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Business, Manufacturing



Article: "Proving external validity of ergonomics and quality relationship through review of real-world case studies" by Oguzhan Erdinc and Paul H. P. Yeow

Summary of the Article:

The article entitled "Proving external validity of ergonomics and quality relationship through review of real-world case studies" written Erdinc and Yeow reviewed five studies focusing on the external validity of the cause-and-effect relationship between ergonomics and quality within field settings. The factors examined five studies within a manufacturing context which included ergonomics-related concerns (such as its relationship with quality methodologies, problems, interventions) as well as manufacturing tasks and quality improvement outcomes. The authors initially presented a review of literature which examined the link between ergonomics and quality. The manner by which ergonomics is integrated into the strategies designed by corporations is also expounded to ensure superior quality performance. As emphasized, the main contribution of ergonomics in the manufacturing setting is the provision of an exemplary work environment that is deemed conducive to higher employee performance, minimizing error, and resulting in exemplary quality of manufactured products.

The methodology used a review of actual case studies that included (1)

Axelsson (2000) who reviewed an assembly plant, (2) Gonzalez et al. (2003)

who evaluated a metal manufacturing firm, (3) Yeow and Sen (2003)

analyzed a printed circuit assembly factory, (4) Yeow and Sen (2006) studied a PCA factory, and finally (5) Erdinc and Vayvay (2008b) critically appraised an apparel manufacturing factory. The ergonomics problems discussed

ranged from awkward postures, substandard workstation design, and the need to assign trainee operators. Likewise, the research methods included applications Select, Interpret, Measure, Progress, Learn, and Echo (SIMPLE) methodology and the methodology developed by the authors which involved three specifically identified phases such as planning, assessment, and intervention.

The results revealed ergonomics play a crucial role in providing positive outcome to high performance and quality in the manufacturing setting. The authors identified from among the contributors to substandard quality the single most pronounced factor which emerged was inappropriate posture, seconded by deficient visual problems. Finally, the authors confirmed through ergonomics interventions significant improvements in quality and performance is exemplified within the manufacturing environments.

Personal Analysis/Synthesis of the Article:

It is strongly believed that the findings revealed from the article would be useful to the readers, as well as to the practitioners in the manufacturing sector. The authors have been effective in achieving the goal of rationalizing how ergonomics problems directly contribute to substandard quality.

Likewise, through the tabular presentation which clearly highlighted the results linking ergonomics problems to quality, the recommended ergonomic interventions would be beneficial in affirming that substantial savings and improvement in quality would be generated. The authors should be commended for providing a comprehensive discourse which examined the external validity of the cause-and-effect relationship between ergonomics

and quality within manufacturing settings. It is appreciated that limitations of the study were appropriately identified to include restrictions to the manufacturing intensive sector and focusing only on the physical benefits of ergonomics interventions. Future studies could therefore include evaluating the link between ergonomics and quality in service industries and to integrate psychological and cognitive benefits of ergonomics. Overall, the article provided significant findings that would enrich the understanding of readers in improving working conditions and the work environment through ergonomic interventions.

Work Cited

Erdinc, Oguzhan and Paul H. P. Yeow. "Proving external validity of ergonomics and quality relationship through review of real-world case studies." International Journal of Production Research (2011): Vol. 49, No. 4, 949–962. Print.