

# **Designing a Secure System for Customer Information and Portfolio Tracking in Microfinance Institutions: a case of Selected SACCOS in Moshi, Tanzania**

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## **Abstract**

Microfinance institutions, especially the Savings and Credits Cooperative Societies (SACCOS) have been established to improve people's livelihood through provision of collateral-free loans. However, there are various constraints related to their operations. Studies reveals lack of use of ICTs in SACCOS as one of serious constraint, and for few SACCOS that has computerized systems it was discovered that most of the systems in use had poor design, were insecure, and had limited accessibility for remote users. Besides, it was realized that exposing information systems to the internet cloud invites security threats such as denial-of-service attack, man-in-the middle attack, and unauthorized access via password guessing and theft. Further, SACCOS' operational constraints lead to many problems related to customer information management and portfolio tracking. This study, therefore, focused on designing a secure system for customer information and portfolio tracking in SACCOS. Different methods and techniques were adopted for data collection and presentation. These include interviews and direct system observations. Diagrams, charts and screenshots have been used to demonstrate the results. A web-based system model was developed as a remote user accessibility solution. Effectiveness of the developed system was assessed in terms of its effectiveness in customer information management and portfolio tracking. More than 75% (on average) of all users who participated in evaluating the system said that it is user friendly, secure and appropriate for SACCOS needs. Secure passwords and Web VPN through SSL protocol was deployed to enhance system security.