ISSN: 2278-3369
International Journal of Advances in Management and Economics
Available online at: **www.managementjournal.info**

RESEARCH ARTICLE

Innovation Management with Focus on Production and Operation Team

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Abstract

The study the project work and Ergonomics arise due to the need of human beings use less physical and mental effort in daily tasks and develop a great integration between working conditions. An ergonomically correct organizational environment maintains strong the organizational efficiency, safety, health and worker comfort. This task was based on the Contingency Theory treated in Vinicius Zonattoa [1] to focus on an auto-electric. The general objective of this work is to study the work project with emphasis on Ergonomics in the productive sector, in an auto-electric; for this, it brings as specific objectives to raise business performance focusing on the Work Project emphasizing the Ergonomics applied in the research company (1) analyze work processes performed in the company's office in study (2), and propose measures for innovation of the required operational processes (3). It was adopted the Case Study Method and procedures required as technical visit, observation, analysis, review, among others. As a result, it was found that the organization does not have ergonomically correct tools (1); in regard to the work processes performed at the company's plant, it was found that the company has some employees who feel demotivated, because they are not in an ergonomically correct environment (2); and as proposal of innovation it was observed the need to acquire new ergonomically correct equipment and furniture, it is suggested to adopt the work activity for relaxation of memory and muscle (3). This work is of interest to production managers and other involved on issues related to ergonomics in the workplace.

Keywords: *Administration, Amazon, Auto-electric, Management, Ergonomics.*

Introduction

This work has as objective to study the Work Project with focus in Ergonomics in the productive sector at an Auto-electric in Porto Velho City. The research was based on the collection of data done in field, which will enable the confront between the organizational elements of the Work Project with emphasis in ergonomics in the productive sector with the theories presented on the theoretical framework, trying to satisfy the specific objective exposing the divergences and convergences. It will be treated an innovation proposal as result of this exercise. The general objective of this task is to study the Work Project with emphasis on the ergonomics in the productive sector at an Auto-electric in Porto Velho City, Rondônia State, Brazil; for this it brings as specific objectives to raise the business performance with focus in the work project, emphasizing the ergonomics applied in the company researched (1), analyze the process of work performed in the office of the company in study (2), and propose measures of the operational processes required (3).

Theorethical and Conceptual Review

To understand the complex universe of organizations, it is convenient to approach some existing administrative theories throughout History. The most relevant to this study is the Contingency Theory, which according to Zonatto [1] the Contingency Theory aims to explain the organizational internal and external transformations of the organizations, and its reciprocity with environmental factors. The environment in which the organization is located is the main factor to generate internal changes in the organizational context. The Theories of Contingency highlight the contingent factors that interfere with the functioning of organizations. Beuren and Fiorentin [2] mentioned that the contingency theory has considerable power to clarify the performance within organizations. This scenario includes factors such as size, culture, environment, technology, tasks and methods.

According to Silva [3] in Contingency Theory the organizations are classified as open systems that need to be constantly renewed in order to maintain or improve organizational performance. Therefore, an ergonomically correct organization brings with it positive aspects in employee performance and it makes the organization has a high growth.

Concepts to Survey of the Business Performance of the Work Project with Emphasis on Ergonomics Applied to the Company Researched

Ergonomics is a tool with different specializations and an overview covering various sectors and departments of the company, its possible consequences and interactions, affecting since physical to organization aspects. According to the Brazilian Ergonomics Association [4] ergonomics is derived from the Greek *ergon* or work and *nomos* or norms, rules, laws, in Portuguese language, respectively.

To Snell and Bohlander [5] Ergonomics refers to the general adaptation of a working system-environment, machinery, equipment and processes - to give support to human characteristics. According to Wowk [6] Ergonomics is understood as a set of sciences and technologies that seeks comfortable adaptation and therefore more productive between the human being and the working environment, in order to adapt working conditions to the characteristics of the human being. Studies in Luz [7] says that Ergonomics is a concern to pass on to the company, great benefits, assisting in the integration of employees, reduction of occupational accidents and occupational diseases. In relation to the employee, he will develop his jobs safely, preventing various diseases related to work, maximizing self-esteem relationship in the organizational context. In accordance with Marques et al [8], analyzing Ergonomics, there is a constructive and participative work with resolutions of complex problems, requiring knowledge of duties, the activity developed in order to perform them and difficulties to achieve the performance and required productivity. Studies in Wowk [6] stresses that exist five prerequisites for an ergonomically correct initiative:

- Epidemiological requirement – it must be able to reduce the incidence of back problems of fatigue, injuries and other cumulative trauma;
- Biomechanical Requirement – it evaluates the worker performing his activity in the new position and clearly understand that the human mechanics is acting better;
- Physiological Requirement-in the new perception, the worker is less fatiguing to exercise his task;
- Psychophysical requirement - the worker accepts the initiative that was offered by the company;
- Productivity requirement-in the new perception, there is no loss of productivity, but increase of it.

Concepts to Analyze Work Processes Performed in the Company's Office in the Study

According to Silva [9], the basic movements also known as Therbligs, or anagram of Gilbreth, permits define, analyze any task and reduce the manual work. In the activity of putting screws represents seven basic movements: (1) take the screw; (2) transport to the piece; (3) place it; (4) catch; (5) carry the screwdriver until the screw; (6) use it and (7) place it in the previous situation. Also in accordance with Wowk [6], the reasons for stress are numerous and have a cumulative result; the physical and mental pretensions in excess cause stress, emphasizing that it may focus heavily on workers already affected by other factors, such as: conflict with the leadership and even domestic problems. According to Luz [7], some companies are not worried about with future consequences of their employees, because it is through factors such as overwork, remain in the same position for many hours doing repetitive movements and handling equipment improperly, takes the employee to develop occupational diseases known as Repetitive Motion Disorders (RMDs) and Work-related musculoskeletal disorders (WMSDs).

Concepts to Propose Measures for Innovation of the Required Operational Processes

According to Silveira and Oliveira [10], several factors affect the success of innovation, for example, technological, economic and social aspects. Market and customer needs encourage the increasing of innovation, as well as innovation strategy chosen by the organization. However, the innovation strategy needs to be adjusted according to internal and external analysis.

Studies in Wowk [6], says that to avoid eyestrain, the company should plan the lighting, focusing on the illumination of the object to be a comfortable posture. It is necessary to plan not to create shadows, glare or reflections that bother. The background illumination should allow a visual

rest during breaks. It is advisable constant breaks, with five minutes every hour or according to the employee's will.

According to Santos [11] labor activity, known as preventive therapeutic exercise, is the practice of elaborate physical activities during office hours, at the very organizational environment or working institution. It is intended to relieve the most used structures during the performance of its functions and enable the body parts that are not required.

In the view of Luz [7], the workstation equipment should facilitate the movement of the body. Economically and benefiting both sides, anthropometric measurements need to be done directly to users. The most common ergonomic equipment are:

- Chair: upholstered with fabric that allows perspiration, as the anthropometric measurements of the user, adjustable, it has rounded front edge of the seat, have support for the back.
- Computer and accessories: the position of the video monitor needs to be in the horizontal position of the eyes. There can be no reflections on the screen, the screen should move forward and back, is recommended support for handles (mouse) and the typing (keyboard). The size of the mouse should vary depending on the employee's hand size, the mouse cable has to be long enough to the locomotion, according to the employee´s taste and the keyboard should always stay in front of the computer.

- Table: the measures must be in accordance with the NR-17, have enough space for the movement of the staff, have space to write and place their things. The edges should be rounded to avoid accidents. In relation to height, the table must have enough space between the top and the legs.

- Footrests: To be measured and executed under and always in accordance with the physical height of the worker.

Methodological Procedures

This case study was developed in a qualitative platform and according to Cooper and Schinfler [12] aims to measure exactly something like knowledge, behaviors, opinions or customer attitudes. The encoded data are explained, categorized and reduced the numbers that can be used in statistical analysis. Observations in the research are conducted, focusing on the points that will be covered and still compile information with stakeholders or informants to well understand the work of the project, with emphasis on ergonomics in the administrative sector and the related objects of study, thus confronting the theories referred to above with the results obtained in the research. It will be used resources as tables and figures to demonstrate the implications.

It was used the technique of the Focus Group, which according to Silva and Assis [13] is the interaction between the participants and the researcher, so to do the data collection and after the discussion focusing on specific topics and directives, the Focus Group has been greatly used by many professionals in the production of research.

Concerning to *in loco* interviews, the purpose was to obtain knowledge about the topic approached, with the objective of investigating the negative and positive points now researched relation to ergonomics, and so provide specific data. This research is classified as a case study because, once it was followed the recommendations of Gil [14], with the collection of data through observation and document analysis, and other usual procedures in this methodology. At the end of the survey, it was performed detailed analysis and organized in accordance with the usual procedures. The data and records were condensed and the report is prepared to respond to the research objectives. The methodological approach is shown in Figure 1 and the description in Table 1 below.

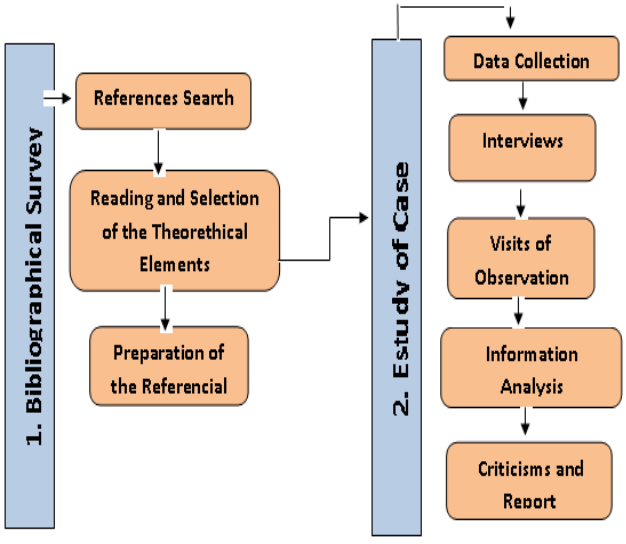

Figure 1: Methodological study treatment
Source: Adapted by the authors.

Table 1: Description of the methodological Treatment

Bibliographical survey	Description	Study of case	Description
Survey of References	Gather relevant information on the subject.	**Data Collection**	Search and attach documents containing evidence and information on the subject.
Reading and Selection	Read and choose correctly writers to obtain a good quality research.	**Interviews**	Interviews with the Directors and employees of the company for information necessary
Prepation of the Referencial	Select references using the names of the authors, institutions, title, abstract or keywords.	**Visits of Observations**	Visit and observe the company researched in order to assign meaning to Article.
		Information Analysis	Analyze information collected and describe in the article.
		Criticism and Report	Detailed description of the implementation of Ergonomics in the company researched exposing suggestions, criticisms and improvements.

Source: Prepared by the authors.

Group of Focus

The preparation of this task required the admission of a focus Group, following recommendations in Dias, which states that the focus group allows the identification of attitudes, feelings, perceptions and ideas of taxpayers from a particular subject. It guides interact in a participatory manner seeking learning, and also it allows criticism over the subject matter. Here, it is constituted of five employees of the commercial branch, established in the Municipality of Porto Velho, specifically located in the company studied, it was considered as a criterion the employees who work handling computers, it was given a questionnaire with multiple choice answers developed by the authors for this simulation study, it was analyzed and criticized in the face of theoretical content brought in context. Obeying the ethical research protocol.

Analysis of Ergonomics at the Auto-Electric Searched

This study is conducted in an Auto-electric in Porto Velho City. It is observed that the company studied does not apply the concepts of ergonomics that, according to Luz [7] is a positive investment. According to the author, it generates profitability in the company, because it reflects the enthusiasm of the employees. It is observed that, in fact, that ergonomics positively motivates the employees in their work environment, according to test applied in the development of this study. Ergonomics in the enterprise space brings many benefits coupled subjectively, but directly related to the productivity of individual. It was not allowed to take pictures at the researched site, so it was decided to capture the images from the Internet in the public domain two similar images representing the situation found; in Figure 1 there it is shown a diagram of the wrong form of application of ergonomics in the company; and Figure 2 shows the right way to be considered; the following Tables 2 and 3 show the detailing of the form.

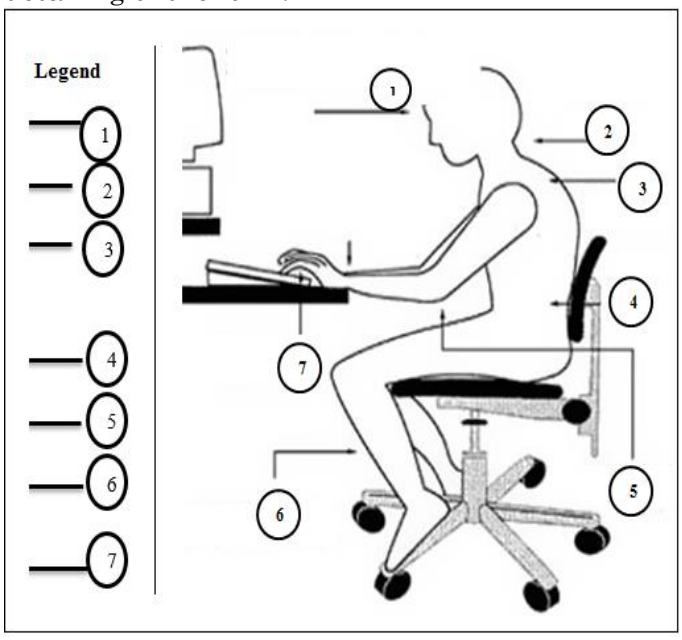

Figure 1: Incorrect application of ergonomics in the work environment
Source: Google Images (2014)

Table 2: Description of the incorrect application of ergonomics in the work environment

	Incorrect Application	Description
1.	Headache, eyestrain, dry eyes, itching	Irritation of the eyes caused by the poor lighting and by the screen image of the defective computer.
2.	Stiff Neck	Twisted neck, where the head is tilted to one side and the chin is turned to the other. Due to the wrong position of the computer screen.
3.	Tense and curved shoulders	Continuous contraction of the muscles that surround the neck and trapezius.
4.	Low back pain	Low back pain is in the lower region of the spine near the basin.
5.	Elbow of a tennis player and golfer	Known as lateral epicondylitis it is an inflammation that affects the outer side of the elbow, hindering the movement and causing pain.
6.	Varicose veins, swollen legs	Inchaço, torção e dor, que foram preenchidos com uma acumulação irregular de sangue.
7.	Cramps in the fingers	Involuntary contraction of muscles, from the misuse of the keyboard and mouse.

Source: Prepared by the authors

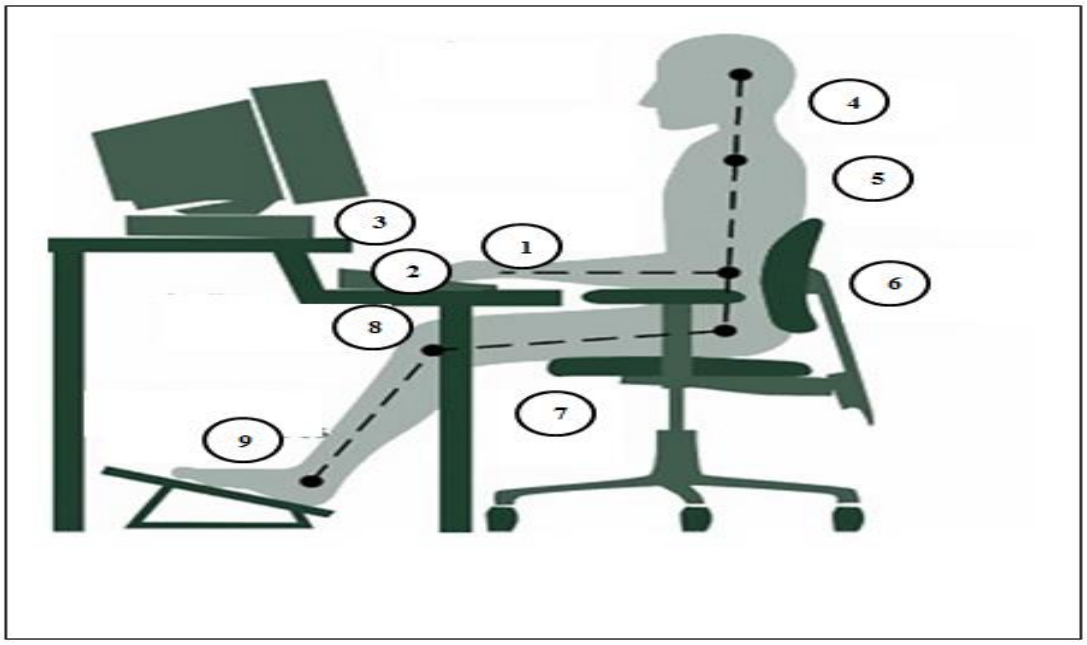

Figure 2: Correct application of ergonomics in the work environment
Source: Google Images (2014)

Table 3: Description of the correct application of ergonomics in the work environment, according to literature

	Correct Application	Description
1.	Handle in a neutral direction without bending.	Support the wrists to avoid pain and fatigue in digital operation.
2.	Keyboard directly in front of the person.	Keyboard positioned in front of user and toward the worker's front look.
3.	Mouse next to the keybord and in the same level.	Keep the mouse close to the keyboard for the user need not stretch the arms to reach it.
4.	Shoulders and hips aligned.	Keep them aligned not to cause future pains, or muscle tiredness.
5.	Back on the curvature of the spine.	Join the chairs that have those characteristics, so as to support the spine and for no damage.
6.	Armrest at the height of the elbow.	Join the chairs that have these specifications to not force the muscles of the arms.
7.	Seat height below the patella.	Keep the chair at a height that is according to each user.
8.	Knees slightly below the hip.	Keep the knees below hips to not form pressure on the patella.
9.	Feet flat on the floor or in the footrest	Acquire footrest to maintain blood circulation avoiding pain or malaise.

Source: Prepared by the authors

The study of Ergonomics aims to provide comfort, accident prevention and the emergence of specific diseases for particular type of work. Thus, the leading cause of problems is the posture that is acquired during the working day. Ergonomics aims to improve working conditions, such as equipment, temperature, lighting and noise, which are known to cause harm in the physical and mental scope. As shown in Figure 2, the company that suits its employee to these questions promotes the increasing of the efficiency and motivation. In this applied research, it was applied numbered questions from 1 to 10, which had a character of multiple choice in 5 response options; it followed by the theoretical sieve raising the specific topic of this work. In Table 4 and 5 below, there is the descriptive and the result of respondents.

Table 4: Descriptive for the interpretation of the questionnaire

Concept	Sequence	Descriptive for the interpretation
Very Good	**5**	Value creation and innovation as differential.
Good	**4**	Satisfactorily evaluated services, with possible improvement.
Regular	**3**	Evaluated as median, offers the service, but there is no excellence.
Bad	**2**	Evaluated as unsatisfactorily way. The services offered must be reviewed.
Very Bad	**1**	Does not meet the users. There is need for innovation.

Source: Prepared by the authors.

Table 5: Focus group data query

N0.	Questions	Affirmatives of Response					
		1*	2*	3*	4*	5*	TOTAL
1.	The company gives me a furniture (chairs, set computer screens, restraints on the feet and arms etc.) ergonomically correct;	1	2	2	0	0	5
2.	The climate in the company is suitable (effective temperature between 20ºC and 23ºC)	1	3	1	0	0	5
3.	The environment I develop my tasks is safe and healthy;	0	2	1	1	1	5
4.	Evaluate the space for the employee to go in and go out of the job.	0	0	2	2	1	5
5.	Evaluate the lighting in your work environment.	0	0	2	0	3	5
6.	Evaluate the height of the work desk.	0	0	2	2	1	5
7.	Is your performance in the organization affected by ergonomic environment? Evaluate your position.	0	0	3	2	0	5
8.	Do you believe that change some equipment, such as: chair and table ergonomically would be an innovation?	0	0	0	1	4	5
9.	What is your opinion on the use of ergonomics in the company where you work?	1	1	2	1	0	5
10.	What do you think about taking part of the working time to carry out any work activity for relaxation of memory and / or muscles?	0	0	0	0	5	5

***** 1 (Very Bad), 2 (Bad), 3 (Regular), 4 (Good), e 5 (Very Good)**.**
Source: Consultancy to the Focus Group

Survey of the Business Performance of the Work Project with Emphasis on Ergonomics Applied to the Company Searched

When surveying operational factors relating to ergonomics in the company under study, it was found that the organization does not have ergonomically correct tools. Table 6 below presents the main aspects of the theory of criteria for the adoption of ergonomics in comparison with the practice in the research company:

Table 6: Ergonomics theory at confrontation with the practice in the company

Ergonomics	Description of the theory	How does it occur in the research company
General adaptation	General adaptation of a work-environment system, machines, equipment and processor.	It does not have an ergonomically correct working environment, the chairs are old and the computer screens are positioned wrongly.
Bigger Productivity	Search a comfortable and productive adaptation, adapting working conditions to the employee's characteristics.	The existing equipment in the company in study are not according to the individual characteristic of employees.
Reduction of occupational accidents	Pass to the company great benefits, assisting in the integration of employees, reduction of occupational accidents and occupational diseases.	As the equipment are not ergonomically correct, this makes employees feel uncomfortable, causing some occupational diseases.

Source: Prepared by the authors through *in loco* observation.

It can be seen from Table 2 that the analyzed company does not have the three of Snell and Bohlander [5], Wowk [6] and Luz [7] concerning to ergonomics, the practice does not agree with the theory.

The chart 1 below, confronts the theory with the opinion of officials, valid for the security and the space that the work environment provides. Respondents were positioned as bad, regarding to a safe environment; regular and good in regard to the work station area.

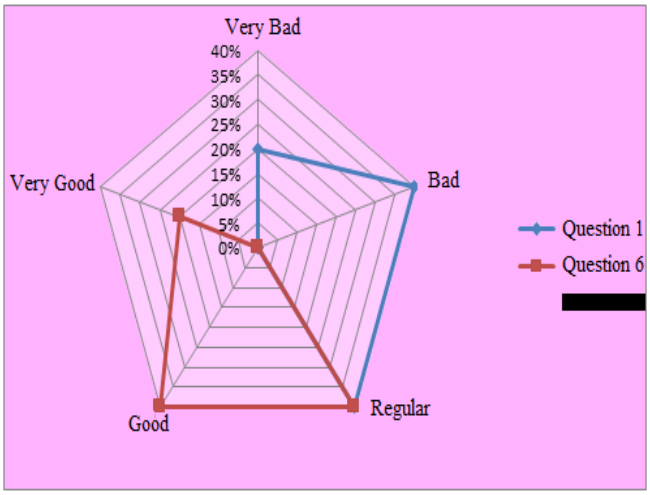

Chart 1: Satisfaction level with the work environment
Source: Focus Group

Analysis of work processes performed in the company's office in the study.

Regarding the work processes performed at the company's plant, the company has some employees who feel discouraged, because they are not placed in an ergonomically correct environment, resulting in stress and other ailments. However, the practical behavior of this company shows divergences concerning to claims of authors, as shown in Table 7.

Table 7: Theory of work processes in comparison with the practice in the company

Ergonomics	Description of the theory	How does it occur in the researched company
Stress	The physical and mental pretensions in excess can cause stress, emphasizing that it can focus heavily on workers.	Observations made in the company shows that employees are feeling stressed and tired with respect to their job.
RMDs/WMSDs	Overworked, repetitive movements, improper handling equipment, leads employees to develop occupational diseases.	There are not records in the company of officials who had occupational diseases.

Source: Prepared by the author through observations *in loco*.

It is observed that the company does not practice the theories according Ester Wook [6] and Ajane Luz [7]. Thus, the practice is not in accordance with the theory. The Chart 2 points to the employee's performance level that is affected by ergonomic environment and the company is an ergonomically correct organization. Analyzing Figure 2 it appears that 60% of employees is not affected because they are not inserted in an ergonomic environment; 20% indicates that the company does not use the ergonomics and 40% evaluate as medial the ergonomics of the company.

Proposals for Measures to the Innovation of the Required Operational Processes

From the observations made in the research field, proving in Table 8 the concepts and measures for innovation in operational processes. It is proposed to renew equipment such as chair, table and lighting, also adding footrest.

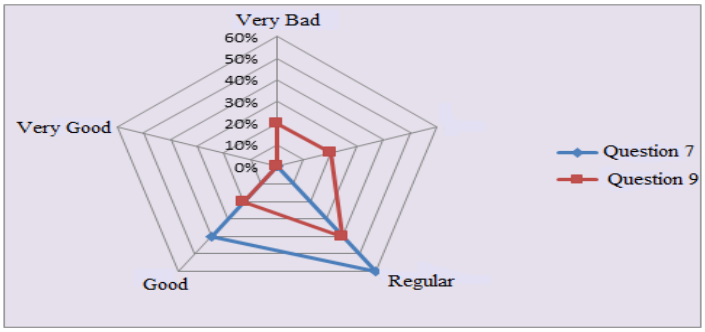

Chart 2: Satisfaction level of the ergonomic environment
Source: Focus Group

Table 8:. Criteria for innovation in ergonomics

Ergonomics	Description of the theory	How does it occur in the researched company
Lighting	The company should plan the lighting, focusing on the illumination of the object to have a comfortable posture.	The company studied has a reasonable internal lighting and a good external lighting.
Labor Activity	It is the practice of elaborate physical activities during office hours, at the organizational environment.	They do not practice any activity within the business context.
Equipament	Equipment should facilitate the movement of the body ergonomically benefiting both sides. The most common ergonomically equipment are: chair, computer, table and footrest.	The company does not use ergonomic chairs, computers are positioned incorrectly, the table does not have regulation and do not use footrest.

Source: Prepared by authors through in loco observation.

It can be seen from the Table 4 the company under study does not agree with the theories of Wowk [6], Santos [11] and Luz [7] with regard to the criteria necessary to have an ergonomic innovation.

From the Chart 3 below, about the lighting and the mood within the company, 60% of the respondents affirm claims that the climate in the company is bad; 40% evaluates the lighting as unsatisfying and 60% evaluates as great.

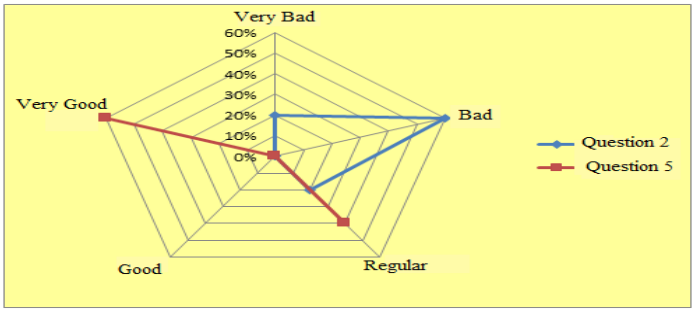

Chart 3: The organizational environment regarding to lighting and climate
Source: Focus Group

The Chart 4 points on the equipment that the company uses. It is found that 40% of the employees evaluate as bad the furniture provided by the company and they believe that the services offered should be revised; and 40% say that is regular and good the height of the working table.

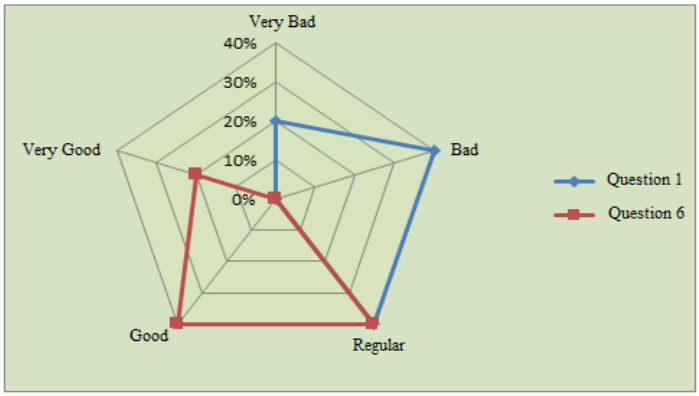

Chart 4: Furniture ergonomically correct
Source: Focus Group

Ideas of innovation were considered in this task. Among these it was considered the application of new ergonomically correct equipment; another idea was to take part of working time to carry out any work activity for relaxation of memory and muscles. Most respondents positioned positively to the use of the innovations. Figure 5 below shows the results of the consultation on the idea of innovation proposed in the study; 80% of respondents evaluated that change some equipment ergonomically would be an innovation; and 100% of respondents evaluate as great if the company performs some work activity. And in Table 9 below is presented with a summary of subsection 4.

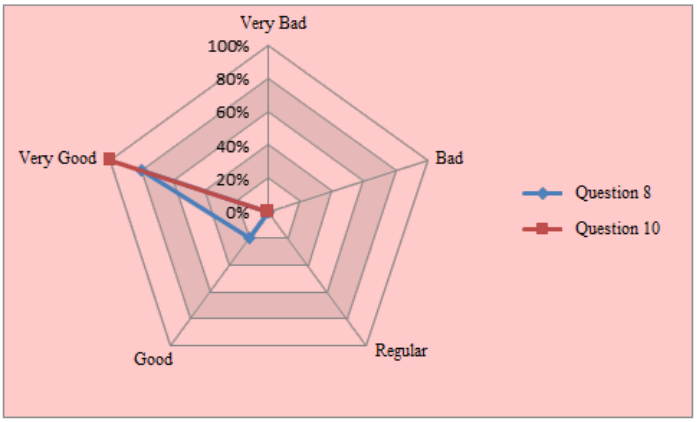

Chart 5: Innovation ideas proposed in the study
Source: Focus Group de Foco

Conclusions and Suggestions

This research aimed to study and analyze the work of the project with emphasis on ergonomics, in the productive sector in an Auto-electric in the city of Porto Velho. In this organization it were analyzed the processes performed in the plant of the company and it was proposed innovation

measures of operational processes. The market requires that organizations develop ergonomically correct structures, not only to increase employee productivity, but also to have a positive image for them, once the valorization of the employee is of great importance in the competitive landscape.

Table 9: Summary of the problems and suggestions for improvement

Improvement Points	Improvement Proposals
Chair	Support for the back to adjust the height and angle between the seat and the adjustable back support.
Keybord	Support for the handles.
Video Monitor	Position it horizontally to the employee.
Footrest	Acquisition of footrest.
Mouse	Acquisition of support for hands.
Labor activity	Hiring a professional physical education to teach the staff how to make a work activity and provide breaks for employees.
Lighting	Focus on the illumination of the object to be a comfortable posture.

Source: Prepared by the authors.

It was sought through the research analyze the business ergonomic environment; The survey found that the organization does not have ergonomically correct tools. In Specific Objective 2, there were work processes performed in the company's plant and it was found out that the company has some employees who feel discouraged, because they are not placed in an ergonomically correct environment, resulting in stress and other ailments.

Regarding to the Specific Objective 3, it was proposed measures for innovation in the organizational environment, and it was observed the need to acquire new ergonomically correct equipment and furniture. Contained in this task the descriptive content in the following way:

- Chair: it is proposed to use upholstered with fabric that allows perspiration, as the anthropometric measurements of its user, be adjustable, have rounded front edge of the seat and have support for the back.
- Computer and accessories: it is indicated the position of the video monitor needs to be horizontal eye, the screen cannot have any reflections, it is recommended support for handles the mouse handling, and typing in the phone's keypad. The size of the mouse should vary depending on the employee's hand size and the keyboard should always stay in front of computer.
- Table: it is recommended here apply the rules contained in ABNT (Brazilian Association of Technical Standards) NR-17 code, installing specific lower footrest, and always according to the user's height.

Furthermore, it is suggested to adopt the labor activity for relaxation of the memory and muscles; and it is recommended regular intervals, taking 10 minutes in an hour of work / 1 minute in 10 minutes of work, varying according to taste of the organization's directors; driving the emergence of innovations, applying these concepts brings numerous benefits and it avoids the employee departs, because of injuries resulting from his workday. However, it is necessary collaboration together to have an ergonomically adapted environment.

References

1. Zonatto Vinícius C da S (2013) Investigation of management practices of costs in dairy industry: A contingency approach. Blumenau: Blumenau Publisher.
2. Bauren Ilse M, Fiorentin Marlene (2011) Influence of contingency factors on the attributes of the management accounting system: A Study in Textiles Company of Rio Grande do Sul State. Blumenau: Blumenau Publisher.
3. Silva Márcia Z da (2014) Contingency factors that contribute to the modification of the decision costing system: a case study in a milling industry. Access on link file:///C:/Users/Dr.%20Flavio/Downloads/RAUSP%20v49n2_267-279.pdf on October, 23rd. 2014.

4. Brazilian Ergonomics Association. (2014) What is Ergonomics. Available in: <http://www.abergo.org.br/internas.php?pg=o_que_e_ergonomia>. Access on: 13 October 2014.
5. Snell Scott, Bohlander George (2010) Human Resources Administration. São Paulo: Cengage Learning.
6. Wowk Esther (2013) Ergonomic Assessment Jobs in Administrative at a Company of the Electrical Branch. Monograph Federal Technological University of Paraná. Specialization in Occupational Safety Engineering. Access on the link http://repositorio.roca.utfpr.edu.br/jspui/handle/1/1532 Curitiba: UFPR.
7. Luz Adjan de Moura (2013) The Influence of Ergonomics for Performance At Work: A Study on a Bank Branch in Picos City. Monograph. Picos: UFPI.
8. Marques Amanda (2010) Ergonomics as a determinant factor in Good Progress Production: a Case Study. São Paulo: Anagram Magazine: Scientific Journal of Interdisciplinary Graduate.
9. Silva Ana CG da (2010) General Theory Administration I. Macapá: Amapá Publisher.
10. Silveira Juliane DC de Araújo, Oliveira Murilo A (2014) Innovation and Organizational Performance: A study of innovative Brazilian companies. Access on link: http://www.atena.org.br/revista/ojs-2.2.3-06/index.php/ufrj/article/viewFile/1874/1732 Accounting and Management Society, Rio de Janeiro, v. 8, n. 2, mai/ago 2013 on October 23rd. 2014.
11. Santos Elgison DL dos (2014) The influence of gymnastics in the quality of life of teachers and practice of teaching and learning of science. Monograph published in 2012, and available on link http://repositorio.roca.utfpr.edu.br/jspui/bitstream/1/2504/1/MD_ENSCIE_III_2012_21.pdf Access on October 23rd. 2014.
12. Cooper Donald R, Schindler Pamela S (2011) Research methods in management. Porto Alegre: Bookman.
13. Silva João Roberto de S, Assis Silvana Maria B de. (2010) Focus group and content analysis as a clinical-qualitative methodological strategy research in developmental disorders. Postgraduate Program in Developmental Disorders. São Paulo: PPGDD.
14. Gil Antonio Carlos (2010) How to develop research projects. São Paulo: Atlas, 2010.