EXECUTIVE SUMMARY

Project Overview

This business analysis proposes the implementation of Electronic Shelf Labels (ESL) for a Ukrainian electronics retail chain to eliminate manual price tag management processes. The project addresses critical operational inefficiencies identified through direct retail experience, where manual price updates consumes 35-90 minutes daily and involve all available staff during major revaluations.

Business Problem

The current manual price tag process creates significant operational bottlenecks: staff spend up to 1.5 hours daily on ERP navigation, printing, cutting, and placing paper tags. This labor-intensive workflow disrupts primary duties, increases error risk, and negatively impacts customer service availability. Price mismatches at checkout can trigger direct revenue loss due to Ukrainian consumer protection laws requiring retailers to honor displayed prices.

Proposed Solution

Implementation of ESL system with automated price synchronization from Product Data Server (PDS) to digital shelf labels within 1 minute. The solution includes a web-interface accessible via smartphone QR scanning and computer admin panel, allowing seamless product reassignment from both smartphone (on-site) and PC (remote). product reassignment capabilities.

Key Benefits

- Operational Efficiency: 95% reduction in daily price management time, saving over 52.3 hours monthly per store
- Cost Savings: 552,433₴ annual savings through reduced labor costs (~120,433₴), materials (~396,000₴), and pricing error losses (~36,000₴)
- Staff Productivity: Price tag management drops from ~5.6% of total staff time to minimal exception handling only

- Customer Experience: Eliminate pricing discrepancies and checkout conflicts through real-time price accuracy
- Competitive Advantage: Position as technology-forward retailer with automated pricing infrastructure

Implementation Approach

Pilot deployment in 2 Kyiv stores focusing on fixed-shelf products (electronics, appliances, audio equipment). System designed for integration with existing Product Data Server while remaining independent of legacy ERP/POS environments. ESL hardware features 5+ year battery life, Zigbee mesh networking, and programmable physical buttons for intuitive operation.

Investment Considerations

The analysis demonstrates the strongest ROI when ESL implementation coincides with new store openings or planned renovations, an incremental ~2,000$ investment for 200 ESL units represents minimal incremental cost compared to overall store setup expenses. This approach avoids operational disruption and maximizes cost-effectiveness.

Strategic Impact

Beyond immediate operational improvements, ESL implementation enables rapid promotional campaign deployment, consistent pricing across locations, and enhanced staff allocation toward high-value customer engagement activities. The system provides foundation for future retail automation initiatives while addressing current critical pain points in daily operations.

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.