After Market Accelerators

Empowering Local Auto SMMEs with Digital Tools with “Vula Moto”

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# ntroduction

In South Africa and other developing regions, auto SMMEs play a vital role in economic development and mobility but often face challenges like limited digital infrastructure and poor online visibility, which restrict their growth and service reach [1]. Previous studies have shown the value of integrating digital tools in localized marketplaces. [2] explored Facebook Marketplace’s use of multimodal deep learning to personalize product recommendations, leading to increased buyer-seller interactions. This supports features like localized listings, real-time messaging, wish-lists, and seller discovery in the proposed platform. However, it did not cover chatbots with multilingual support.

Researchers [3] examined AI-based chatbots in online commerce, showing that human-like chatbot designs improved user trust, personalization, and willingness to negotiate. This directly relates to the platform’s chatbot assistant and negotiation features. Yet, the study lacked focus on broader functions like authentication, analytics, or push notifications.

Recent studies highlight key features for building trusted service marketplaces.[4] explored bilateral rating systems where both customers and providers are reviewed, showing how this improves trust and influences negotiation and pricing, relevant for the app’s feedback and negotiation features. However, the study was primarily theoretical and lacked real-world implementation or user testing, limiting its practical insights into user behaviour or platform performance. [5] introduced a prior-weighted rating model to reduce bias against new sellers, helping ensure fairness and credibility. While these studies don’t address chatbots or location-based filtering, they provide valuable guidance for designing reliable review and reputation systems.

It is evident from the work of [2], [3], [4], and [5] that digital tools enhance engagement, trust, and fairness in online marketplaces. Although each study focused on specific features, they collectively highlight the need for an integrated solution. This research builds on their findings to develop a platform tailored for auto SMMEs in developing region. The platform aims to create a digitally connected ecosystem that supports inclusive economic growth and modernizes the automotive aftermarket sector in underserved communities.

# Problem Statement

Local auto-repair and parts SMMEs in the automotive aftermarket industry face significant challenges, including poor visibility, limited customer reach, and a lack of digital business management tools [6]. Most operate informally and remain disconnected from digital marketplaces, making it difficult for them to grow, compete, or deliver consistent service quality. For customers, this results in difficulty locating reliable mechanics with verified records, transparent pricing, or convenient access. These challenges are further compounded by resistance to digital adoption, poor infrastructure, and limited access to real-time data systems.

**This project aims to solve these issues** by developing a location centralized digital marketplace platform that connects auto SMMEs with both insured and uninsured vehicle owners. The platform will provide tools for service listing, instant booking, live chat, customer reviews, and AI-driven support, ultimately improving visibility, trust, and operational efficiency for local businesses while making automotive services more accessible and transparent for customers.

# Our Solution

To address the digital gap faced by local automotive SMMEs, this project introduces a unified marketplace platform that connects mechanics with both insured and uninsured vehicle owners. The platform offers real-time booking, end-to-end encrypted chat, AI-powered multilingual chatbot support, and location-based filtering for nearby services and spare parts. It also includes service listings, inventory tracking, invoicing, analytics, and a top-rated mechanic system to promote trust and operational efficiency. Building on [7] findings that AI improves repair efficiency despite adoption barriers, this solution enhances accessibility through AI diagnostics, language translation, and digital tools tailored to informal repair services.

This project is a mobile app designed to work across various devices such as smartphones and tablets, making it accessible to a wide range of users [8]. It connects local mechanics and auto part sellers with customers by offering features like booking appointments, viewing available services and products, and real-time communication. Secure sign-in options using Google or Facebook accounts make access easy and safe [9]. The app also includes a smart assistant that responds to common questions in local languages, even without internet access supporting users in rural or low-connectivity areas [10].

To improve the user experience, the app allows customers to save favourite items and services to a Wishlist. Over time, this feature will help the system recommend useful products based on their interests [11]. A built-in map shows nearby workshops and sellers, making it easier for users to find local help. By combining these tools into one easy-to-use platform, the app empowers small auto businesses especially in under-served communities to grow and reach more customers through digital solutions.

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