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Ergonomic Tools: Opportunities and Challenges

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ABSTRACT
Nowadays working in an office is full of stress and work pressure may lead to a serious health hazard. So, to resolve this problem ergonomics took a great footstep in the working culture. Through ergonomics techniques, various products are manufactured to reduce work pressure, and increase productivity, it safeguards serious health issues and it also helps in less absenteeism. In our study, we intend to identify the, what are reasons why working professionals shifting towards ergonomic products and also to see the durability of ergonomic products. This research is descriptive and is based on primary as well as secondary data.

Keywords: *ergonomics, human factor engineering, physical ergonomics, cognitive ergonomics, organizational ergonomics, work culture*

I. INTRODUCTION

Ergonomics is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design to optimize human well-being and overall system performance. Human factor and ergonomics are closely related and it is also known as human factor engineering. it mainly works on psychological factors with engineering. The main goal of this factor is to reduce human error, increase productivity, and enhance safety and health while interacting with the equipment. Human factor design is very impactful in designing furniture and or equipment because it prevents repetitive strain injuries and musculoskeletal disorders. Human factor engineering is very concerned with the word "fit" i.e., 'fit between within the users, 'fit with the work', and 'fit with the situation'. The science of modern ergonomics includes all types of work. The work of industrial engineers, occupational medical physicians, safety engineers, and many others studying both "cognitive ergonomics" (human behaviour, decision-making processes, perception relative to design, etc.) and "industrial ergonomics" (physical aspects of the workplace, human physical abilities, etc.). Nearly, every aspect of modern life now includes some level of ergonomic design. Automobile interiors, kitchen appliances, office chairs and desks, and other frequently used devices are designed ergonomically.

II. REVIEW OF LITERATURE

Narayan et.al (1993) described that redesigning tools, and machines and improving lighting and ventilation in a medical device assembly plant reduced accidents and employee dissatisfaction by addressing ergonomic issues like awkward postures and wrist pain. White Wilson (1995) discusses that an ergonomic–focused management program involves including workers in planning and controlling tasks to achieve desired outcomes while prioritizing their well-being in the work environment. Sumit (1997) indicated that emphasizing ergonomics in the workplace enhances both performance and satisfaction. Riel and Imbeau (1997) felt that "A helicopter manufacturing plant needs proper arrangements to manage heavy dies and prevent injuries caused by overexertion and strain on the body.

III. OBJECTIVES OF THE STUDY

The objectives of the study are as follows –

- To identify, why working professionals or employees are shifting towards the use of ergonomic products.
- To find how much ergonomic products are more long-lasting than ordinary products.

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IV. RESEARCH METHODOLOGY

Types of Research: The type of research used for this study is descriptive research. This Study is based on secondary data. Data are collected from different Article, journal and research paper etc.

Major Challenges

The major challenges are as follows -

- Cost: Ergonomic products often require specialized material and design consideration. It can raise production costs, possibly leading to higher prices for consumers.
- Education: Many users may not fully understand the importance of ergonomic products or how to use of ergonomic products. Currently, resulting in improper utilisation of ergonomic products.
- Market Glut: increasing awareness of ergonomic products has become increasingly crowded, posing challenges for new products to distinguish themselves.
- Technological Advancement: Ergonomics product designers may face difficulties in keeping pace with rapid advancements in technology, particularly the integration of smart features.

Key Opportunities

Innovation: Continue innovation in Ergonomic product design involves the exploration of novel materials, integration of cutting-edge technology and the creation of adaptable solutions to improve user experience and functionality.

Sustainable Design: Ergonomics product is an increasing focus on sustainability in product design. It presents opportunities for ergonomic products that are eco-friendly, made from recycled materials or designed for durability or recyclability.

Increase Comfort: Ergonomic furniture boosts comfort with adjustable features, tailored support and individual needs, leading to higher job satisfaction and morale.

Improve Productivity: It reduces discomfort, fatigue, distraction, concentration and efficiency ultimately driving up workplace productivity and performance.

V. RECOMMENDATIONS

For further improvement, a few suggestions have been given -

- Ergonomic products were more affordable; their widespread availability would greatly benefit offices by reducing the financial burden associated with purchasing ergonomic solutions.
- Provide details training sessions for employees to teach them about correct ergonomics practices and the advantages of using ergonomic products to avoid discomfort and injuries.
- Perform an ergonomic evaluation to assess the workplace environment and pinpoint areas of the ergonomic environment.
- To bolster future adoption, the product necessitates additional ingenuity and a fresh perspective.

VI. CONCLUSION

From our present study, we can conclude that, we have got our main objective, as per public opinion in reality, is that; it is the most comfortable and stress-reducing product compared to any generic product. Other than that, it has a big market in the economy, because average number of people using this ergonomic product. It is also clear that it is the most genuine product for cost benefit. Also, this ergonomic product is more useful than a generic product. From the study, we can conclude that it helps to reduce absenteeism in the office and it increases productivity in the organization.

Limitations of the Study

The Limitations of the study are as follows -

- We could not access or utilise the personal data collection methods.
- Lack of availability of relevant data.

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