

PROJECT LIMITATIONS AND FUTURE DEVELOPMENT

1. Current Project Limitations

Technical Analysis Constraints

Network Architecture and Infrastructure: The current analysis provides high-level ESL system architecture but lacks detailed network infrastructure specifications including bandwidth requirements, network segmentation, redundancy planning, and failover mechanisms. Detailed technical architecture would require collaboration with network specialists.

Cybersecurity and Data Protection: Security aspects including data encryption, access control, device authentication, and compliance with Ukrainian data protection regulations are not comprehensively addressed. Professional cybersecurity assessment would be required for production implementation.

System Integration Complexity: The decision to use an abstract Product Data Server (PDS) rather than direct ERP/POS integration simplified the analysis but may require additional integration work in real-world deployment, such as syncing reassignment status back to ERP or ensuring pricing consistency across POS interfaces.

Financial Analysis Gaps

Comprehensive ROI and Investment Analysis: While cost savings are calculated, the analysis lacks detailed Return on Investment (ROI) calculations, Net Present Value (NPV) analysis, payback period assessment, and risk-adjusted financial projections. Complete financial modeling would require collaboration with financial analysts.

Hardware and Infrastructure Costs: Detailed hardware procurement costs, installation expenses, ongoing maintenance contracts, and system upgrade costs are not fully quantified in the current analysis.

Business Process Analysis

Complete Sales Process Impact: The analysis focuses specifically on price tag management within the "Prepare" stage but does not comprehensively analyze

potential effects on other sales stages, such as “Engage” or “Suggest”. These could be indirectly influenced through improved pricing speed and accuracy.

Change Management Strategy: While staff training is mentioned, a detailed change management plan including communication strategy, training curriculum, and organizational readiness assessment has not yet been developed.

Documentation and Methodology

BPMN Standards Compliance: The process diagrams were created during a trainee learning phase and may not fully comply with BPMN 2.0 standards.

Professional process modeling review would enhance documentation quality.

Stakeholder Analysis Depth: The stakeholder analysis could be expanded to include detailed impact assessments, communication preferences, and resistance management strategies. For example, potential cashier reliance on ESL data or store manager trust in auto-synced prices were not deeply explored.

2. Future Development Opportunities

System Enhancement and Expansion

- **Advanced Analytics Implementation:** ESL usage data could be analyzed to understand customer behavior, optimize pricing strategies, and improve inventory decisions through interaction tracking.
- **Enhanced Display Capabilities:** Future ESL hardware may support color screens, larger formats, or multimedia content for better promotional visibility.
- **IoT Ecosystem Integration:** Potential integration with smart shelving, automated inventory tracking, and customer journey mapping to form a comprehensive retail IoT environment.

Strategic Business Development

Competitive Intelligence: Real-time price updates enable faster response to competitors’ moves and localized pricing strategies.

Sustainability Initiatives: Quantification and reporting of eliminated paper, ink, and plastic usage can support ESG (Environmental, Social, Governance) disclosures and corporate sustainability goals.

Long-Term Positioning and Green Marketing Potential: While the ESL system may not drive direct profitability in the first 1–2 years, it offers long-term strategic advantages:

- Store Staff’s efficiency improvements through time savings
- Better customer experience via accurate pricing
- Strengthened brand positioning as a tech-driven, eco-conscious retailer
- Opportunity for sustainability-based marketing campaigns (e.g. “Green Retail”)
- Potential recycling or resale of legacy plastic price holders to offset costs and reinforce environmental messaging

Deployment Scope Constraints:

The ESL implementation is currently recommended only for newly opened stores or locations undergoing renovation or layout reformatting. This staged approach minimizes disruption to existing operations and allows infrastructure planning (e.g., network coverage, shelf layout, ESL density) to be embedded from the start. Full-scale retrofitting of operational stores is excluded from initial scope due to cost, logistical complexity, and staff adaptation challenges.

3. Learning and Development Acknowledgments

This project represents a trainee-level business analysis with deliberately scoped limitations to ensure quality within available expertise. The analysis prioritizes practical implement ability over theoretical completeness and focuses on real-world improvements rooted in direct retail experience.

Future professional development areas include advanced financial modeling, technical architecture design, and formal change management planning to strengthen both the analytical depth and alignment with industry standards.

This project demonstrates problem-solving ability, structured thinking, and realistic delivery — along with clear awareness of current limitations and growth areas.

This document was prepared by Samoilov Anton as part of a trainee-level business analysis project. Selected sections were edited or improved with the support of AI tools (e.g., ChatGPT - free, Gemini, Claude - free) to enhance clarity and structure