The effect of using insulating materials on improving the productivity rate of T-shirt line workers in ready-made garments factories

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Abstract:

The ready-made garment industry is one of the industries that have an impact on the economic and social aspects within societies. It has been able to develop rapidly through its use of various scientific, technical and technology methods, which was accompanied by interest in the human factor that needs technical and technological expertise, as it represents one of the strong and basic pillars of the ready-made garment industry. (Zainab Abdel Hafeez - 2006).

The level of performance is affected by the interaction of two groups of factors: the first relates to the individual's personal components of capabilities, and the second relates to the nature of the situation in which he exercises his work, which includes the internal climate of work. It seeks to raise the level of the worker's skills and abilities, which calls for an attempt to remove any obstacles in the work environment that limit the effectiveness of performance, because attention to one of the sides and neglect of the other hinders from reaching the desired goal.

This is what the current research aims at, which is an attempt to modify the environmental working conditions to improve the performance of workers inside the production line in ready-made garment factories, which is consistent with what was stated (Zainab Abdel Hafeez - 2006) that access to improving productivity and increasing the volume of production comes through studying the worker in his work environment. And study the most appropriate ways and means that aim to solve production and operation problems in order to raise production efficiency.

Looking at many previous studies, it becomes clear the importance of studying the performance of workers inside ready-made garment factories to obtain the highest quality and productive efficiency of the product, as a study (Ahmed Fahim Al-Barbari: 2016), which aimed to reach the productivity standards for the children's clothing production line and solve some problems in its production and the extent of application of these standards Inside the knitting halls, as well as the design of a production line with the genetic algorithms system to solve the problems in factories with atypical production to suit the work environment, and the results of the study reached the efficiency of designing a production line with the genetic algorithms system, which works to reduce operating time in non-clothing factories. Modularity and application of production standards, after pairing the proposed solutions using the Mat Lab program. One of the recommendations of the study is the application of the Genetic Algorithm system in the ready-made garment factories to solve the problem of wasting operating time inside the atypical medium production factories and improving the working accuracy of these factories. . And the

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study (Imad El-Din Sayed Jawhar and others: 2010), which dealt with the technical and administrative factors that led to a decrease in the productivity of ready-made garment factories within the production lines, with the development of scientific foundations for improving productivity. Which affect the decline in productivity, identify the most important technical factors that affect the decline in productivity, which represents the highest percentage are lost time in unnecessary work as well as poor organization of workplaces, and the lack of assistive devices in production, and identify the most important administrative factors that affect the decline in productivity and represent The highest percentage is the failure to apply the study of movement, time and time required for each production process, the lack of practical training for workers and technicians, and the lack of interest in improving the working environment and conditions, the means of ventilation and appropriate lighting. As indicated by the study (May Samir Kamel: 2008), which dealt with the study of factors affecting the efficiency of performance Workers inside ready-made garments factories in the light of ergonomics in order to achieve optimal use between workers, machines and the work environment to obtain the highest efficiency during work And in light of the results of the exploratory study that was conducted on a group of ready-made garment factories in Cairo governorate, which showed the presence of some shortcomings in the performance of knitting workers during the performance of their work, which prompted the current research towards identifying these problems and an attempt to develop proposals through which they can be reduced to reach higher productivity at the workers.

The research problem is summarized in the following questions:-

1- What is the nature of the performance of the knitting worker in the T-shirt production line in the ready-made garment factories?

2- What is the nature of the work environment surrounding the knitting workers in the workplace in the ready-made garment factories?

3- What is the effect of using insulating materials on the productivity rate of workers in the T-shirt production line before and after the experiment?

Search terms:-

1- The effect of:

The source of "affect" i.e. leaving a trace in it, and the effect of something appearing in its trace (Al-Wajiz Dictionary - 2002)

2- Insulating materials:

Substances that obstruct the free flow of electrons from one particle to another. (Abdul Hafeez Saeed Abdullah: 2007)

3- Improvement:

Increasing effectiveness and efficiency in carrying out business. (Awad Mukhtar Halouda: 2004).

4- Performance:

It is the motor behavior resulting from the previous learning process, whether for a single movement or a group of successive movements that ultimately reflect the individual's ability and motivation." (Ahmed Fahim Al-Barbari - 2015).

5- Productivity rate:

It is the relationship between the inputs of the production process on the one hand and the outputs resulting from this process on the other hand, as the rate of productivity rises whenever the ratio of output to the user of resources increases. As the productivity number = the amount of production/actual working hours. (Ali Al-Sharqawi - 2001)

6- Workers

A person who works and performs a manual activity and usually receives material or moral remuneration for his work in the facility, in return for his professional services in the project. It is one of the elements or factors of production in the project or economic establishment. (wikipedia).

7- Sewing:

It is the process of assembling the parts of the clothing pieces in which special threads are used by the knitting machine, and it is one of the stages of the clothing industry. (Zainab Abdel Hafeez - 2006)

8- Ready-made Garment Factories:

They are the processes that the raw materials prepared for production go through since they were fabrics until they become fully manufactured garments and prepared for consumption during their passing through the production processes (cutting - knitting - ironing). (Bahira Jabr - 2016)

Research limits: Research limits are limited to the following:

1- Analysis of the performance of knitting workers in the T-shirt production line inside the Taiba factory for ready-made garments in Shubra El-Kheima.

2- Analyzing the T-shirt production line and measuring the results inside the Taiba factory for ready-made garments in Shubra El-Kheima.

3- Measuring the productivity rate of the workers of the T-shirt production line "Over-Singer-Orlean-Tape Machine" inside the factory for two consecutive full weeks.

4- Using insulating materials (cotton cloth - wood - cardboard).

Research hypotheses :

1- There are statistically significant hypotheses between the average performance scores of the T-shirt production line workers before and after the experiment using insulating materials according to the type (cotton cloth - wood - cardboard).

2- There are statistically significant differences between the degrees of effect of insulating materials on the performance rate of T-shirt production line workers in ready-made garment factories after experimentation according to the type of insulating material.

Research Methodology: The current research follows:

A- Descriptive approach: by analyzing the work of knitting workers in ready-made garment factories, as well as measuring performance and trying to improve and improve their production efficiency.

b- The quasi-experimental approach: by measuring the effect of using insulating materials on worker productivity (before and after)

The research sample

Knitting workers in the operating room (the place of research):

The sample consisted of (20) knitting workers in the ready-made garment factory for the production of T-shirts. The sample members were distributed according to the nature of the work. It is clear that the sample consisted of (3) Singer knitting workers, (11) more workers, (4) Orleans workers and (2)) Installing a tape, and this sample is the representative of the workers of the T-shirt production line

Two groups of experts responsible for evaluating the performance of workers in ready-made garment factories were used:

The first group of experts (16) experts to analyze the work environment of knitting workers inside the production line and determine the special duties of each worker and the following table Table No. (1) illustrates this, and the second group of experts consisted of (3) experts in the field of ready-made garments in order to evaluate the performance of knitting workers before And after the experiment (planning supervisor _ quality control _ factory production supervisor)

Recommendations

1- Recommending the use of tools that reduce electrical pressure and high electrical charges without affecting the performance of the machines.

2- Addressing ready-made garment factories using insulating materials to protect workers from diseases resulting from exposure to these shipments

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