

Assessment of Physical Working Condition and Machine Placement Satisfaction in Alfred B. Gorre's Corn Mill

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Abstract:- This study focused on assessing the Physical Working Condition and Machine Placement Satisfaction in Alfred's Corn Mill using the standardized Employee Performance and Ergonomics guide questions. The study used descriptive qualitative research in analyzing data. It revealed that workers express concerns about physical conditions, including machinery height and ergonomic issues. The workers were stressed in the machine placement. The importance of well-matched equipment, adjustability, and considerations for spatial arrangement, visibility, and environmental factors is needed in maximizing workplace design.

Keywords:- Employee Performance, Working Environment, Workspace, Ergonomics, Physical Working Conditions, Employee Satisfaction, Workspace.

I. INTRODUCTION

In today's fast-paced and competitive business environment, organizations are realizing the critical importance of job satisfaction and personal development for both employees and the company as a whole. Job satisfaction refers to the level of contentment and fulfillment an individual derives from their work [1].

For a company to have a competitive advantage and sustainability over others, its human resource management is of the utmost importance to secure competent employees. As job satisfaction plays a critical role in securing excellent manpower and enhancing corporate performance, it is essential to identify factors that would affect employees' job satisfaction [2].

Creating an ergonomic and employee-friendly work environment is crucial for fostering job satisfaction. While the work environment may not directly engage in the production process, it profoundly impacts the employees responsible for it. Ergonomics plays a pivotal role in designing a workspace that promotes well-being and efficiency. Employees who appreciate their work environment are more likely to feel at home, enhancing their overall job satisfaction [3].

On the contrary, a poorly designed or inadequate workspace can lead to discomfort and dissatisfaction, ultimately hindering employee performance [4]. Prioritizing ergonomics in the workplace is not only about physical comfort but also a strategic investment in enhancing job satisfaction and overall workforce effectiveness.

One aspect of an organization's operations that must be considered while trying to boost productivity and foster employee job satisfaction is the working environment. An employee's working circumstances are referred to as their work environment. Recognizing its significance, it becomes imperative for organizational management to proactively design and implement appropriate working conditions [5]. By tailoring these conditions to meet the needs and preferences of employees, management can foster an environment conducive to optimal performance and, subsequently, enhance job satisfaction.

Ergonomics' significance in the workstation commenced in 1949 in the Ideas Bank in US. Ergonomics, a new design of applying sophisticated tools facilitates employees' performance and general productivity ensuring a congenial work environment [6]. Despite efforts to improve work conditions, workplace injuries remain a serious problem in many companies. Thus, affecting the job satisfaction of its employees to its work environment. As a way to improve their health and safety records, many companies introduce technical resorts involving new technologies, process modifications, and substitutions to minimize the likelihood of workplace injuries [7], [8].

Taheri et al. (2020) indicates unanimous agreement among employees from both organizations regarding the positive influence of the working environment on job satisfaction. The regression analysis underscores a robust dependence of job satisfaction on the quality of the working environment, strongly aligning with the assertion that job satisfaction is predominantly influenced by the working environment. The research findings highlight a significant correlation between the working environment and job satisfaction. Employees from the two organizations uniformly expressed the view that job satisfaction is contingent upon the quality of the working environment.

The 2019 study conducted by Tiwari explores different aspects of the work environment, particularly concentrating on the positioning of machines. The research investigates how factors like work conditioning, machine placement, work environment, and commitment affect employee satisfaction. By emphasizing the importance of machine placement within the work environment, the study offers valuable insights for students examining the impact of work conditions on employees. Furthermore, it serves as a useful reference for students involved in research, providing relevant sources for additional investigation.

Alfred B Gorre Corn Milling is a dynamic milling corporation that has been a prominent player in the industry for several years in Catmon, Cebu. Founded on the principles of quality, precision, and innovation, the company has established itself as a high-quality milling service. Alfred B Gorre Corn Milling specializes in providing custom milling solutions tailored to the unique needs of its clients. The company ensures precision and efficiency in the milling process.

The researchers' initial observations reveal significant inadequacies in the physical working environment, particularly for machine operators. The establishment is an open area where even the customers can see the operation since there are no facilities like divided room for customers to wait or to have transactions with, though they have a medium-wide wooden chair that the customer can use, still the noise of the machine and dusty condition of the place is unhealthy for the customers as well as the operators. Operators of the 12-feet corn milling machine have no personal protective equipment when working, they also lack tools to be used in their operation when checking the inside of the machine and cleaning it. The machine is divided into 2 areas to be operated, the upper area is where the corns are put to be grilled and then the lower area is where the grilled corn comes out. The operators need to use the attached wooden stair to get into the upper area while carrying a sack of corn, on the other hand, the lower area is the one to receive the grilled corn or maize through the tunnel and then put it into the sack and deliver it to the customer. These stated problems will have an impact on the well-being and job satisfaction of the workforce.

According to the study of Johnson (2021), the research emphasizes the need for customized ergonomic designs that take into account the varied physiques of workers. Findings reveal a positive correlation between personalized machine placement and job satisfaction, highlighting the significance of accommodating different body dimensions.

The primary gap that prompts the need for this study is the absence of a comprehensive understanding of job satisfaction specifically in the context of machine placement at Alfred B. Gorre Corn Milling. While the study aims to

describe the job satisfaction of the workers, the focus on ergonomics implies a recognition of the importance of physical and environmental factors in shaping employee satisfaction. This study emphasizes the significance of job satisfaction, but there is a gap when it comes to understanding how ergonomic factors directly influence job satisfaction. The ergonomic considerations, such as workstation design, equipment usability, and overall physical environment, play a crucial role in shaping employees' contentment in their roles. This gap signifies a lack of detailed insights into how these specific ergonomic elements impact job satisfaction at Alfred B. Gorre Corn Milling.

The primary purpose of the study was to assess the physical working condition and machine placement satisfaction of the workers of Alfred B. Gorre Corn Milling. There is a need to conduct this research that focused on how satisfied the workers are in their workplace for it would help the company to provide a safe and comfortable workplace for its workers, and for the workers to do their job in a comfortable environment. Ultimately, the findings will aid in improving job satisfaction in the workplace, leading to positive outcomes for employees and organizations.

II. MATERIALS AND METHODS

A. *Employee Performance and Ergonomics Guide Questions*

Employee Performance and Ergonomics guide question is a standardized scale and is specially designed to obtain information about employees' views and opinions on their work environment in the context of ergonomics. The guide question was developed by Hope Ngozi Nzewi, Arachie Augustine, Ibrahim Mohammed & Okoli Godson in 2018. MSQ-short form has 10 items included, including demographic data, physical working condition (ergonomics) and employee performance (job satisfaction).

B. *Methods*

The study used a descriptive qualitative design. The study was conducted at Alfred B. Gorre Corn Milling, an industry located in Barangay Bawo, Catmon, Cebu. The researchers obtained formal permission from organizational heads to access employees, followed by random subject selection and obtaining consent. After selecting samples, employees receive guide question. The guide question were personally distributed with assurance of confidentiality for employee and organizational names during guide question collection. The guide question consisted of basic information about participants (age, gender, position in the company, and how long they have worked for the company) and two pools of questions divided in physical working environment (ergonomics) and employees' performance concerning their job satisfaction for a total number of 10 questions. The findings were presented in tables, charts, and narratives to provide a comprehensive analysis of the factors influencing physical work conditions and employee's job satisfaction.

III. RESULTS

Table 1 Distribution of Responses Regarding the Physical Working Condition related to Ergonomics

Guide question Items	Disagree (SD+D)	UD	Agree (A+SA)
Physical Working Condition (Ergonomics)			
I agree with the request to determine the optimal height for mounting the equipment I operate for increased convenience.	R1, R2, R3, R6, R7, R8, R9, R13	R4, R10, R12	R5, R11
The machineries in the organization are too close to each other making operating them difficult.	R1, R4, R6	R5	R2, R3, R7, R8, R9, R10, R11, R12, R12
There is usually too much heat in the operating rooms when the machines are working.	-	-	ALL
I can see very well while working with machines in the organizations because lighting issues are considered while placing them.	R1, R2, R3, R4, R6, R7, R9, R10, R11, R12, R13	R5	R8
The equipment I use suits my posture and I can easily adjust.	R2, R3, R5, R7, R8, R9, R10, R11, R13	R1, R4	R6, R12

Table 2 Distribution of Responses Regarding the Job Satisfaction of Employee

Guide question Items	Disagree (SD+D)	UD	Agree (A+SA)
Employee Performance (Job Satisfaction)			
My equipment stresses me in operation and makes life difficult for me in the firm.	R1, R2, R3, R4, R5, R6, R8, R9, R10, R11	R7, R12	R13
My error rate will be reduced if the machine I handled suits me.	-	-	ALL
If the machine I operate is adjustable to suit my posture, I will produce more.	R4, R7	R11	R1, R2, R3, R5, R6, R8, R9, R10, R12, R13
How machines are sighted influences how convenient I am in operating them.	-	R1, R2, R7, R8, R12	R3, R4, R5, R6, R9, R10, R11, R13
My productivity will improve if equipment is sighted where there is much ventilation and light.	-	-	ALL

IV. DISCUSSION

In Table 1, the data gathered described the responses of the workers in the context of their physical working environment. A significant majority of respondent’s express dissatisfaction or disagreement with the organization’s approach to considering the height of equipment they operate, suggesting that there may be issues with the convenience and ergonomic suitability of the machinery. A majority of respondents agree that the close proximity of machineries in the organization makes operating them difficult, indicating a potential challenge in the spatial arrangement of equipment that could impact efficiency and ease of use. A unanimous agreement is observed in acknowledging the presence of excessive heat in operating rooms when machines are in use, highlighting a widespread concern about the working conditions and possibly the need for improved ventilation or climate control. The majority express satisfaction with the consideration of lighting issues when placing machines, suggesting that visibility is generally well-managed in the organization, which can positively influence work performance. Most of the respondents indicate that the equipment they use doesn’t suit their posture or lacks easy adjustability, suggesting potential ergonomic issues that could affect the comfort and efficiency of their work.

Table 2 describes the responses of the workers in the context of their performance. A substantial majority report that their equipment causes stress during operation,

indicating a potential negative impact on job satisfaction and overall well-being within the firm. All of the employee’s agreement is observed in the belief that a machine that suits the operator would reduce error rates, emphasizing the crucial link between equipment suitability and job performance. Most of the employees agree that the adjustability of the machines to suit their posture would lead to increased productivity, underscoring the importance of ergonomic considerations in enhancing work output. A majority emphasize the influence of how machines are sighted on the convenience of operation, suggesting that spatial arrangement and visibility play key roles in their perception of convenience. A unanimous agreement is found in the belief that productivity would improve if equipment is sighted where there is ample ventilation and light, highlighting the perceived importance of environmental factors on overall work efficiency.

V. CONCLUSION

The workers were stressed about the physical working environment, including machinery height, spatial arrangement, and excessive heat. Stress during equipment operation significantly impacts job satisfaction, emphasizing the importance of well-matched equipment. Posture adjustability is crucial for productivity, while spatial arrangement, visibility, and environmental factors influence overall work efficiency. The proponents suggested that a thorough study of the machine should be made to fit the worker.

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