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The Impact of Using 3D Programs on Controlling the Quality of Patterns in the Sample Department of Ready-Made Garment Factories

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Abstract:

The use of advanced technology in clothing production gives the product the opportunity to be at the front of competitors, as 3D technology is considered one of the pattern digital technologies that help this technology to increase ease and speed of completion of industrial processes.The research problem appears in: To what extent will the use of 3D programs contribute to reducing the cost and time of sample production compared to manual methods? To what extent does the sample executed by 3D programs match the initial design? Is it possible to implement the entire sample using 3D programs and dispense the physical sample? The importance of the research lies within the following points: benefiting from modern technology in increasing sample control and predicting model defects and modifying them, reducing the number of initial samples carried out as a result of the large number of modifications to them and increasing the speed of decision making, benefiting from these programs and using them in the sample department to reduce time. Implementing it and reducing wasted materials. The research aims to: concentrating on the use of 3D programs and integrating them into traditional operating stages, obtaining the optimal method for integrating the use of 3D programs into traditional operating stages. The following research hypothesis was established: "There are statically significant differences between the degree of control and conformity of the sample implemented using 3D programs and the sample implemented using traditional methods".The research follows the descriptive approach and the experimental approach. A three-dimensional program was used to draw a number of (10) designs for soiree dresses. A questionnaire was designed to evaluate the proposed designs and was presented to a number of (15) arbitrators of specialists. The questionnaire included two axes (3D design and drawing, Pattern design). An actual sample of one of the designs, size"42", was made and compared to the design drawn using a 3D program. The results showed that there was a positive correlation between each point of the questionnaire. It was also possible to prove the validity of the research hypothesis which states: "There are statically significant differences between the degree of control and conformity of the sample implemented using 3D programs and the sample implemented using traditional methods". The study's recommendations are the following: directing ready-made clothing factories to use modern techniques in clothing production, starting from the design department until arriving at the proposed sample to achieve the required efficiency in the product in the shortest time. Research Problem : The research problem appears in: To what extent will the use of 3D programs contribute to reducing the cost and time of sample production compared to manual methods? To what extent does the sample executed by 3D programs match the initial design? Is it possible to implement the entire sample using 3D programs and dispense the physical sample?

Research Significance: The importance of the research lies within the following points: benefiting from modern technology in increasing sample control and predicting model defects and modifying them, reducing the number of initial samples carried out as a result of the large number of modifications to them and increasing the speed of decision making, benefiting from these programs and using them in the sample department to reduce time. Implementing it and reducing wasted materials.

Research Objectives: The research aims to: concentrating on the use of 3D programs and integrating them into traditional operating stages, obtaining the optimal method for integrating the use of 3D programs into traditional operating stages.

Research Methodology: The research follows the descriptive approach as it aims to describe and analyse the phenomenon and the experimental approach by utilizing modern scientific techniques, is evident in the

applied procedures. Experimental Work Results : Based on the statistical and graphical analysis presented above, the following results were reached: There are a strong correlation between each section of the questionnaire. Through the representation of data for the evaluation results of the best proposed designs in each axis of the questionnaire, the best design recorded a score of (62%),while the lowest design recorded a score of (56.14%). It was possible to prove the validity of the research hypothesis which states that "there are statistically significant differences between the degree of control and conformity of the executed sample using three- dimensional programs and executed by traditional methods".

Recommendations: Increasing the direction of studies and scientific research that measure the effectiveness of three- dimensional programs in drawing various clothing patterns and applying them within ready-made garment factories. Ready-made garment factories focus on using modern technologies in garment production, starting from the design department until reaching the proposed sample to achieve the required efficiency in the garment product in the shortest time. The connection between computer programs used in the industry and the courses offered by specialized colleges in clothing, textiles and fashion design.

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Keywords:

3d Program, Gerber Accumark, Clo 3d Program, Sample

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