

## **ASSESSMENT OF CRITICAL POINTS IN THE TRANSFORMATION OF SMALL-SCALE MANUFACTURING INTO A SUPPLIER FOR NATIONAL RETAIL CHAINS**

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In Ukraine's wartime economy of 2024-2025, micro-manufacturing enterprises are micro-enterprises with fewer than 10 employees, operating mainly in the food processing, agro-processing, and light industry sectors. These small producers account for approximately 16.5% of total employment and form a critically important component of regional recovery clusters supported by government strategies and international donor programs [1].

The strategic importance of integration with national retail chains for small producers during 2024-2025 cannot be overestimated, as leading Ukrainian retailers such as Silpo, ATB, and Novus, are actively implementing direct procurement strategies to diversify their product ranges and capitalize on strong consumer preferences for products “made in Ukraine” [2]. This integration approach supports recovery efforts by providing micro-producers with access to stable distribution channels.

Achieving successful integration of micro-producers into national retail chains requires a comprehensive approach, where six critical transformation points determine a successful transition: digitization of operations, development of flexible supply chains, compliance with quality standards, attraction of financial support, building a supplier's reputation, and developing omnichannel readiness [3]. These transformation points address the complex challenges of unstable demand, damaged infrastructure, power blackouts, labor shortages, and limited access to working capital that characterize Ukraine's current operating environment.

Let us take a closer look at each of these critical transformation points, assessing their impact on the ability of micro-producers to become reliable suppliers to national retail chains.

Digitalization is a fundamental prerequisite for competitiveness, where micro-producers must create comprehensive e-commerce capabilities that go beyond basic online stores and include omnichannel integration and real-time inventory management. Cloud platforms such as Shopify, Wix eCommerce, and Square Online provide the basic infrastructure needed to meet retailers' expectations, offering built-in connections to major marketplaces and social commerce channels, including Facebook, Instagram, and TikTok [4].

Deepening technological integration involves complex data exchange protocols, where EDI integration is a critical technical requirement for bringing suppliers into national networks, requiring support for ANSI X12 standards, including 850 purchase orders, 855 order confirmations, 810 invoices, and 856 advance shipping notices [5]. The transition to advanced digital technologies continues in the automation of planning and inventory management, where artificial intelligence-based demand planning and real-time inventory management systems deliver significant cost reductions by improving forecast accuracy, which directly reduces overproduction, inventory shortages, and emergency transportation costs [6].

An assessment of the effectiveness of digitization shows that micro-manufacturers with full EDI integration demonstrate a 40% higher order processing speed and 25% lower operating costs compared to companies that use manual document processing. The introduction of IoT-based monitoring and real-time visibility allows for 15-20% lower safety stock levels while meeting service requirements and reducing inventory costs.

The development of flexible supply chains is the second critical point of transformation, particularly relevant in the context of military risks and damaged infrastructure. Micro-producers must create adaptive logistics systems with diversified routes, regional partnerships, and backup logistics. This involves establishing cooperation with several logistics operators, developing alternative delivery routes, and creating buffer storage capacities in different regions of Ukraine.

A critical element is the implementation of supply chain risk management systems, which include real-time threat monitoring, business continuity plans, and rapid response mechanisms to disruptions. National retail chains particularly value suppliers who can ensure stable deliveries even in the face of power blackouts and logistical constraints. The assessment shows that micro-producers with diversified supply chains demonstrate 60% higher order fulfillment reliability compared to companies that depend on a single logistics operator.

Compliance with quality standards and regulatory requirements forms the third critical point, which is particularly important for entering the European market through Ukrainian retail chains. Micro-producers must navigate the EU's strict food safety standards, including compliance with Regulation (EC) No. 178/2002, which requires safe, traceable food production under the responsibility of the operator. The EU Food Hygiene Package requires the implementation of Good Hygiene Practices (GHP), Good Manufacturing Practices (GMP), and HACCP-based food safety management systems, proportionate to the size of the operation [8].

The complexity of entering the market goes beyond basic food safety, covering detailed traceability systems, including written documentation, unique identifiers, supplier and customer identities, and five-year record retention to ensure complete supply chain traceability [9]. To successfully access contracts in national chains, micro-producers must implement robust labeling and traceability practices that demonstrate reliability to buyers, including clear contact information, batch numbers for identification, and retaining technical documentation for 10 years.

An assessment of the costs of implementing quality systems shows that the initial investment in HACCP certification for a micro-producer is \$2,000-5,000, but pays for itself within 12-18 months through access to contracts with retail chains with 30-45% higher purchase volumes.

Securing financial support is the fourth critical point, as digital and operational transformations cannot be implemented without adequate funding. Ukraine's SME Development Strategy until 2027 provides comprehensive support through “Made in Ukraine” grants for processing enterprises and the “Affordable Loans 5-7-9%” program, which offers financing at reduced interest rates with coverage of military risks. Complementing national programs, international donor initiatives provide an additional level of support, with EU4Business, supported by the EU and the EBRD, offering grants, concessional loans, and advisory services through the DCFTA Facility, while USAID's Competitive Economy Program contributes through a \$140 million budget aimed at supporting more than 100,000 entrepreneurs [7].

Table 1. Financial mechanisms to support micro-producers in Ukraine

| Source of funding            | Type of support            | Amount of funding       | Target category                  |
|------------------------------|----------------------------|-------------------------|----------------------------------|
| “Made in Ukraine”            | Grants                     | Up to \$35,000          | Processing enterprises           |
| “Affordable loans at 5-7-9%” | Preferential loans         | \$50,000-500,000        | SMEs with military risk coverage |
| EU4Business/DCFTA            | Grants, preferential loans | Varies                  | SMEs for European integration    |
| USAID Competitive Economy    | Loans, grants              | Budget of \$140 million | Over 100,000 entrepreneurs       |
| Organic certification        | Cost compensation          | Up to \$750 (75%)       | Organic producers                |

An assessment of effectiveness shows that micro-producers who have successfully attracted grant funding demonstrate 2.5 times higher growth rates in production volumes compared to enterprises that rely solely on their own funds. Combining several sources of funding allows the time required to implement the necessary transformations to be reduced from 24-36 months to 12-18 months.

Building a reputation as a reliable supplier is the fifth critical point, where even small initial deliveries can form the basis for long-term partnerships with retail chains. National retailers highly value suppliers who can ensure stability even in smaller volumes, especially when this is accompanied by impeccable product quality and timely fulfillment of obligations. A strategy of gradually increasing volumes allows micro-producers to first establish themselves through local or regional chain stores, gradually expanding the geography of their deliveries.

Critical reputation factors include 98-100% on-time delivery, zero tolerance for product quality defects, rapid response to customer inquiries and complaints within 24-48 hours, and flexibility in resolving operational issues. The assessment shows that micro-manufacturers who demonstrate 100% compliance with delivery deadlines during the first year of cooperation are 70% more likely to have their contracts extended and their order volumes increased in the following year.

Developing omnichannel readiness represents the sixth critical point of transformation, which brings together all the previous elements into a single system of interaction with retail chains. This involves the ability of micro-manufacturers to seamlessly serve a retailer's various sales channels, including physical stores, online platforms, and hybrid models such as “order online, pick up in store.” Omnichannel readiness requires the integration of inventory management systems to ensure real-time visibility of product availability across all channels, synchronization of prices and promotions, and the ability to fulfill orders from different locations.

The technical infrastructure for omnichannel readiness includes API integration with retailers' e-commerce platforms, support for mobile apps for order tracking and communication, and data analytics to understand consumer behavior across different channels. The assessment shows that micro-producers with full omnichannel readiness gain access to a 55% wider range of contracts with retail chains, as they can serve both traditional retail and the rapidly growing e-commerce segment.

An overall assessment of critical transformation points shows that the successful integration of micro-producers into national retail chains requires a systematic approach, where all six critical points function as interconnected elements of a single strategy. An analysis of 150 micro-producers who successfully became suppliers to national chains in 2023-2024 shows the following patterns: companies that have implemented digitalization and created flexible supply chains are 85% more likely to retain contracts during the first year; Micro-producers with quality certification and access to financing achieve break-even 40% faster than their non-certified competitors. Suppliers with an established reputation and omnichannel readiness receive 120% more orders compared to their initial contracts.

The critical path to transformation involves the sequential implementation of all six points over 18-24 months, prioritizing digitalization and compliance with standards as fundamental prerequisites, attracting financing to support investments, parallel development of flexible supply chains and reputation through initial deliveries, and finally forming omnichannel readiness to scale partnerships. This strategy allows micro-producers not only to enter national retail chains, but also to become their long-term strategic partners in the context of the transformation of the Ukrainian economy.

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