DIGITIZATION: THE NEW ERA IN TEXTILE AND APPAREL INDUSTRY

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Textile Value Chain

Textiles are used in a wide range of industries, including fashion, bedding, interior design, healthcare, and even automobiles. Textile companies have the opportunity to attain Industry 4.0 leadership and provide automated control over the whole textile creation process thanks to advances in digital technology. Policymakers, distributors, and customers along the global and regional supply chain are increasingly demanding improved efficiency and transparency. The industry's evolution towards a vertically organised, sustainable value chain is being aided by trends such as sustainability and digitization. The importance of digitization has never been greater. Not only the fashion sector is seeking for new ways to improve efficiency, but with the current worldwide pandemic affecting supply chains, we can all agree that having a digital "backup Plan" is no longer an option. Fashion firms and their suppliers' global partnerships must become more digital.

Small-scale manufacturing was turned into large-scale enterprises during the first industrial revolution. With the advent of machinery, companies were able to easily mass-produce clothing. Since then, progress has continued, and it does not appear to be slowing down.

Outsourced solutions for digitization, IoT integration, AI, and ERP are now available, allowing the textile industry to attain Industry 4.0 leadership and simplify the entire fabrication process, from design and colouring to fibre construction, fabric production, finishing, and delivery.

So, let's have a look at the technologies that are having the biggest impact on the textile and fashion industries.
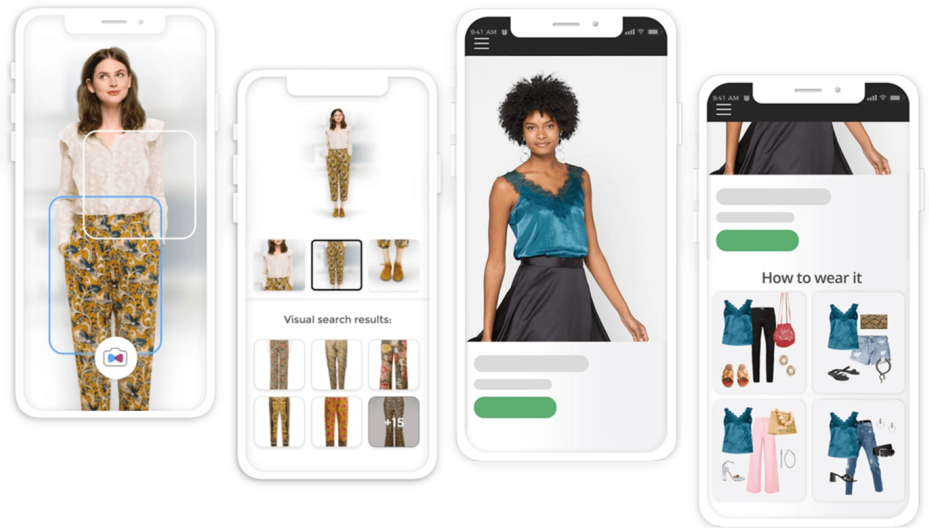

Image Source: CB Insights

Internet of Things (IoT)

The adoption of IoT is one of the greatest opportunities for the retail sector. By allowing us to engage with everyday objects via the internet, this technology mechanises our world. This suggests a significant shift in the fashion industry.

According to the findings of a recent Retail Vision Study, 70% of global retail decision makers are willing to use the Internet of Things to enhance consumer experiences. NADI X, a pair of yoga trousers with built-in sensors that vibrate to bring users into alignment as they move through various yoga positions, will include digital capabilities that facilitate communication between retailer and client.

Artificial intelligence (AI)

Artificial intelligence is transforming the textile industry's overall production process and business practises. Artificial intelligence (AI) can access and gather historical and real-time operational data, generating insights that can help enhance operational efficiency. It's easier to alter processes to maximise human workers' skills when you have a comprehensive picture of your operations. Whether its product cost, textile manufacturing, data collection, just-in-time production, quality control, or computer integrated manufacturing, AI has an impact on every step of the process. Some of the most commonly utilised AI applications in textile manufacturing are pattern inspection, defect detection, and colour matching.

Enterprise Resource Planning (ERP)

Enterprise Resource Planning, or ERP, has been used in the Apparel and Textile sector for a long time. In the textile and clothing industries, ERP software helps you manage the company's overall process from start to finish. An ideal ERP system employs a single database that allows different departments to communicate with one another without the need for data to be maintained in several locations. The technology aids in the better management of essential areas of textile manufacturing such as raw materials, stock, finance, quality,

and plant management. All of these features are intertwined and can communicate with one another in real time.

Virtual or Augmented Reality (VR)

The apparel industry's innovation was ushered in by mobile and e-commerce technologies. We may now look forward to the next generation of retail possibilities, especially virtual reality technology. New virtual reality platforms are emerging that are changing the game by integrating the physical and online retail worlds. In the textile industry, for example, try-on avatars are a major hit. Apps like 'Dressing Room' leverage augmented reality to let customers try on garments on an avatar that is personalised to their exact measurements before purchasing them.

Benefits of Digitization in the Textile and Apparel Industry

Sustainability: After the textile industry was digitised, the supply chain, as well as IT operations management, became considerably more sustainable. The manufacturing operations are carried out by programmed machines that generate garments of similar quality. Using cloud technologies to carry out activities improves the managerial experience even further. The software does not need to be managed manually; instead, it runs on remote servers and updates itself. Larger industries benefit as well, although smaller businesses with fewer resources can profit more from these solutions.

The textile sector has been evolving toward more environmentally friendly methods, such as lowering CO2 emissions, increasing energy efficiency, and encouraging responsible consumption. This sustainable fashion revolution has resulted in a greater emphasis on addressing the various dimensions of business sustainability, which include not only the environment, but also social and economic considerations.

Efficiency: There is a growing need for enhanced coordination and efficiency as fashion and retail enterprises become more globally distributed than ever before. Cost-cutting and productivity-boosting technological technologies that automate and connect all of the activities and systems involved in corporate operations are available.

Cost effectiveness: The cost of producing a textile product can be quite expensive. It includes a variety of sub-costs such as equipment management, labour management, marketing costs, maintenance costs, and space costs, among others. When we implement the digitalizing process successfully, we will be able to regulate the cost.

Enhanced Safety: Digital transformation solutions (such as electronic signatures and e-invoicing) that are totally legal and meet current domestic and international regulations provide firms with greater security than physical documentation and help them avoid non-compliance issues in different countries.

Key Points

• Textile are employed in a variety of industries.

• Trends such as sustainability and digitisation are assisting the sustainable value chain

• Small scale business was turned into large scale during first industrial revolution

• Some technologies that are having the most influence on the textile and fashion Industries

- Internet to things

- Artificial intelligence

- Enterprise resources planning

- Virtual and augmented reality

• Benefits of digitization in the textile and apparel industry

Staying Competitive: Not just for the tech or sales departments, digitalization of processes should be considered as a tool to help businesses become more competitive. Routine manual activities can be digitally transformed to provide a competitive advantage on all levels. Using digital transformation solutions to streamline administrative procedures can benefit the evolution of company models, staff satisfaction, and client expectations and behaviour. With administrative digitisation, businesses can better adapt to the present market.

Conclusion

Customers' wants and expectations have shifted dramatically in recent years. They prioritise high-quality goods, value-added services, and faster delivery. This has heightened the demand for digital transformation, which includes everything from 3D-printed gowns to smart factories. The process of digital transformation, on the other hand, is not simple. It would need a well-thought-out digitalization plan.

While becoming digital has various advantages, the most significant benefit for textile companies will be the ability to serve ever-changing customer behaviour. Today's tech-savvy consumer demands high-quality items, personalised and value-added services, and product delivery and consulting via subscription.MPLS, HIVR, Toll Free, and IoT technologies such as vehicle, manpower, and asset tracking will be key goods and solutions for the textile industry. All companies require basic voice and data connectivity, and the textile industry is no exception.

Digital transformation is one of the most widely used terms in the fashion industry today, and we don't underestimate its significance. In the upcoming years, digital innovations will assist in driving the fashion, apparel, textile, and footwear industries into the next stage of development.

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