Abstract

Small and medium-sized enterprises (SMEs) in Mozambique rely heavily on One Click POS, a locally developed Point of Sale (POS) and Enterprise Resource Planning (ERP) system, to manage daily operations such as sales, stock, suppliers, and finances. While effective in-store, the system lacks an online presence, leaving retailers unable to display products or engage with customers digitally. Currently, businesses either maintain separate websites that require duplicate updates or share static PDF catalogs through WhatsApp. Both approaches are inefficient, costly, and prone to discrepancies between in-store stock and what is presented to customers.

To address this gap, we propose a plug-and-play e-commerce platform fully integrated with One Click POS. Our solution automatically synchronises product and stock data from Firestore (the POS's cloud backend) to an online storefront. Retailers can configure branding elements such as company name, contact details, and website colors through a simple setup form. The website then provides customers with a real-time product catalog, branch-aware stock availability, and the ability to place orders directly via WhatsApp.

The system is designed with a modular architecture:

- Frontend: ASP.NET Razor Pages for the customer-facing website.
- Backend: Firestore as the database, integrated with One Click POS.
- Additional features: caching for performance, WhatsApp integration for order handling, and a chatbot powered by an LLM to search for products and query business information.

Key findings

The project demonstrates that integrating One Click POS with an e-commerce website is technically feasible and cost effective. Real time product synchronisation via Firestore removes duplication of effort, ensuring consistency between in store and online stock. SMEs benefit from a semi-customisable, plug and play storefront that reduces setup complexity and enhances customer reach. The introduction of WhatsApp ordering and an AI-powered chatbot shows significant potential to improve customer engagement and streamline ordering. These findings highlight a practical path for Mozambican SMEs to bridge the gap between physical retail and digital commerce.

In conclusion, this project demonstrates how Mozambican SMEs can bridge the gap between physical and digital retail. The solution empowers retailers with an affordable, scalable online presence, reduces inefficiencies, and enhances competitiveness in an increasingly digital economy.