to the initial perspective outlined by the manager at the beginning of the research, which pointed to work shifts and the physical conditions of the work environment (such as infrastructure and furniture issues) as primary causes of leave, the study showed that the challenge of stress in the workplace, arising from various elements such as the pressure exerted by leadership, Challenging interactions with customers and the constant demand to meet goals is directly influencing the reduction of employee tenure periods in the company.



Based on the level 2 hypothesis previously presented, three possible diagnoses were formulated that seem to be contributing to the intensification of stressors in the operator's activity, as detailed below:

Charges made in public: Imposing an average call duration time for agents often results in pressure to end conversations within that range. When they fail to meet this requirement, they are forced to end the call and return later, resulting in task accumulation. The presence of *omnichannels*, which evaluate delays due to lack of guidance or other factors, contributes to increasing tension in the work environment.

Equipment failures: The problem begins when operators face difficulties when connecting headphones to phones. This setback is due to poor contact or wear and tear on the equipment. In addition, on-device testing can only be conducted when workers are on calls. When a mishap occurs during the call, the call is automatically terminated. This scenario generates internal tension in operators, predisposing them to wear and tear in the work environment.

Aggressive customers: A factor that substantially intensifies stress in the workplace is the occurrence of interactions with aggressive customers, who employ offensive language, name-calling, and rude behavior when communicating their problems. During the interviews, one of the Jr. attendants mentioned that his co-workers should learn to differentiate between professional and personal aspects, avoiding transporting work stress to the home environment. This indicates that new employees need to quickly acquire the ability to delineate these spheres, as a measure to reduce the level of stress.

The three diagnoses presented are responses to the demand previously reformulated at the beginning of the AET. Based on these diagnoses, it was possible to perceive that the stress in the operator's work environment was influenced by the quality of the equipment, leadership style and interaction with customers. Based on this understanding, a number of recommendations were formulated.

Equipment: It is recommended that the company seek a partnership with a third-party company to perform repairs and preventive maintenance on the phones and *headsets* every quarter. This will ensure that the equipment is always in perfect working order and minimize the associated failures and problems.

Collections carried out in public: Assertive communication training should be implemented, aiming to improve collection interactions, making them smoother and more



effective. These trainings should take place every six months and be conducted by the People Management department.

Customer communication workshop: This recommendation takes a central role. Conducting a specific workshop on customer communication will contribute to the enhancement of problem-solving skills and reduce stress during phone interactions.

4. CONCLUSION

Based on the data previously exposed, it is evident that the stressors in the operator's work environment are directly related to several sources, including excessive pressure from leadership, inadequacy of work equipment and stressful calls throughout the workday. These factors combined culminate in a hostile and tense work environment.

Taking this perspective into account, the scientific literature corroborates that stress is caused by a variety of elements, ranging from the way workers face adversity to their ability to react. Consequently, when we consider that stress can derive from multiple factors, several elements can be pointed out as its causes, including physical, chemical and psychological factors arising from the environment, as well as pressure and tension, as pointed out by Chiavenato (1999).

Throughout the development of this study, one of the interviewees highlighted that the early perception of the need to establish a clear demarcation between the professional and personal environment reduced the individual's stress level. This highlights the importance of considering multiple factors in the context of occupational stress, expanding the analysis beyond the work environment.

The definition proposed by Ferreira (2008, p. 213) in relation to occupational stress emphasizes the relationship between the demands of the job and the worker's capabilities, underlining the anxiety resulting from the discrepancy between these two aspects as a significant source of stress.

As mentioned, a diversity of definitions for stress can be identified in the literature, as well as the way in which internal and external factors can intensify this condition. In the analysis carried out, it is clear that the core of the diagnosis focuses on the stress originated in the work environment.

Based on the information obtained throughout the ELA, it is observed that, initially, the manager associated the turnover of employees with work schedules or the inexperience of



people in their first job. However, as ELA was deepened to a more comprehensive understanding of tasks and activities, a strong trend emerged indicating that stress from challenging work was playing a crucial role in the loss of human resources.

After the interview phase, it became clear that work schedules did not have a significant impact on worker satisfaction. This led to the rejection of the manager's initial hypothesis, which considered scale as one of the causes of *turnover*. In contrast, the analysis demonstrated that stress was a key element, especially given the fact that 40% of calls were considered stressful. In addition, the Net *Promoter Score* (NPS) result corroborated this perception.

It should be noted that among the three areas of ergonomics, the hypothesis raised by the manager as a stressor at work was related to physical ergonomics; However, the research showed that it permeates issues involving cognitive and organizational ergonomics.

REFERENCES

- ABERGO - Associação Brasileira de Ergonomia. O que é Ergonomia. 2012. Disponível em: <http://www.abergo.org.br/internas.php?pg=o_que_e_ergonomia>. Acesso em: 21 Jul. 2022.
- ABRAHÃO, J; PINHO, D. Teoria e prática ergonômica: seus limites e possibilidades. Escola, Saúde e Trabalho: estudos psicológicos. Brasília: Editora Universidade de Brasília, 1999.
- CHIAVENATO, IDALBERTO. Gestão de pessoas; O novo papel dos recursos humanos nas organizações-rio de janeiro: campus, 1999.
- CORREA, V.M.; BOLETTI, R. R. Ergonomia: fundamentos e aplicações. Porto Alegre: Bookman, 2015.
- DFERREIRA, M. C. A ergonomia da atividade se interessa pela qualidade de vida no trabalho? Reflexões empíricas e teóricas. Cadernos de Psicologia Social do Trabalho, n. 11, p. 83–99, 2008.
- GIL, ANTÔNIO CARLOS. Como elaborar projetos de pesquisa. São Paulo: Atlas, 1991.
- GUÉRIN, F.; LAVILLE, A.; DANIELLOU, F.; DURAFFOURG, J.; KERGUÉLEN, A. (2001). Compreender o trabalho para transformá-lo; a prática da ergonomia. São Paulo: Edgar Blucher.
- SANTOS, N.; FIALHO, F. A. P. Manual de Análise Ergonômica do Trabalho. 2ª Edição. Curitiba: Editora Gênese, 1997.
- SELLTIZ, C. Métodos de pesquisa nas relações sociais. São Paulo: EPU, 1987.
- SLACK, Nigel, *et al.* Administração da Produção. 2 ed. São Paulo: Editora ATLAS, 2002. p.290 – 296.



TRIVIÑOS, A. N. S. Introdução à pesquisa em ciências sociais: a pesquisa qualitativa em educação. São Paulo: Atlas, 1987.

YIN, R. K. Estudo de caso: planejamento e métodos. Porto Alegre: Bookman, 2001.