

Smart Spaza App



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1 Rifumo Empowerment Holdings (REH)

1.1 Company Profile (Summarized)

Established in 2013, Rifumo Empowerment Holdings (REH) is an Information Technology firm specializing in Process Automation (PA), Business Intelligence (BI), eCommerce Solutions, Data Warehousing (DW), Digitization, Customer Relationship Management systems (CRM), Application Development and Microsoft Business Central (BC). Our expertise in the development and implementation of Microsoft Technology (MT) enables our team to utilize standard best practices in the implementation of new technology and innovation. REH is a 100% black-owned SMME, B-BBEE Level 1 contributor and a Microsoft Gold Partner.

REH excels in development, customization, configuration, and implementation of technology solutions that offer expert guidance on the latest developments in technology across multiple industries. The organization provides tailor-made solutions that are user-centric and customer focused, to enable digital transformation using standard best practices and tried and tested methodologies.

We provide innovative technology through dedicated partnerships with our clients as we work to achieve outcomes that are user-driven and cost-effective. We take pride in enabling solutions and sharing knowledge collaboratively with our clients.

1.2 Proven Track Record

Rifumo has a proven track record and strong credentials in Microsoft Dynamics 365 projects, eCommerce, ICT Assessments, Business Process Design, System Integrations, and Project Management techniques. We remain a partner of choice to several Public Sector Clients. Our clientele base includes but is not limited to the following.

- Johannesburg Development Agency JDA
- City of Johannesburg Departments
- Public Investment Corporation
- Gauteng Department of Education

1.3 Our Solid and Robust Methodology

Our Project Management and Implementation methodology is based on the Microsoft Operations Framework and the Dynamics Sure-Step toolsets. These are tried, tested, and trusted methodologies which have, over the years been utilized, and proven to add the desired value to Clients.

2 Executive Summary

Rifumo is proud to introduce its Spaza Shop Registration Application, a powerful digital solution for the City of Johannesburg to formalize, regulate, and empower spaza shops in townships. Leveraging Rifumo's proven success with the SMME Portal and the Informal Trader Portal, this application provides robust tools for shop registration, compliance tracking, and integration into a broader economic ecosystem. Through collaboration with the City of Johannesburg, this app aims to streamline tax collection, track goods and services, ensure legal compliance, and foster sustainable economic growth in township communities.

2.1 Introduction

Spaza shops play a critical role in township economies, acting as the lifeblood of communities by providing essential goods and services. However, challenges such as informal operations, limited supply chain visibility, and regulatory non-compliance hinder their full potential. This proposal presents Rifumo's application as a strategic tool for addressing these challenges, fostering economic inclusion, and improving governance.

2.2 Business Problem

Challenges Faced by the City:

1. **Informal Operations:** Many spaza shops operate without proper registration, leading to lost tax revenues.
2. **Illegal Operations:** The proliferation of shops run by undocumented foreign nationals or non-compliant individuals undermines local businesses.
3. **Supply Chain Fragmentation:** Difficulty in tracking goods and ensuring fair pricing or quality standards.
4. **Economic Leakage:** Township economies lack integration into the broader municipal and national economy.

3 Proposed Solution

3.1 Overview of the Spaza Shop Registration Application

Rifumo's application is a comprehensive platform built on Azure's scalable and secure infrastructure. It enables spaza shop owners to register, comply with legal regulations, and participate in an integrated marketplace. The solution includes the following core features:

3.1.1 Shop Registration Module:

- Easy Online and Mobile Registration.
- Verification of business owner credentials and compliance with local regulations.
- Integration with the City's SMME and Informal Trader Portals for streamlined user management.

3.1.2 Compliance and Legal Verification:

- Ensure shop owners provide valid permits, IDs, and tax documents.
- Enable inspections by city officials through a dedicated interface.

3.1.3 Tax and Revenue Management:

- Connect registered shops to the city's tax systems, enabling better collection.
- Automated reminders for renewals and tax compliance.

3.1.4 Supply Chain Integration:

- Link spaza shops to the City's Multi-Vendor Marketplace for access to reputable suppliers.
- Provide aggregated buying power for better pricing.

3.1.5 Data Analytics and Reporting:

- Generate insights on the number, location, and type of shops.
- Help the city track goods movement and ensure supply chain integrity.

3.1.6 Inclusion and Growth:

- Facilitate township economic development by linking shops to funding opportunities and training programs.
- Build resilience by ensuring township economies are integrated into the city's economic ecosystem.

3.2 Solution Benefits

1. For the City of Johannesburg:

- Enhanced tax revenue from previously unregistered businesses.
- Better enforcement of regulations regarding shop ownership and legal operations.
- Real-time insights into the informal economy, enabling informed policymaking.

2. For Spaza Shop Owners:

- Access to affordable goods and services through the Multi-Vendor Marketplace.
- Opportunities for training, funding, and business growth.
- A formal identity that opens up new economic opportunities.

3. For Township Communities:

- Improved economic participation and job creation.
- Strengthened supply chains ensure quality and affordability of goods.
- A thriving local economy that benefits residents directly.

4 Technical Architecture

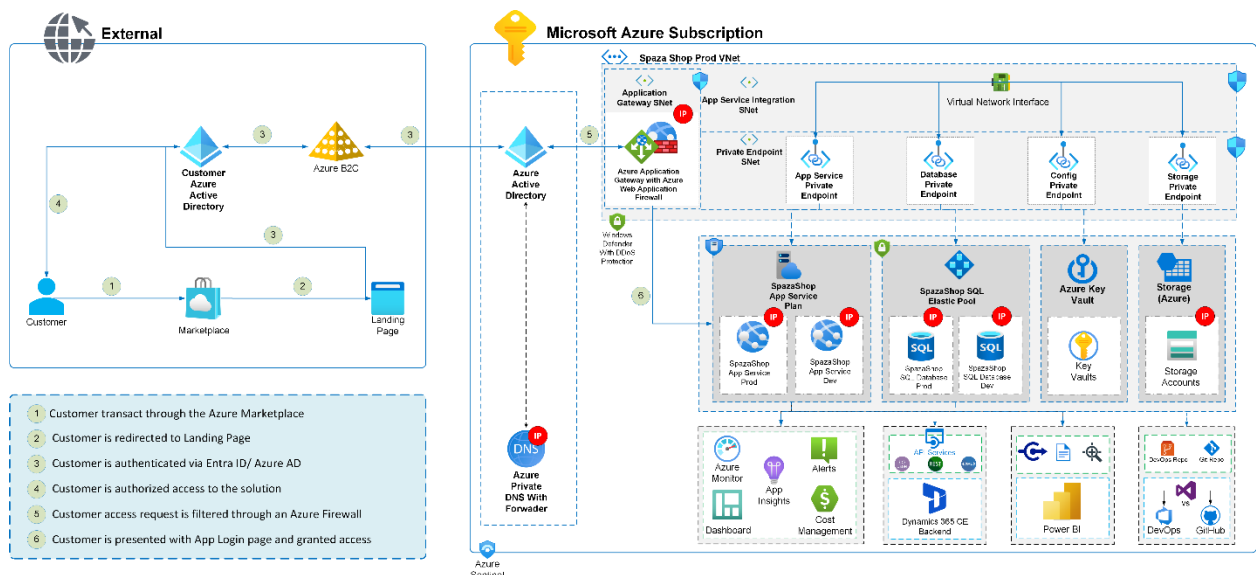
4.1 Proposed Architecture for the Spaza Shop Registration Application

The Spaza Shop Registration Application will be designed using the Azure Well-Architected Framework, ensuring it meets the key pillars of reliability, security, cost optimization, operational excellence, and performance efficiency. Below is a comprehensive write-up of the proposed architecture:

4.1.1 Overview

The application will be hosted on Azure App Service, utilizing a SQL database for persistence. Authentication will be managed through Azure AD B2C. The architecture will follow a hub-and-spoke model with a Web Application Firewall (WAF) and an Application Gateway. Integration with city services and external partners will be handled through an enterprise integration layer. The application will be a mini-app within the city's super app, ensuring seamless user experience and integration.

4.1.2 Architecture Components



1. Azure App Service

- **Purpose:** Hosts web applications and APIs.
- **Reason:** Provides a scalable, managed platform for building and hosting web applications and APIs, with built-in load balancing and auto-scaling.

2. Azure SQL Database

- **Purpose:** Stores application data.
- **Reason:** Offers a fully managed relational database with high availability, scalability, and security features.

3. Azure AD B2C

- **Purpose:** Manages user authentication and authorization.
- **Reason:** Provides a secure and scalable identity management solution, allowing users to sign in with their preferred social, enterprise, or local accounts.

4. Hub-and-Spoke Architecture

- **Purpose:** Organizes the network architecture.
- **Reason:** Centralizes common services in the hub, while isolating workloads in spokes, improving security, manageability, and scalability.

5. Web Application Firewall (WAF)

- **Purpose:** Protects the application from common web vulnerabilities and attacks.
- **Reason:** Provides centralized protection for web applications from threats such as SQL injection, cross-site scripting, and other OWASP top 10 threats.

6. Azure Application Gateway

- **Purpose:** Acts as a load balancer and web traffic manager.
- **Reason:** Offers application-level routing and load balancing, SSL termination, and WAF integration, ensuring high availability and security.

7. Enterprise Integration Layer

- **Purpose:** Facilitates integration with city services and external partners.
- **Reason:** Ensures seamless data exchange and interoperability with existing systems, enhancing the application's functionality and reach.

8. Monitoring and Logging

- **Azure Monitor:** Collects and analyzes telemetry data.
 - **Reason:** Provides full-stack monitoring, advanced analytics, and actionable insights to ensure application performance and reliability.
- **Azure Log Analytics:** Aggregates and analyzes log data.
 - **Reason:** Helps in diagnosing issues, understanding usage patterns, and maintaining security compliance.

9. Backup and Recovery

- **Azure Backup:** Provides data backup and recovery solutions.
 - **Reason:** Ensures data protection and business continuity by offering reliable backup and restore capabilities.
- **Azure Site Recovery:** Orchestrates disaster recovery.

- **Reason:** Minimizes downtime and data loss by enabling seamless failover and fallback during outages.

4.1.3 Detailed Architecture Description

1. Front-End Layer

- **Components:** Web and mobile interfaces.
- **Function:** Provides user-friendly interfaces for spaza shop owners and city officials to interact with the application.
- **Technology:** HTML, CSS, JavaScript, React/Angular for web; React Native/Flutter for mobile.

2. Application Layer

- **Components:** Azure App Service, APIs.
- **Function:** Hosts the business logic and APIs that power the application.
- **Technology:** .NET Core for APIs, Azure Functions for serverless components.

3. Data Layer

- **Components:** Azure SQL Database.
- **Function:** Stores and manages application data, including user information, shop details, and transaction records.
- **Technology:** SQL for database management, Entity Framework/Dapper for ORM.

4. Security Layer

- **Components:** Azure AD B2C, WAF.
- **Function:** Manages authentication, authorization, and protection against web threats.
- **Technology:** OAuth2/OpenID Connect for authentication, WAF policies for threat protection.

5. Integration Layer

- **Components:** Enterprise Integration Layer.
- **Function:** Facilitates data exchange with city services and external partners.
- **Technology:** Azure Logic Apps, Azure API Management for integration and API management.

6. Networking Layer

- **Components:** Hub-and-Spoke Architecture, Application Gateway.
- **Function:** Manages network traffic, load balancing, and secure communication.
- **Technology:** Virtual Networks (VNETs), Network Security Groups (NSGs), Application Gateway for routing and load balancing.

7. Monitoring and Management Layer

- **Components:** Azure Monitor, Log Analytics.
- **Function:** Provides monitoring, logging, and diagnostics.

- **Technology:** Azure Monitor for telemetry, Log Analytics for log aggregation and analysis.

8. Backup and Recovery Layer

- **Components:** Azure Backup, Azure Site Recovery.
- **Function:** Ensures data protection and disaster recovery.
- **Technology:** Azure Backup for data backup, Site Recovery for disaster recovery orchestration.

4.1.4 Justification for Components

- **Azure App Service:** Ensures scalability, reliability, and ease of management for web applications.
- **Azure SQL Database:** Provides a robust, scalable, and secure data storage solution.
- **Azure AD B2C:** Offers a flexible and secure identity management system.
- **Hub-and-Spoke Architecture:** Enhances security, manageability, and scalability by isolating workloads.
- **WAF and Application Gateway:** Protects against web threats and ensures high availability and performance.
- **Enterprise Integration Layer:** Facilitates seamless integration with existing city systems and external partners.
- **Monitoring and Logging:** Ensures operational excellence through continuous monitoring and diagnostics.
- **Backup and Recovery:** Guarantees data protection and business continuity.

4.1.5 Dynamics CRM

4.1.5.1 Utilizing Microsoft Dynamics CRM as a Backend System

Rifumo's Spaza Shop Registration Application will leverage Microsoft Dynamics CRM as the core backend system to manage user data, shop registration processes, compliance tracking, and customer interactions. Dynamics CRM is an enterprise-grade platform that seamlessly integrates with Azure, providing scalability, flexibility, and robust capabilities to meet the needs of the City of Johannesburg and the spaza shop ecosystem.

4.1.5.2 How Dynamics CRM Fits into the Application

1. Centralized Data Management

- **Feature:** Dynamics CRM will act as a centralized repository for all spaza shop data, including registration details, compliance documents, and tax records.
- **Benefit:** A unified database ensures all stakeholders (e.g., city officials, suppliers, and shop owners) have access to accurate and up-to-date information.

2. Registration Workflow Automation

- **Feature:** Dynamics CRM's workflow automation will streamline the registration process, including document verification, permit issuance, and tax compliance checks.
 - **Benefit:** Reduced manual intervention, ensuring quicker approvals and consistent service delivery.
3. **Integration with Existing Portals**
 - **Feature:** Dynamics CRM integrates seamlessly with the City's SMME and Informal Trader Portals, enabling cross-platform data sharing.
 - **Benefit:** Enhanced interoperability reduces duplication of effort and ensures a unified user experience.
 4. **Case Management for Compliance**
 - **Feature:** Dynamics CRM's case management system will be used to track non-compliant shops, log inspections, and manage enforcement actions.
 - **Benefit:** City officials can efficiently manage cases, ensuring regulatory compliance and addressing violations effectively.
 5. **Multi-Vendor Marketplace Integration**
 - **Feature:** Dynamics CRM will facilitate integration with the Multi-Vendor Marketplace by managing supplier and buyer relationships, order tracking, and dispute resolution.
 - **Benefit:** Spaza shops gain access to a streamlined supply chain, enhancing their ability to source quality goods at competitive prices.
 6. **Customer Engagement Tools**
 - **Feature:** Dynamics CRM includes robust customer engagement features such as email campaigns, SMS notifications, and training program invitations.
 - **Benefit:** The City can maintain open communication with spaza shop owners, fostering better engagement and education.

4.1.5.3 Benefits of Using Dynamics CRM as the Backend

1. **Scalability**
 - Dynamics CRM is built for scalability, making it capable of managing data and workflows for thousands of spaza shops across Johannesburg.
 - Its cloud-based architecture ensures that the system grows with the city's needs without requiring extensive infrastructure investments.
2. **Real-Time Analytics and Reporting**
 - Dynamics CRM integrates with Power BI, providing real-time dashboards and advanced analytics.
 - City officials gain insights into shop registrations, tax contributions, and compliance levels, enabling data-driven decision-making.
3. **Improved Operational Efficiency**
 - Automated workflows and centralized data reduce manual errors, save time, and improve the efficiency of city operations.
 - Officials can focus on policy and enforcement rather than administrative tasks.
4. **Enhanced Security and Compliance**

- With enterprise-grade security, Dynamics CRM ensures that sensitive information about shop owners and operations is protected against breaches.
- Compliance with global and local data protection regulations (e.g., POPIA in South Africa) is built into the platform.

5. Customizable and Flexible

- Dynamics CRM allows customization to meet specific requirements, such as unique registration criteria or tax workflows tailored to spaza shops.
- The modular nature of Dynamics CRM ensures it can adapt to new features or policy changes over time.

6. Integration with Azure Ecosystem

- Dynamics CRM's native integration with Azure ensures seamless collaboration with other Azure services such as AI, IoT, and Microsoft Teams.
- This enables additional functionalities like predictive analytics, automated chat support, and enhanced communication among city officials and shop owners.

7. Cost-Effectiveness

- By using Dynamics CRM as a cloud-based solution, the City avoids the upfront costs of building and maintaining custom infrastructure.
- Flexible subscription pricing ensures cost management aligned with usage.

4.1.5.4 Use Case Example: Registration and Compliance Workflow

1. A shop owner logs into the application and submits registration details.
2. Dynamics CRM automatically verifies provided documents (e.g., ID, permits) and flags incomplete or invalid submissions.
3. Upon approval, the shop's registration details are stored in Dynamics CRM, and the system triggers an automated notification for tax compliance.
4. City officials use the case management tool in Dynamics CRM to schedule periodic inspections and log results.
5. Data on all shops is aggregated into a Power BI dashboard, giving officials a real-time overview of compliance and tax contributions.

By leveraging Dynamics CRM, Rifumo ensures the Spaza Shop Registration Application is a scalable, efficient, and future-ready solution that aligns with the City of Johannesburg's goals of formalizing and empowering township economies.

5 Implementation Plan

5.1 Phase 1: Development (3 Months)

- Build the registration and compliance modules.
- Create integration points with the City's SMME and Informal Trader Portals.

5.2 Phase 2: Pilot Deployment (2 Months)

- Conduct a pilot program in key townships (e.g., Soweto).
- Gather feedback from shop owners and city officials.

5.3 Phase 3: Full Rollout (3 Months)

- Launch City-wide with marketing and training campaigns.


5.4 Phase 4: Multi-Vendor Marketplace Integration (6 Months)

- Develop and deploy the marketplace feature.

6 Budget & Costing

Super App - Implementation Proposal Costing Phase 1				
WBS	Phases/Tasks	Resources	Hours/ Resource	Project Cost
1	Analysis		1707	R4,460,450.00
1.1	JAD Sessions	BA, FC	140	R413,000.00
1.2	Review Business Process Analysis	BA, FC	128	R377,600.00
1.3	Gap/Fit Analysis	FC, BA	168	R495,600.00
1.4	Gap Resolutions	FC	210	R304,500.00
1.5	Description of Interfaces	SD, FC	228	R672,600.00
1.6	Data Migration Plan	PM/FC	323	R985,150.00
1.7	Detailed Project Plan	PM	80	R128,000.00
1.8	Functional Requirements Document	BA, FC	120	R354,000.00
1.9	Change Management	PM	180	R288,000.00
1,10	Peer Review	TL, FC, BA	78	R358,800.00
1.11	Sign Off	PM	52	R83,200.00
2	Design Phase		1531	R2,876,950.00
2.1	Design Specifications	FC, BA, SD	189	R841,050.00
2.2	Technical Design & Solution Architecture	SA	286	R471,900.00
2.3	Data Migration Design and Mapping	FC	580	R841,000.00
2.4	Test Cases, Scenarios and Plan	FC	308	R446,600.00
2.5	Peer Review	TL	152	R250,800.00
2.6	Sign Off	PM	16	R25,600.00
3	Development Phase		3658	R5,934,400.00
3.1	Application Set Up, Security, Company, Workflow, Modules, Reports & BI Configuration	FC	365	R529,250.00
3.2	Code Development & Customization	SD	824	R1,236,000.00

3.3	Components Integration	SD	980	R1,470,000.00
3.4	Data Migration	FC	820	R1,189,000.00
3.5	System Testing - Unit, Integration, System, Acceptance	FC, SD	350	R1,032,500.00
3.6	Super User Training and Manuals	FC	240	R348,000.00
3.7	Peer Review	TL	65	R107,250.00
3.8	Sign Off	PM	14	R22,400.00
4	Deployment Phase		1230	R3,295,010.00
4.1	Deployment Plan and Change Request	PM	206	R329,600.00
4.2	Test Plan & Cases	LT, JT, FC	246	R894,210.00
4.3	End User Training Plan and Training Documentation, (User, Training Manuals etc)	FC	156	R226,200.00
4.4	User Training	FC	130	R188,500.00
4.5	Go Live (Production) System	FC, SD, PM	140	R637,000.00
4.6	Hand Holding Support	FC, SD	338	R997,100.00
4.7	Sign Off	PM	14	R22,400.00
5	Operation Phase		406	R649,600.00
5.1	Change Management	PM	102	R163,200.00
5.2	Project Review Documentation	PM	154	R246,400.00
5.3	Project Closure Report & Meeting	PM	150	R240,000.00
5.4	Support under SLA	FC		
Total Implementation Cost Exclusive of VAT				R17,216,410.00
VAT @15%				R2,582,461.50
Total Project Cost Inclusive of VAT				R19,798,871.50



Rifumo currently has several applications available for purchase via the Azure Marketplace. To learn more about these Solutions and the Azure Marketplace, please click on the link below.

<https://appssource.microsoft.com/en-us/marketplace/apps?search=rifumo&page=1>

<https://azuremarketplace.microsoft.com/en-s/marketplace/apps?search=rifumo&page=1>