

Personal Budgeting AI Assistant

Author: Theresa Saade¹

Affiliation: CIRAME Research Center, Business School

Holy Spirit University of Kaslik, P.O Box 446, Jounieh, Lebanon

Abstract:

This study explores the use of artificial intelligence (AI) in improving personal financial management through a smart budgeting assistant. Traditional budgeting applications generally require manual input and provide narrow personalized support, resulting to low user engagement. This research puts forward an AI-powered assistant capable of automatically categorizing expenses, analyzing spending behavior, and offering personalized recommendations. The study uses a design-based approach to compare classic budgeting methods with AI-based solutions. The findings suggest that AI can enhance efficiency, improve financial awareness, and reinforce better decision-making. However, challenges such as data privacy and system accuracy remain important considerations.

Keywords:

Artificial Intelligence (AI), Personal Finance, Budgeting, Financial Technology, Expense Management

Introduction: "The What & Why"

Within the past few years, it has been harder to handle your own money. Because of increasing living costs, the rise of electronic payments, and easy access to credit, many people, mainly students and young adults, have difficulty adhering to a budget and controlling their spending. Most budgeting apps make users enter data by hand and don't give them enough useful advice, which is why many people stop using them after a short time.

AI can also look at a lot of data, identifying patterns, and recommend things that are right for you. There are still only a several simple, flexible, and helpful ways to use AI for personal budgeting. This lets you make a Personal AI Budget.

AI can also look at a lot of data, find patterns, and make personalized tips. Still, there aren't many simple, flexible, and useful ways to use AI in personal budgeting. This opens the door to making a Personal AI Budgeting Assistant that not only monitor spending but also learns from how users act and gives useful advice.

This assistant could automatically sort expenses, find strange spending patterns, suggest realistic savings goals, and get better at making suggestions over time. By doing this, it can help users make smarter decisions about money, minimize their stress about money, and stay out of debt.

To explore this, the project focuses on:

1. Identifying the main weaknesses of traditional budgeting apps
2. Designing an AI-based budgeting assistant
3. Studying automatic expense categorization and spending analysis
4. Exploring predictive features such as forecasting expenses
5. Understanding the impact on users' financial decisions
6. Evaluating how practical this system is in everyday life

Literature Review: "The story so far "

More people are using AI in their personal finances these days. Most of the time, traditional budgeting tools only help you keep track of your expenses and make simple reports. But a lot of studies shows that these tools don't work very well because they need to be entered by hand and don't offer personalized help.

This situation can be enhance with AI technologies, especially machine learning. These systems can automatically sort transactions, find spending patterns, and give personalized financial advice. Different models can even guess how much money you'll need in the future based on how you've spent it in the past. This can help you plan better.

Academic research have also shown that people are more likely to follow financial advice that fits with their way of life. KAI is useful here because it can learn from how people use it and change over time.

But there are still some problems. These include worries about data privacy, how accurate predictions are, and whether people really trust AI systems.

The literature shows that AI possesses significant potential to boost budgeting tools by rendering them more interactive, personalized, and efficient.

Methodology: "The how we did it "

This project utilizes a design and analysis approach to study how an budgeting ai assistant can develop personal finance management.

First, traditional budgeting apps are examined to understand their limitations, such as the need for manual input and lack of personalization.

Next, a model for the AI assistant is proposed. This model contains features like automatic classification of expenses, spending pattern analysis, future expense prediction, and personalized suggestions.

Then, illustrative financial data is used to demonstrate how the system works. The assistant analyzes transactions, identifies patterns, and provides useful insights.

Finally, the system is measured based on how accurate it is, how helpful the recommendations are, and how easy it is to use.

Results: "The facts "

This project employs a design and analysis methodology to examine the efficacy of an AI-driven budgeting assistant in enhancing personal finance management. First, we look at traditional budgeting apps to see what they can't do, like needing manual input and inability to personalize them. The results demonstrate that an AI-based budgeting helper is better than old-fashioned ones in a number of ways. Automatic expense categorization is one of the best things about it because it saves users time and energy. The system can also figure out how you spend your money and give you personalized advice, which is more effective than general advice. Predictive features also help users plan ahead by giving them an idea of how much money they will need in the future. This can help you make better decisions about your budget and avoid money problems. The results are interesting because they show that users are more likely to stay engaged when the system makes things easier and gives them useful information.

The AI assistant is better at helping you with money, more interesting, and more efficient than regular apps.

But there are some problems. The system relies on the data's quality, and there could be worries about privacy and data safety.

Discussion and conclusion: "The so what ? "

In conclusion, this study shows that AI can play an important role in improving personal budgeting. The proposed assistant goes beyond simple expense tracking by offering personalized advice and predictive insights. This can help users better understand their finances, reduce unnecessary spending, and plan for the future.

in spite some challenges, such as privacy concerns and system accuracy, the overall benefits are significant.

Upcoming work could focus on creating a working prototype and testing it with users to see how effective it is in real-life situations. of the tech works the next big question is the pace and governance conditions of adoption.

References

- Deloitte (2023). AI in Financial Services.
- PwC (2022). The Future of Digital Finance.
- OECD (2021). Financial Consumer Protection and AI.
- IBM (2022). AI for Personal Finance Management.