Prepared by group 4

Group Project

Financial Investment Product Recommender

19 November, 2024

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Financial Investment Product Recommender System

This presentation outlines the development of an intelligent recommendation system for financial products, leveraging data-driven insights to transform investment decision-making and optimize customer journeys.

PRESENTATION AGENDA

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Business Understanding

The financial landscape is constantly evolving, demanding intelligent solutions to guide investors. Our recommendation system is designed to address the ever-growing need for personalized and data-driven investment advice.

Purpose

To create a recommender system that recommends financial products tailored to individual investor profiles.

Scope

To enhance the entire customer journey, from initial onboarding to portfolio management and long-term investment strategy.

Focus

To deliver personalized recommendations based on individual risk tolerance, investment goals, and financial circumstances.

Target Audience

- New investors seeking guidance
- Existing customers exploring options
- Financial advisors and planners

Problem Statement

Investors face a multitude of challenges in today's complex financial landscape. Our system aims to simplify investment decisions and provide tailored guidance.
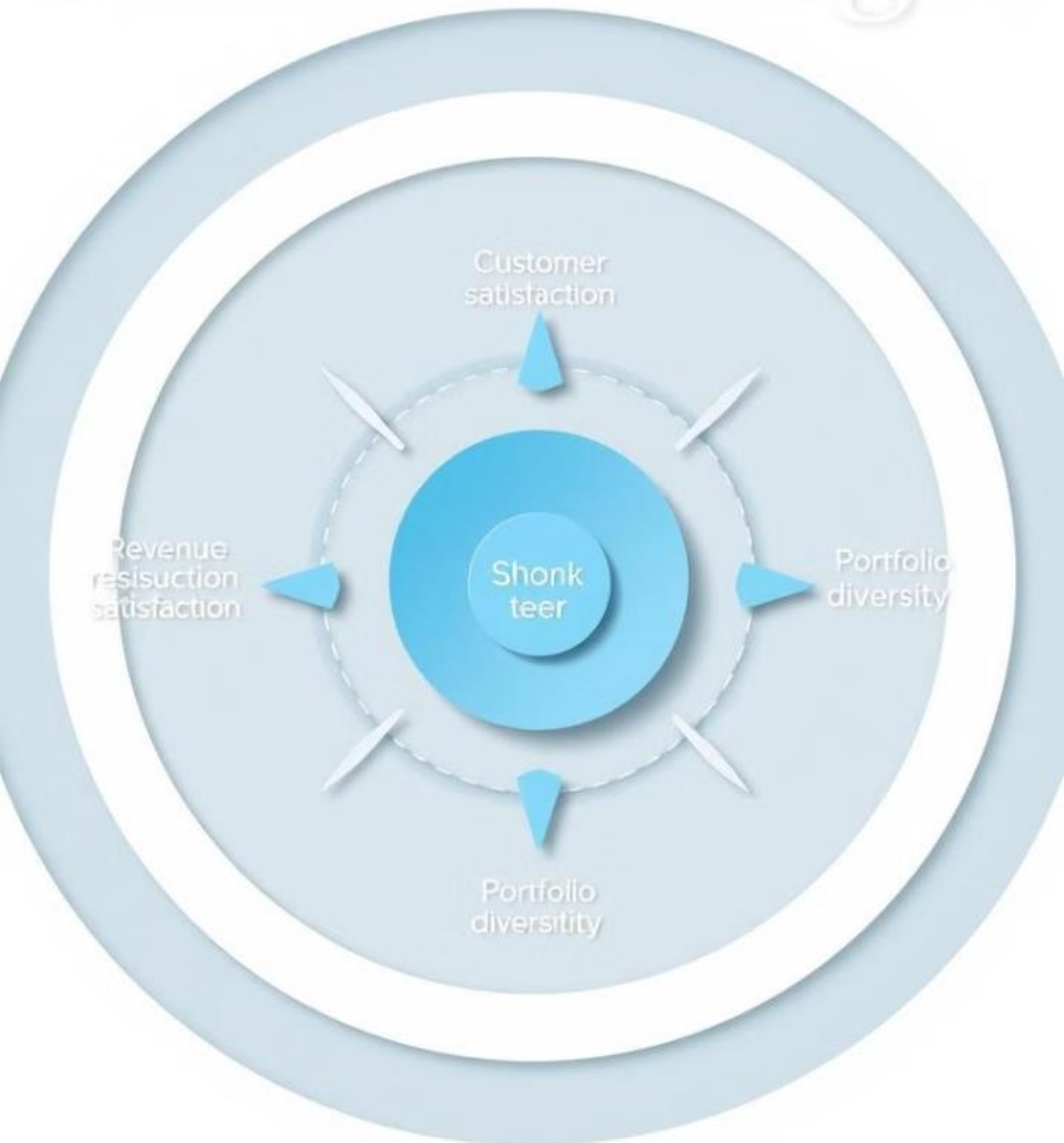
Current Challenges

- Complex investment landscape
- Limited personalization in product recommendations
- Inefficient cross-selling and upselling processes
- Suboptimal customer onboarding experience

Business Impact

- Missed revenue opportunities
- Lower conversion rates
- Reduced customer satisfaction
- Limited portfolio diversification

Strategic Objectives

The system aims to achieve a multitude of strategic objectives, driving revenue growth, customer acquisition, and long-term customer value.

1

Revenue Growth

The system is designed to enhance cross-selling success, boost product penetration, and improve upselling opportunities, leading to significant revenue growth.

2

Customer Acquisition

The system streamlines onboarding, improves conversion rates, and enhances the overall customer experience, attracting new customers and building a loyal base.

3

Lifetime Value Maximization

By fostering portfolio diversification, strengthening customer relationships, and building trust, the system aims to maximize customer lifetime value.

Domain Coverage

The system covers a comprehensive range of financial products, catering to diverse investor profiles and financial needs. It analyzes risk, goals, and time horizons to provide tailored recommendations.

Investment Products	Key Features
Bonds and fixed-income securities	Stable income, low risk
Money market funds	High liquidity, short-term investment
Equity funds	Potential for high returns, higher risk
Balanced funds	Diversification, moderate risk
Wealth management solutions	Personalized financial planning, comprehensive services
Sacco Products	low risk, accessible loans

Data Insights

By analyzing vast amounts of customer data, we have gained valuable insights into investment preferences and behavior patterns.

1

Portfolio Analysis

Data analysis reveals distinct product preferences across different demographic groups. Wealth funds are particularly popular among investors aged 55 and above, while fixed-income securities attract younger professionals. Balanced funds appeal to middle-aged investors seeking a balanced approach, and money market funds are widely adopted across age groups.
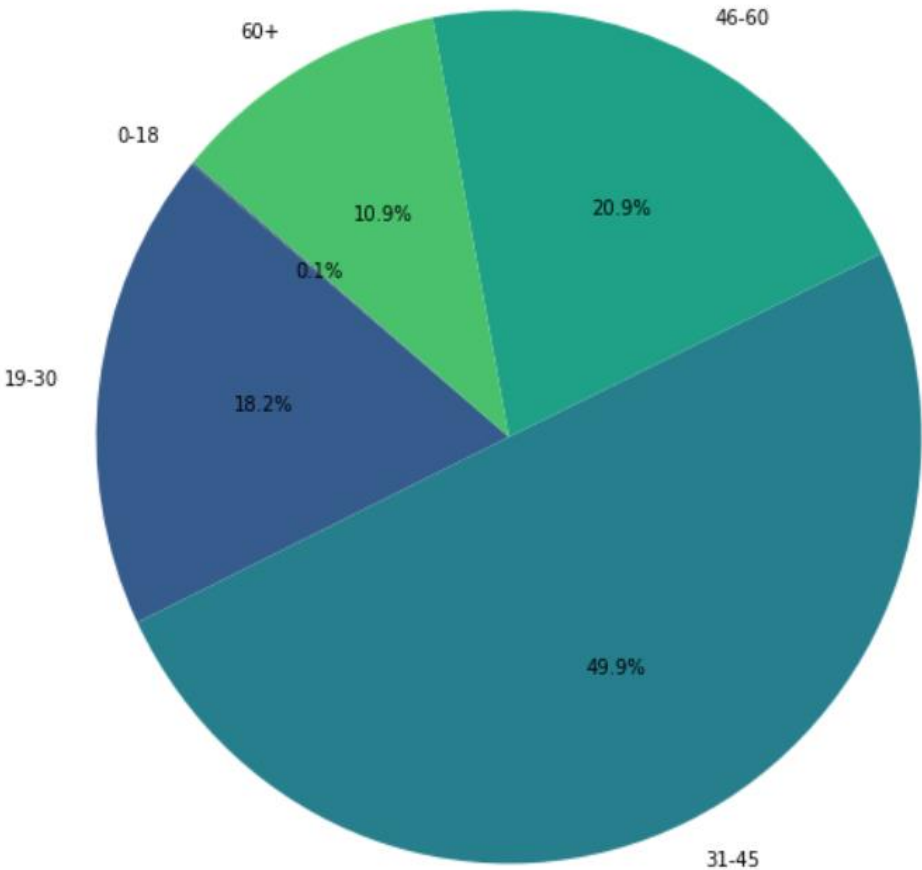
2

Customer Behavior Insights

Our analysis highlights key patterns in customer behavior. Age significantly influences product preferences, with distinct trends observed across different age cohorts. Geographic location also plays a role, influencing investment choices based on local market conditions. Risk tolerance varies widely, with some investors favoring low-risk investments while others seek higher returns. Gender also affects product affinity, with different investment preferences often observed between male and female investors.

Age and Town Customer Distributions

Members Age Groups Distribution

- 60+ — 10.9%
- 46-60 — 20.9%
- 0-18 — 0.1%
- 19-30 — 18.2%
- 31-45 — 49.9%

Top 20 Towns with Highest Number of Clients

Towns: nairobi, other, thika, mombasa, nakuru, kiambu, nyeri, kisumu, eldoret, ruiru, embu, machakos, meru, kikuyu, limuru, kakamega, kisii, karatina, nanyuki, naivasha

Age Distributions

We analyze the age distribution of investors and beneficiaries to understand demographic trends, potentially influencing product recommendations.
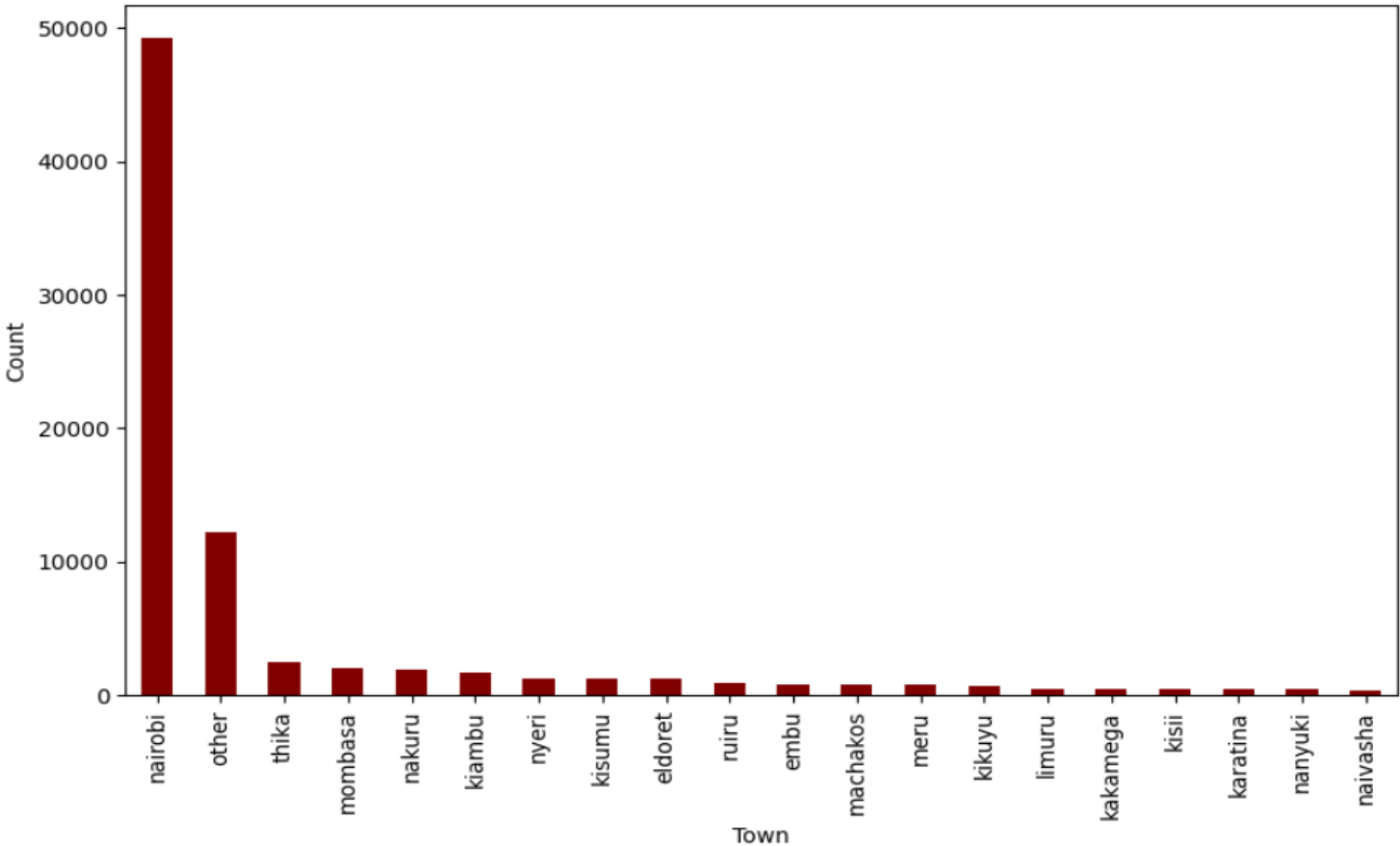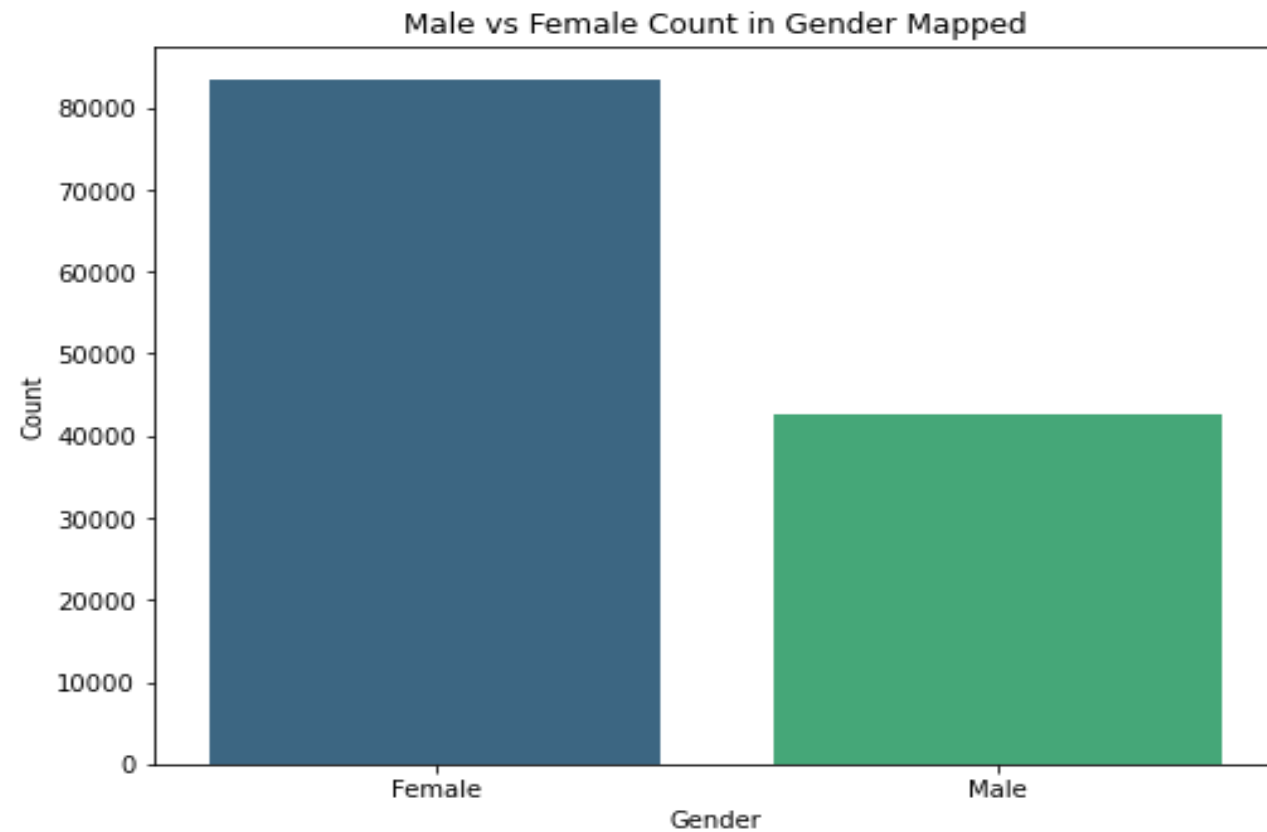
Town Distribution

Analyzing investor distribution by town helps identify regional preferences and tailor product offerings accordingly, optimizing geographic targeting.

Gender and Products Distributions

Gender Distributions

We observe that we have more female customers than male customers , a clear indication that the demographics have impact on the product purchases or preferences
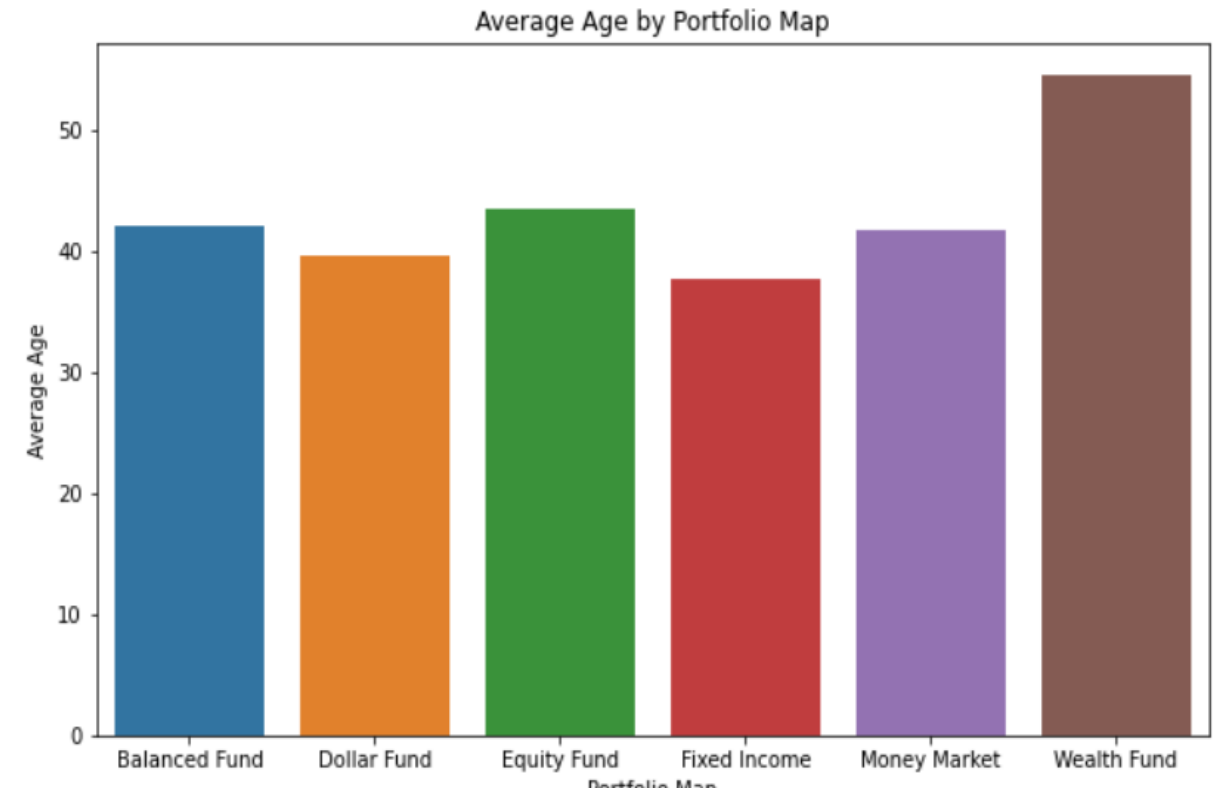
Investment Product Preferences

We investigate the most popular products by age group, revealing patterns in investment behavior that can guide cross-selling and upselling strategies.

Solution Overview

The core of our solution is a powerful recommendation engine that analyzes customer data and market trends to deliver tailored financial advice.

1 ## Core Capabilities

The engine leverages advanced algorithms to provide personalized product matching, risk profile assessment, goal-based recommendations, portfolio optimization, and cross-selling suggestions.

2 ## How It Works

For new customers, the system guides them through a structured onboarding process, assessing their risk tolerance, identifying financial goals, and recommending suitable investment products. For existing customers, the system analyzes their portfolios, tracks performance, identifies cross-selling opportunities, and suggests portfolio optimization strategies.

Models Employed

K-Nearest Neighbors(KNN)

Leveraged user preferences and past investment decisions to make personalized recommendations.

Rule-Based Logic

Analyzed product attributes and investor profiles to identify the most suitable investment options.

Hybrid Approach

Combined KNN and Rule-Based techniques to come up with a a more comprehensive recommendation system.

Deployed Solution

Deploy ⋮

Welcome to Investment Portfolio Recommender

Are you an existing customer?

Select your customer status:

🔘 Existing Customer   ⚪ New Customer

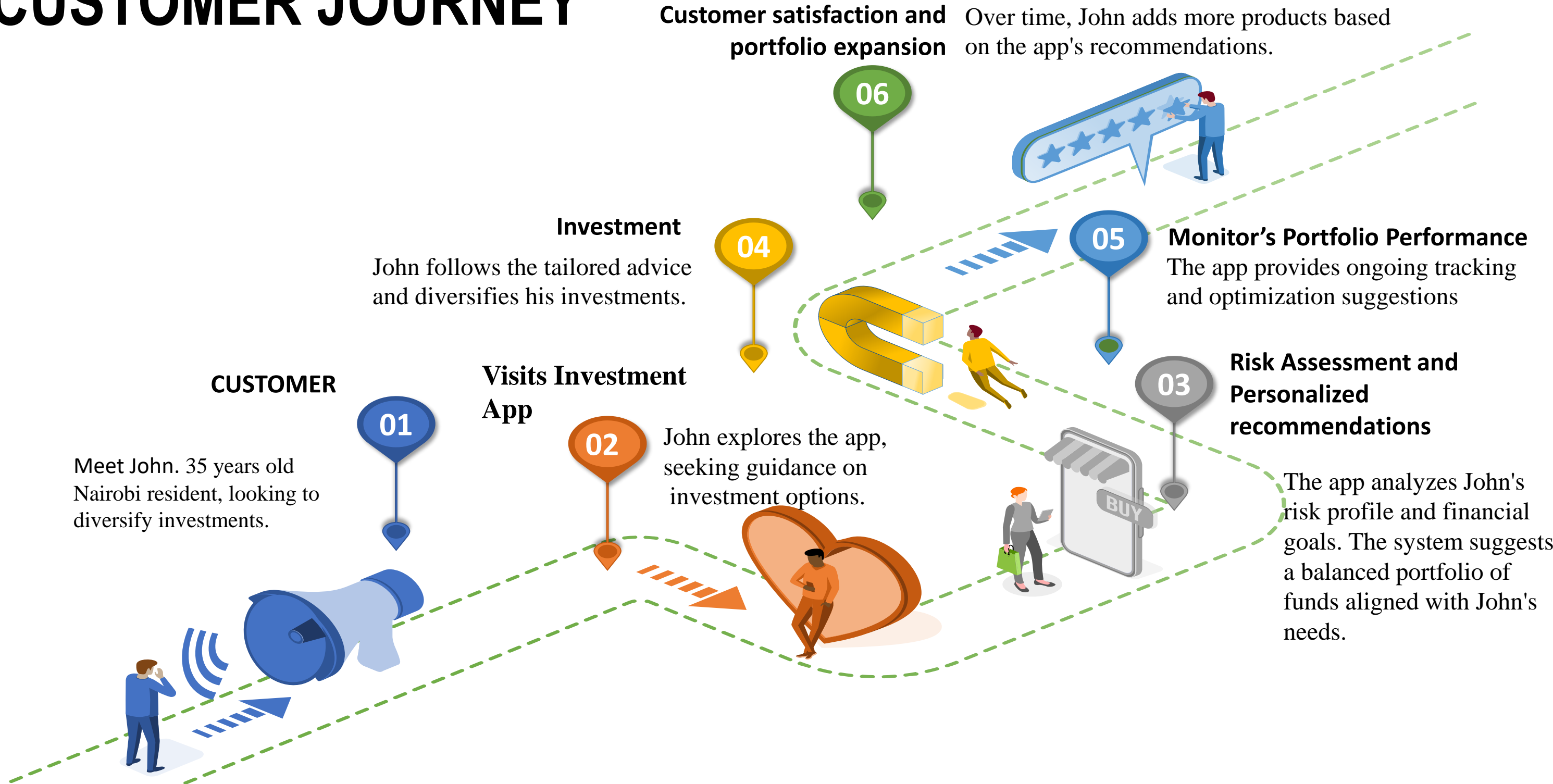📊 **Existing Customer Investment Recom**

screenrec ✕

WARNING: System Sound Recording is DISABLED!

CUSTOMER JOURNEY

Customer satisfaction and portfolio expansion

Over time, John adds more products based on the app's recommendations.

06

Investment

John follows the tailored advice and diversifies his investments.

04

05 Monitor's Portfolio Performance

The app provides ongoing tracking and optimization suggestions

CUSTOMER

01

Visits Investment App

02

John explores the app, seeking guidance on investment options.

Meet John. 35 years old Nairobi resident, looking to diversify investments.

Risk Assessment and Personalized recommendations

03

The app analyzes John's risk profile and financial goals. The system suggests a balanced portfolio of funds aligned with John's needs.

BUY

Success Metrics

The success of the recommendation system will be measured by key performance indicators that track its impact on business outcomes and customer satisfaction.

Recommendation Accuracy

The system's ability to provide accurate and relevant product recommendations based on individual investor profiles.

Customer Adoption Rates

The percentage of customers who adopt the system's recommended investment products.

Portfolio Diversification

The extent to which the system helps customers diversify their investment portfolios.

Revenue Impact

The financial impact of the system on revenue growth and profitability.

The solution Impact: Empowering Customers, Driving Growth

1

Customer Satisfaction

By providing personalized and relevant investment options, we enhance customer satisfaction, fostering loyalty and trust.

2

Enhanced Retention

Customers who feel understood and valued are more likely to stay with us, leading to increased customer retention and loyalty.

3

Revenue Growth

Cross-selling opportunities arise as customers explore additional investment options tailored to their needs, leading to increased revenue and profitability.

Next Steps: A Vision for Innovation

1

Incorporate Additional Data- Expand the dataset to include income level, risk tolerance, and investment goals for enhanced personalization.

2

Test Alternative Algorithms- Experiment with different algorithms like collaborative filtering or deep learning techniques for improved accuracy.

3

Fine-tune Rules- Continuously refine the rule-based system to better match individual investor needs .

4

Personalized Portfolio Management: Personalize products as per the customer Profiles.

A Brighter Future for Investment

This personalized recommendation system represents a significant step forward in our commitment to delivering exceptional investment experiences. We are excited to see how it empowers customers, enhances our business, and shapes the future of financial services.