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## A Proposed Approach for an Efficient Ergonomics Intervention in Organizations

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### Abstract

The most valuable asset of an organization is related to human resources. Recently, managerial sciences have established new approaches, methods, and tools for work and workplaces organizations, optimizing human actions to increase productivity. Two tendencies are behind these approaches: minimization of human energy consumption (and fatigue avoidance) and maximization of human resources productivity, efficiency, and effectiveness during the work processes and activities they are involved in. Ergonomics (also known as Human Factors) is the key science that is focused on ensuring work environment adaptation to human being talents, abilities, skills, and limits. In order to remain competitive, the organization aims at continuous improvement, and an ergonomic intervention is compulsory in achieving this goal. The paper aims to understand the key focus areas of the ergonomics intervention and study its importance in meeting a basic goal: ensuring the best conditions in the workplace, safety, efficiency together with human resources professional satisfaction.

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### 1. Introduction

Ergonomics is compulsory in organizational culture, as this is the most efficient manner of incorporating the best ergonomic decisions at all hierarchical levels of the organization. The main goal of enhancing ergonomics intervention is continuous improvement, the only factor that drives success and competitiveness in the market. Moreover, the organization has the ability to reduce costs and increase staff professional satisfaction through

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implementation of potential improvement measures and initiatives resulted after an ergonomic evaluation of its activities and processes.

Beyond economic factors that motivate ergonomic improvements in the workplace, the managing board should focus on ensuring the best conditions in the workplace, as the human resource (HR) is the key factor that drives success. Human well-being in the workplace is an increasing concern in the knowledge society and ergonomics is the only science that encloses a range of scientific disciplines wide enough to design and offer implementation solutions for systems, processes, machines and products. Therefore, ergonomics intervention acts as a key driver for a healthy and prosperous organization in nowadays socio-economic environment.

A proper understanding of the aims of an ergonomics intervention creates the right context for improvements and their incorporation in the daily processes as well as in the organizational culture. A major aspect that needs to be considered when analyzing the status of the systems and its processes from the ergonomic point of view is the position of the person/team that establishes the improvement areas and implements the recommendations: a theoretician has a different perspective than a practitioner.

A major factor that cannot be quantified is the effect of implementing ergonomics in the organization. In the global context in which it operates, human is the most valuable asset and its position in the market is conditioned by the staff physical and mental health, and wellbeing. Thus, a model of ergonomics intervention represents the solution for proper measurement of its effects on the organization.

## 2. Conceptual Delimitations

The requirement of a deep understanding on the key terms related to ergonomics intervention is driven by different perspectives on what this science includes and on its major goals. Although ergonomics aims at achieving a logical and relevant connection between personnel, machines and the organization—viewed as a comprehensive system—the different nuances of the existing terms impose an overview of their definitions.

The human being operates in a socio-technical environment and needs to adapt to specific internal and external conditions during work. Ergonomics is a multidisciplinary science that finds practical applications wherever there is human activity. The workplace is considered to be the key focus area of ergonomics, as working physical and psychological conditions ought to meet human needs and not the opposite.

The term “ergonomics” is derived from two Greek words: *ergon*, meaning work, and *nomos*, meaning law. Therefore, ergonomics is a managerial multidisciplinary science that creates the principles that need to be followed in order to ensure productivity and work efficiency (Irimie, 2008). An important characteristic of ergonomics is its interdisciplinary nature, as this science can meet its purposes only by enclosing research from domains such as psychology, engineering, design, medicine and economics. The interdisciplinary characteristic is the fundamental condition for the existence of ergonomics (Irimie, 2008). The most renowned definitions of ergonomics are as per table 1.

A particularity of ergonomics is its holistic approach, as it takes into account physical, cognitive, environmental, social, organizational, and any other relevant factors (International Ergonomics Association). Among the most developed areas of research in ergonomics are physical, cognitive and organizational factors. Of high interest to this paper is organizational ergonomics; it focuses on optimization of sociotechnical systems, including organizational structures, policies and processes.

While ergonomics is a term often used in the area of work conditions improvement, there is another term, human factors (HF), used and considered as a synonym of ergonomics. Human Factors and Ergonomics Society defines human factors as “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 in order to optimize human well-being and overall system performance”. The slight difference between ergonomics and HF is that the latter pays more attention to the psychological effects of work conditions on the individual. HF “is concerned with the application of what we know about people, their abilities, characteristics, and limitations to the design of equipment they use, environments in which they function, and jobs they perform.” (Human Factors and Ergonomics Association)

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