DIGITAL TRANSFORMATION – OPPORTUNITIES AND CHALLENGES FOR TEXTILE INDUSTRY

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Digital transformation is one of the urgent needs for most organizations today, including universities. The process of digital transformation in education in general and higher education in particular is occurring more and more rapidly and strongly, especially due to the impact of the covid-19 pandemic, which requires universities to implement drastic digital transformation in order to meet the needs of the context that teachers and students cannot have direct contact as before at schools.

However, in the period of digital transformation, Vietnam's textile and garment industry will face many challenges, in which the advantages of abundant labor and low labor costs will gradually decrease.

1. The influence of digital technology on the textile and garment industry

*Advantages

The industrial revolution 4.0 is the opening of a digital era in which the main trend is the combination of real and virtual systems, the internet of things and the systems that connect to the internet. That has and will create many innovations and creativity in the process of manufacturing and trading textile products, including all stages from product design, supply of raw materials, production, export and import and marketing.

In the design process: unlike traditional methods, human body measurements are collected using 3D scanners. With this technology, combining the obtained measurements with product design software will create a design process using virtual measurements, virtual software, virtual people but ultimately creating a real personalized products and to each user.

In yarn production: the process of automation, the use of robots….is widely applied in all process from cotton preparation to product packaging.

In sewing: for basic products such as T-shirts, basic shirts, casual pants, jeans, the production process has been replaced by robots in order to improve the quality and especially product quality, enhance labor productivity and product cost reduction. For fashion products that are made with adhesive materials such as plastic or polyester fibers, etc., the product manufacturing process is carried out on 3D printers, both for high productivity and price reductions.

Currently, the world has developed models of sewing factories using Sewbot

sewing robots entirely. These factories allow 1.5 to 2 times increase in productivity, while reducing the number of employees by 75% to 90%.

* Disadvantages

Vietnam textile and garment production is one of the industries that has taken the most challenged by the industrial revolution 4.0 due to its labor-intensive industry.

In addition, the human resource level of textile and garment enterprises is still low (with 84.4% of workers having high school education), while workers with university degrees account for only 0.1%... is difficult for businesses in the context of integration and complicated developments of the epidemic situation, automatic ordering methods based on artificial intelligence and robots will be widely applied in business with customers.

The digital transformation for the garment industry also has many limitations.

The producing products with special properties such as: fashion products that are designed by many layers with complex textures or have updated style change according to the market, non- adhesive material product, makes the application of digital technology so difficult and ineffective.

2. Solutions

Enhancing and continuously improving the quality of human resource training to meet social needs in the digital transformation period. Each staff member – lecturer needs to constantly update new knowledge, actively study to improve professional qualifications to meet the teaching goals. For learners, it is necessary to properly determine the learning motivation to have a sense of serious study and practice industrial style to equip themselves with a solid knowledge foundation to prepare for future.

- Modifying training programs in the direction of updating with digital technology in both technical and management aspect.

- The teaching staff should improve their knowledge in the direction of researching and updating with digital technology, especially in the fields of textiles and garments, management…

- Updating software for management and teaching such as: Clo3D virtual fashion design software which helps students use computers to design 3D collections and fashion show entirely. Some other helpful software such as: Illustrator template creation software, Enterprise resource management software ERP, training management software and many other specialized software such as Gerber, Lectra, Autocad, virtual modeling software…