Journal of Research in Science and Engineering (JRSE)
ISSN: 1656-1996 Volume-7, Issue-8, August 2025
DOI: 10.53469/jrse.2025.07(08).13

Research and Practical Application of Digital Technology-Based Paperless Order Tracking Methods for Clothing

Enfeng Ji

Shandong Daiyin Textile Group Co., Ltd., Tai'an 271000, Shandong, China

Abstract: ***Objective:*** ***This paper aims to explore paperless order tracking methods based on information technology, construct an efficient, collaborative, and traceable clothing order management system, and promote enterprise digital transformation and enhance industry competitiveness.*** ***Methods:*** ***This study uses case analysis methods, combining digital technologies such as ERP systems, 3D modeling, mobile applications, and QR code recognition to analyze typical enterprise practices and discuss the technical, personnel, and management challenges involved in implementation.*** ***Conclusions:*** ***1) The paperless order tracking process built on information systems not only significantly improves operational efficiency and market response speed within the enterprise but also enhances the transparency and traceability of information transmission. 2) This method has positive implications for promoting the digital and green transformation of the apparel industry and provides strong support for enterprises to address the complexity and uncertainty of future market environments.***

Keywords: Digital technology; Paperless order tracking; Practical application.

1. Introduction

In the context of increasingly fierce competition in the global apparel industry and the ongoing advancement of digital transformation and green sustainable development strategies, traditional manufacturing enterprises are facing multiple pressures to improve production efficiency, reduce operating costs, and strengthen information collaboration management [1]. As a core management activity that spans multiple key stages, including customer requirements, product design, material procurement, production organization, and quality control [2], the operational efficiency and execution accuracy of order tracking directly affect a company's production rhythm, delivery cycle, and customer satisfaction [3]. However, in practice, the traditional paper-based order tracking model suffers from issues such as complex processes, slow data transmission, high error rates, difficulty in tracing information, and severe resource waste, making it increasingly difficult to meet the modern apparel industry's demands for efficiency, flexibility, and environmental sustainability.

Based on this, this paper aims to explore and establish an efficient, intelligent, and environmentally friendly paperless order tracking model for the apparel industry. By leveraging ERP systems, 3D modeling, mobile devices, and QR code technology, this model seeks to drive the digital transformation and visualization of order tracking processes within apparel companies, thereby enhancing the timeliness and accuracy of information transmission while reducing labor costs and environmental impact. This research not only provides practical guidance for addressing the current pain points in order management for apparel enterprises but also offers theoretical support and practical references for the industry's digital upgrading and green transformation.

2. Analysis of Traditional Clothing Order Tracking Models

2.1 Description of Order Tracking Process

In traditional apparel manufacturing management models, order tracking work mainly relies on the transfer and management of paper documents, spanning multiple key stages such as order receipt, production preparation, procurement management, process monitoring, and final shipment inspection [2]. The specific process is as follows:

After receiving a customer order, sales staff must first thoroughly review the order details, including key information such as style requirements, size specifications, quantity allocation, delivery time, and quality standards. To ensure that all requirements are accurately communicated to the relevant departments, sales staff typically translate and organize the original materials provided by the customer, print them into dozens of pages of paper order documents, and submit them to the technical, procurement, and production departments, thereby initiating the preliminary preparations for the entire production process.

After that, we move on to the production planning stage, where the business team works closely with the production department to come up with a detailed production schedule based on the order details. At this stage, we usually send out various documents in paper form, such as production plans, capacity schedules, pre-production meeting materials, and technical manuals, and assign them to specific processes like cutting, sewing, ironing, and packaging to make sure each production step goes smoothly according to the schedule. Once the production plan is finalized, procurement personnel must determine the types, specifications, and quantities of required fabrics and accessories based on order technical requirements, and record procurement information via paper purchase orders, which include details such as material names, suppliers, and delivery dates. Subsequently, procurement personnel must continuously monitor material delivery status and assess its impact on overall production progress.

Once production begins, order tracking still relies heavily on paper-based tools. Order trackers need to visit the production site at different stages of production to fill out paper checklists recording the actual progress, quality status, and any issues with each process. If any abnormalities are found, they need to be reported in paper form and coordinated with the relevant technical and production departments for joint handling.

After the finished product is complete, it will enter the quality inspection and shipping stage. Inspection personnel will conduct random inspections and evaluations of the product based on pre-printed inspection standards. Only after passing the inspection can the product be packed and shipped. All inspection records, shipping lists, delivery receipts, and other documents throughout the entire process are stored in paper form and serve as important references for subsequent financial reconciliation, customer feedback, and after-sales service.

Overall, traditional apparel order tracking processes rely on manual operations and paper-based documentation. While this approach has ensured the daily production of enterprises for a long time, it has also exposed numerous issues such as slow information transmission, data errors, low collaboration efficiency, and difficulties in document archiving and traceability. It is no longer able to meet the current needs of apparel enterprises in terms of digital management, efficient collaboration, and sustainable development.

2.2 Analysis of Problems with Traditional Order Tracking Methods

Although traditional paper-based order tracking methods played an important role in the early stages of the apparel industry's development, with intensifying market competition and increasing complexity in enterprise management, their inherent shortcomings have become increasingly apparent, gradually limiting enterprises' information circulation efficiency, production organization efficiency, and cost control capabilities [4]. The main issues are reflected in the following four aspects:

2.2.1 Low information transmission efficiency and poor coordination between links

Traditional apparel order tracking relies heavily on the manual transmission of paper documents. In each link of the process, including order receipt, planning, production execution, and quality control, documents must be printed and manually transmitted between departments, resulting in slow information flow and untimely updates. Especially in companies with complex organizational structures, dispersed departments, and factories located in different regions, documents are prone to delays or communication barriers during transmission, leading to poor information coordination, affecting overall progress, and in severe cases, resulting in delivery delays, customer complaints, and other adverse consequences.

2.2.2 Data is prone to errors, affecting production accuracy

In the traditional order tracking model, order information, material requirements, process specifications, and other content are mostly filled out and transcribed manually, and frequently undergo multiple manual transfers and re-entries. This process is highly prone to errors such as clerical mistakes, data omissions, and illegible handwriting. Additionally, if a customer requests modifications, delays in information transmission or failure to accurately update changes across all versions of the documents can lead to discrepancies between issued instructions and customer requirements, causing production deviations, increasing the risk of rework, and impacting product quality and customer satisfaction.

2.2.3 Serious waste of resources and increased operating costs

The paper-based order tracking process involves a large amount of document printing and copying, and the long-term use of large quantities of paper, printing consumables, office equipment, etc. not only increases the company's office costs and equipment maintenance costs, but also violates the development requirements of energy conservation, emission reduction, and green production. With the increasingly strict environmental protection policies, the operation model that continues to rely on paper documents has become outdated and does not comply with the sustainable development management concept of modern manufacturing enterprises.

2.2.4 Difficulties in information tracing, which is not conducive to experience accumulation

The archiving and management of paper documents relies on manual sorting and physical storage, which takes up a lot of space, requires high storage conditions, and is prone to problems such as loss, damage, or difficulty in finding information. Once issues such as order disputes, quality problems, or customer claims arise, the relevant information needs to be retrieved manually from a large number of paper documents, which is inefficient and makes it difficult to respond quickly. Additionally, information cannot be effectively converted into system data, which also hinders companies from analyzing and summarizing historical orders, thereby impacting process optimization and knowledge accumulation.

In summary, traditional order tracking methods have serious limitations in terms of information flow, data accuracy, resource utilization efficiency, and information management, and are no longer able to support the refined management needs of modern apparel companies. Promoting the digital transformation of order tracking management has become an inevitable trend in the industry.

3. Building a Paperless Order Tracking System

3.1 Technical Support System

The construction of a paperless order tracking system relies on advanced information technology as its foundation. By integrating internal enterprise information resources, it achieves the informatization, visualization, and intelligent management of the entire order process. In promoting efficient collaboration, optimal resource allocation, and real-time information sharing within apparel enterprises, the perfection of the technical system plays a decisive role. Now paperless order tracking primarily relies on the following

three major technological pillars:

3.1.1 Enterprise Resource Planning System (ERP)

The Enterprise Resource Planning (ERP) system serves as the core support platform for paperless order tracking, enabling information integration and process coordination across all stages of order management, procurement, production, inventory, logistics, and export management. Taking the "North-South N7 ERP System" as an example, this system encompasses comprehensive business modules spanning order budgeting, sample management, material procurement, production scheduling, warehouse management, and export documentation. Data is seamlessly shared and operations are integrated across these modules, providing enterprises with a comprehensive, integrated solution. Through the application of the ERP system, business personnel can directly input customer requirements into the system upon receiving an order. The system automatically breaks down tasks, assigns permissions, and pushes them to relevant departments, significantly improving the speed and accuracy of order processing. This provides a stable and reliable data foundation and operational platform for paperless order tracking.

3.1.2 Mobile Applications (Apps)

To achieve efficient and flexible order tracking operations, mobile terminal applications have become an essential component of paperless systems. Order trackers, production supervisors, quality inspectors, and other personnel can access order information in the ERP system via mobile devices such as smartphones and tablets at any time and from any location. They can view real-time production progress, record quality inspection results, and report abnormal issues, thereby breaking through time and space constraints and enhancing the timeliness of information transmission and on-site response capabilities. The mobile interface is typically customized based on the functional requirements of different roles, ensuring user-friendly operations, data synchronization, and clear permission controls, further enhancing the intelligence and convenience of order tracking management.

3.1.3 Barcode and QR Code Technology

Barcode and QR code technology serves a dual function as both a "data label" and an "information gateway" in paperless order tracking. Companies assign a unique identification code to each order, fabric, accessory, semi-finished product, and finished product. By scanning the code, users can quickly access corresponding process information, production progress, inspection standards, and more, enabling full-process information visualization and real-time tracking. Additionally, by integrating 3D garment pattern modeling technology, the style, structural details, and process requirements of finished garments can be presented in three-dimensional virtual graphics and embedded into the QR code system. Users can simply scan the QR code to view the complete order information and sample garment renderings, significantly enhancing the intuitiveness and accuracy of data retrieval while reducing the risk of human error.

In summary, the paperless order tracking technology system built on the basis of ERP systems, mobile applications, and identification code technology provides strong support for apparel companies to achieve full digital management of order processing. It not only improves information processing efficiency and response speed, but also lays a solid foundation for the construction of a modern, intelligent production management model.

3.2 Paperless Order Tracking and Digital Process Design

Against the backdrop of accelerating digital transformation in the apparel industry, the traditional "paper-based order tracking—manual transmission" workflow has increasingly revealed a series of drawbacks, including low efficiency, information silos, and slow response times. To achieve rapid response to order information, efficient coordination of resource allocation, and visible control over the production process, an increasing number of companies are opting to build paperless order tracking systems based on ERP platforms. This system integrates enterprise resource planning systems, mobile devices, QR codes, and 3D visualization tools to achieve fully digitalized management throughout the entire process from order entry to shipment archiving. Its process structure can be primarily divided into the following seven core steps:

3.2.1 Digital entry and sharing of order information

The first step in digital order tracking is to achieve paperless order receipt. After receiving customer requests, business personnel directly enter basic order information into the ERP system. The system automatically completes task decomposition and distributes key data such as style specifications, delivery times, and quantity configurations to relevant departments such as design, procurement, and production, ensuring parallel collaboration between multiple departments and eliminating process interruptions caused by information delays or transmission errors.

3.2.2 Digital Generation and Dynamic Feedback of Production Task Plans

Based on the computing power of the ERP system, enterprises can generate detailed production plans based on order content, existing production capacity, and process logic. The system synchronizes tasks in real time to relevant production personnel via mobile devices. Workers scan process QR codes to initiate operations and record progress through the app during execution. The system automatically records and updates the status of each process. Follow-up personnel can view real-time production dynamics at any time, enabling visual and dynamic control of the production process.

3.2.3 Electronic procurement process and real-time control of logistics status

The procurement department can automatically generate electronic purchase orders in the system based on the material requirements list. After receiving the order, the supplier confirms it, and the logistics information is synchronized with the ERP platform. The system tracks the transportation status in real time and prompts the estimated arrival time, providing predictive support for material supply to production. This significantly improves the transparency of procurement

execution and reduces production delays caused by supply chain uncertainties.

3.2.4 Information-based restructuring of quality inspection processes

The system has established a digital quality inspection process based on QR code recognition. Inspectors can scan product labels with mobile devices to obtain the items to be inspected and technical standards, and complete online data entry as required. If any abnormalities are detected, the system automatically prompts the source of the problem and notifies the responsible department, initiates the handling process, and archives the handling records, providing a basis for subsequent quality traceability and statistics, and establishing a closed-loop quality management chain.

3.2.5 Digital conversion of shipment management and document archiving

After the finished products pass inspection, the system automatically generates electronic shipping documents and synchronously arranges transportation plans. At the same time, all key information related to orders, including contracts, design drawings, inspection reports, etc., are archived electronically and managed centrally. Information retrieval no longer relies on paper records, but is achieved through system calls, realizing the convenience and standardization of information traceability.

3.2.6 3D Visualization Technology and QR Code Data Integration Application

Throughout the entire process, the company further integrates 3D clothing modeling (Figure 1) with QR code technology (Figure 3) to enhance the visualization level of order tracking. The design department uses 3D software to generate 360° virtual style diagrams of finished garments and packages core data such as order information, process requirements, and standard size charts into QR codes. Employees or customers can scan the QR code to access complete order information and product visuals, creating an intuitive, accurate, and efficient communication bridge.

3.2.7 Feedback and Optimization Mechanism for Process Performance

In actual operation, feedback from multiple pilot companies indicates that the digital order tracking process has significantly reduced order processing cycles, with an average reduction of over 35%; response times for quality issues have decreased by over 50%; and customer satisfaction with 3D visual orders has notably improved. Digitalization does not merely bring about process optimization but rather a fundamental restructuring of organizational logic: centered on “data-driven decision-making” and supported by “visualization + sharing,” it has redefined the entire operational mechanism of apparel companies from order placement to delivery.

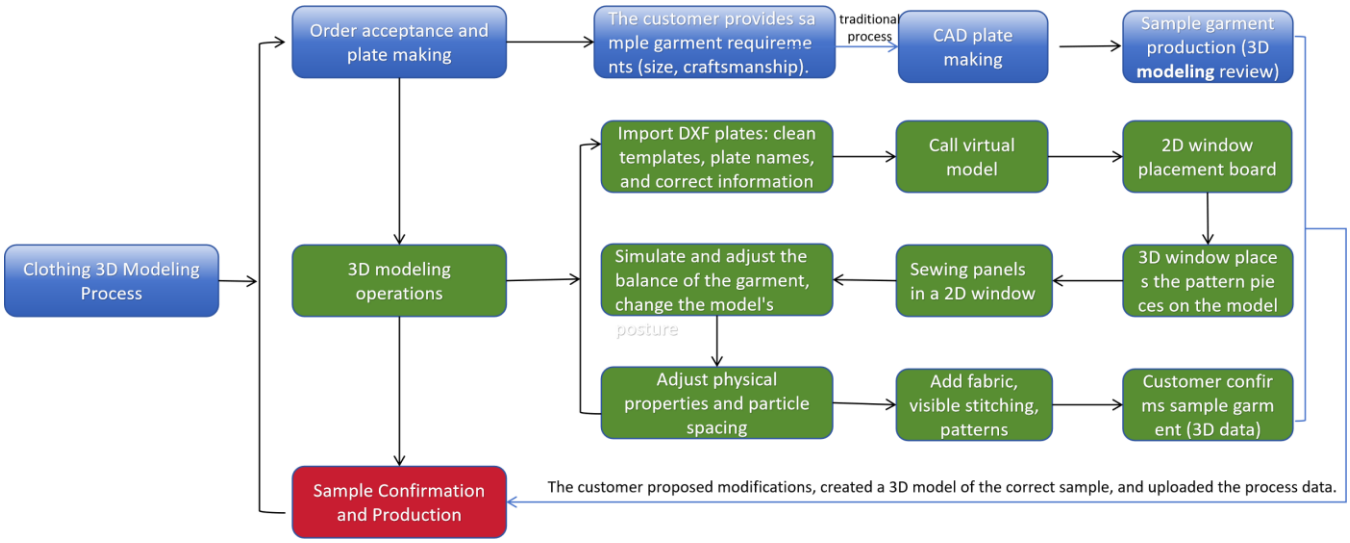

Figure 1: Clothing 3D Modeling Process

4. Application Results and Case Studies

4.1 Comparison of Performance Data

To validate the actual effectiveness of the paperless order tracking digital process, this paper compares and analyzes the operational data and management processes of DAIYIN Import and Export Company before and after the implementation of the system.

The company had long relied on a traditional paper-based order tracking model, which resulted in typical issues such as slow information transmission, untimely material coordination, and low production control efficiency. Following the introduction of a paperless order tracking management system built on an ERP system, the company achieved significant improvements across multiple dimensions—including order processing efficiency, production process control, quality traceability, and customer response—through the integrated application of various technologies such as digital order entry, mobile device synchronization, QR code recognition, and 3D visualization (as shown in Figure 1).

After optimization, all key indicators showed significant improvements: order processing time was reduced by 87.5%, from 48 hours to 6 hours; production information lag rate and fabric and accessory delivery delay rate were significantly reduced to 30% and 58%, respectively; procurement cycle was shortened to 2 days; product first-pass yield rate was

improved to 91%; customer satisfaction increased by 25 percentage points to 92%. Overall, the process optimization has effectively improved operational efficiency and customer experience, particularly in terms of reducing order processing time and enhancing customer satisfaction.

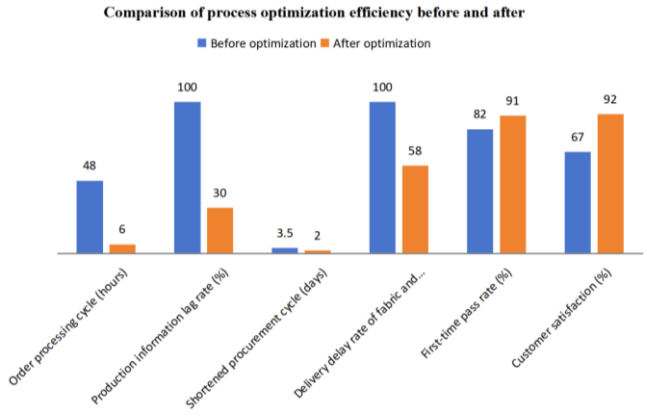

Figure 2: Comparison chart of front and rear efficiency

Notes: This table shows the changes in key efficiency indicators in areas such as order response, production control, procurement execution, logistics support, quality management, and customer service before and after the implementation of a paperless order tracking system. The specific data is sourced from statistics and survey feedback from the company's information system.

The application of paperless order tracking systems has promoted the comprehensive digital transformation of apparel enterprises in order execution and process management, effectively restructuring the traditional order tracking model that previously relied on paper transmission and manual coordination. Through the integrated management of ERP systems, real-time operations on mobile devices, and the deep integration of QR codes and 3D visualization technology, enterprises have achieved efficient information transmission and dynamic data updates in all key links, including order receipt, task distribution, production scheduling, procurement logistics, quality control, and customer delivery. After the system went live, the order processing cycle was reduced from the previous 2-3 days to within 6 hours. Production progress is now monitored in real time and scheduled with precision, procurement and logistics responses are more efficient, quality inspection processes have been standardized into a closed-loop system, and related issues can be reported and traced in real time. Additionally, by integrating order information, process parameters, and virtual sample garment effects into a QR code, customers can scan the code to directly view product information and execution status, significantly enhancing service transparency and customer engagement. Corporate practice has shown that this system has significantly reduced rework rates, delays, and complaint rates, while steadily improving first-pass yield, customer satisfaction, and repurchase rates. This fully demonstrates the comprehensive value of paperless order tracking in improving corporate operational efficiency, enhancing customer trust, and promoting high-quality development.

4.2 Typical Case Implementation Steps—Taking Women's Denim Washed Pants as an Example

To thoroughly verify the applicability and effectiveness of the paperless order tracking system in an actual production environment, this paper uses an order for women's denim washed pants produced by Daiyin Import and Export Company as a case study (Figure 3) to detail the work status before and after the system implementation, specific implementation steps, and improvement results. This case study not only reflects the actual application path of digital process design, but also provides replicable and promotable experience references for other similar companies.

4.2.1 Implementation Background and Problem Diagnosis

Before the implementation of the paperless order tracking system, the execution of women's denim washed pants orders relied heavily on the transmission and management of a large volume of paper-based documents, including but not limited to sample materials, order tracking records, process sheets, production schedules, packing lists, quality inspection forms, and more, totaling over dozens of types of paper documents. Order tracking personnel had to manually organize, copy, and transmit these documents across multiple departments such as design, procurement, and production. This process was labor-intensive, cumbersome, and prone to errors, especially when order volumes were high or styles changed frequently. Common issues included information delays, duplicate instructions, and data inconsistencies, leading to low production efficiency, frequent quality fluctuations, and significant impacts on delivery schedules and customer satisfaction.

Figure 3: Digital process system for women's denim washed pants

4.2.2 System deployment and process restructuring

To address the above issues, the company officially launched the construction of a paperless order tracking system in July 2023 and built an information-based workflow centered on orders around the ERP integration platform. The system implementation process can be divided into the following four stages:

1) System selection and technical integration

Companies select ERP systems tailored to the apparel industry based on their business scale and order management characteristics. They also introduce 3D sample garment modeling software and CAD apparel design systems, and develop mobile apps and QR code recognition interfaces that are interconnected with the ERP system. This enables the seamless flow of data throughout the entire process, from front-end order entry and sample garment design to

production tracking and customer delivery.

2) Staff Training and Job Matching

To ensure effective implementation of the system, the company organized operational training for employees in various positions, including business, technology, procurement, quality inspection, and warehousing. The training covered ERP operational procedures, mobile barcode scanning, 3D sample garment recognition, and process standard data entry, enhancing employees' understanding and acceptance of digital processes and ensuring smooth collaboration between different positions.

3) Process Optimization and Pilot Operation

After the initial deployment of the system, the company selected women's denim washed pants orders as a pilot project and optimized and adjusted the paperless process locally based on the original business logic. Through a complete round of order simulation operations, adjustments were made to details such as task allocation logic, process data visualization, quality inspection feedback mechanisms, and the convenience of scanning operations. At the same time, user feedback was collected to resolve issues discovered during the initial operation phase.

4) Full implementation and elimination of paper

After receiving positive feedback from the trial run, the company gradually phased out the original paper-based order tracking method and fully implemented a paperless order tracking process led by the ERP system, supported by the mobile app, and outputted in 3D visualization, achieving a closed-loop digital management process from customer order placement to order delivery.

4.2.3 Analysis of application effectiveness

Women's denim washed pants, as a product type with a high degree of standardization and clear process requirements, demonstrated good adaptability and application effectiveness in the implementation of this system: efficiency was significantly improved, with order processing time reduced by an average of 50% compared to before, the overall production cycle shortened by about 30 days, and overall production efficiency improved by about 30%; cost control was optimized, with paper usage reduced by 90% and office equipment usage and maintenance costs reduced by 45%. Due to timely synchronization of production information and reduced instruction errors, the cost of losses caused by rework and delays has decreased by 25%. Under the guidance of system standardization, quality has been significantly improved, with the first-pass yield rate increasing by over 50% and customer complaint rates maintained below 5%. Both customer experience and data management have been enhanced. Through garment information packages embedded with QR codes, customers can scan the codes to view 3D sample garment designs and complete process data, significantly enhancing information transparency and trust.

In summary, this case study demonstrates that in the highly standardized process of garment production, a paperless order tracking system can systematically replace traditional manual processes, not only improving operational efficiency and quality standards but also enhancing customer experience and order service capabilities, thereby offering promising prospects for industry-wide adoption.

5. Challenges and Response Strategies for Implentingpaperless Garment Order Tacking Methods

The preceding section demonstrated the positive effects of a paperless order tracking system through a typical order case study of women's denim washed trousers, highlighting its ability to enhance order processing efficiency, optimize production processes, strengthen supply chain collaboration, improve product quality, and enhance customer experience. However, it is worth noting that the successful implementation of the system in practice depends not only on the functional capabilities of the technical platform itself but is also influenced by multiple factors such as technical integration capabilities, employee acceptance, and the adaptability of management systems. Therefore, comprehensively understanding the potential challenges that may arise during implementation and developing targeted strategies to address them are critical steps in ensuring the stable operation and sustainable optimization of the system. Based on actual research and feedback from enterprises, the following three main challenges exist:

5.1 Technical Challenges and Countermeasures

5.1.1 System compatibility issues

When integrating ERP systems, apparel CAD systems, and 3D modeling tools, enterprises often encounter compatibility issues such as inconsistent interface standards and differences in data exchange formats, which can lead to interrupted information transmission or module coordination failures. To address this issue, enterprises should clarify compatibility requirements at the initial stage of system selection, give priority to software platforms with open architectures and API interface support, and strengthen communication and collaboration between IT teams and software service providers during the deployment phase to ensure smooth data integration between systems.

5.1.2 Data security risks

As order data, customer information, and production processes are gradually transferred to online management, the system faces potential cyberattacks, data breaches, and operational risks. Companies need to establish a comprehensive data security management mechanism covering the entire process from "data transmission—access permissions—system protection—backup and recovery," including the use of multi-factor authentication, end-to-end encryption, and the establishment of a tiered access permission system. They should also conduct regular data backups and security audits to strengthen information security defenses from a technical perspective.

5.2 Personnel-related Obstacles and Responses

5.2.1 Employee resistance and adaptation difficulties

For employees accustomed to traditional paper-based processes, the implementation of a paperless work model means a fundamental change in work methods and pace. Some employees may resist the new system due to their inability to adapt, which may affect their execution capabilities. In response, companies should strengthen the promotion of digital concepts and use case studies and practical experiences to help employees understand the convenience and efficiency of the new system. At the same time, incentive mechanisms should be established to encourage early adopters to lead their teams in learning and create a positive learning atmosphere.

5.2.2 Lack of digital skills and bottlenecks in capacity building

Paperless order tracking systems place new demands on employees' operational capabilities. In particular, some front-line production and order tracking staff are not familiar enough with mobile devices and system software, which affects the effectiveness of their use. Companies should design tiered training programs based on job functions, conducting modular training from basic operations to practical applications. They should combine online courses with on-site coaching to improve employees' digital skills and help the team transform its overall capabilities.

5.3 Management Issues and Adjustments

5.3.1 Business process restructuring and organizational management conflicts

Paperless systems have driven the transition from order-driven to data-driven models. Processes that previously relied on human coordination have been replaced by automated system logic, resulting in the adjustment or reorganization of some job responsibilities. This can easily lead to unclear responsibilities and coordination obstacles within the organization. Companies should establish a process change management team before the system goes live to comprehensively review responsibility boundaries and clarify cross-departmental work interfaces to avoid internal friction caused by process changes.

5.3.2 Lagging Performance Evaluation Mechanisms

Under the traditional model, performance evaluations focus on paper-based records, work completion timeliness, and other metrics, making it difficult to quantify employee work efficiency and collaborative value in an information system environment. To adapt to the new system's operational logic, enterprises need to promptly adjust their performance evaluation systems to include metrics such as system operation proficiency, data entry accuracy rates, and collaborative response times. This will guide employees to actively adapt to digital work methods and use performance evaluations to promote deeper system application.

6. Conclusions and Outlook

Paperless order tracking is not merely a technological innovation but a critical initiative driving the digital transformation of the apparel industry. This paper systematically analyzes the challenges of traditional order tracking methods, including delayed information transmission, data inaccuracies, resource wastage, and low management efficiency. Addressing the industry's digital transformation needs, it proposes a paperless order tracking method based on ERP systems, mobile applications, QR code recognition, and 3D visualization technology. Through process restructuring and technological integration, the system enables digital order entry, dynamic production planning, real-time monitoring of procurement and logistics, and closed-loop quality inspection feedback, significantly enhancing operational efficiency and management standards for apparel companies. Practical applications in typical cases demonstrate that the system effectively shortens order cycles, reduces production costs, improves product quality, and enhances customer satisfaction, thereby validating the crucial role of paperless order tracking in driving high-quality development within the apparel industry.

As digital technology continues to evolve and smart manufacturing deepens, paperless order tracking systems will unlock greater potential in areas such as big data analysis, AI-assisted decision-making, and supply chain collaboration optimization. Apparel companies should continue to enhance their technological platforms, strengthen employee training in digital skills, and optimize management mechanisms to achieve more intelligent and refined order management and production control. At the same time, by integrating green manufacturing concepts, they should promote the transformation of paperless processes toward comprehensive sustainable development, providing a solid foundation for building a digitally driven, environmentally friendly modern apparel production ecosystem for the industry. Future research could explore the construction of cross-enterprise collaborative platforms and the application of intelligent sensing technologies to support the overall digital upgrading and innovative development of the apparel supply chain.

References

[1] Lian Chunhui. Research on the Optimization of Supply Chain System Management for M Apparel Brand Management Companies Based on Digital Empowerment [D]. Nankai University, 2023.
[2] Zhang Yan. Follow-up Process and Content of Clothing Companies [J]. Modern Marketing (Academic Edition), 2012, (21): 155.
[3] Li Dongdong, Lu Yue. Optimization Strategies for Business Order Tracking Processes in Export-Oriented Apparel Enterprises [J]. Modern Enterprise, 2019, (05): 72-73.
[4] Zhou Miaomiao, Ma Xiaoxiao, and Lou Yafang. Discussion on the Optimization of the Follow-up Process for Clothing Foreign Trade [J]. Modern Marketing (Lower Half Monthly), 2019, (12): 114-115.

Author Profile

Enfeng Ji Senior Engineer, Shandong Daiyin Textile Group Co., Ltd. Research interests: Clothing engineering design and development, intelligent clothing research.