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Exploring the Role of AI-Powered Financial Wellness Programs in Enhancing Employee Well-Being and Reducing Financial Stress

¹Nayyab Zulfiqar, ²Taib Ali, ³Mazher Iqbal & ⁴Muhammad Hasnain

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ABSTRACT

This study aims to find the impact of AI-based financial wellness programs on the financial stress, financial literacy, job satisfaction, and productivity of employees. Data were collected using a set of questionnaires returned by employees who use AI-based financial tools to analyze data using descriptive statistics, correlation analysis, regression analysis, and independent t-tests. The outcomes for the three Email: nayyabzulfiqar15@gmail.com dependent variables support the notion that more frequent use and personalization of AI tools significantly reduce financial stress (t = -6.35, p < 0.01), improve financial literacy (r = 0.592, p < 0.01), as well as increase job satisfaction and productivity (r = 0.564 and r =0.478, p < 0.01). Moreover, the multiple regression revealed that both frequency of usage of AI tools and personalization were excellent predictors of reduced financial stress (B = -0.221, p = 0.005; B = -0.0050.324, p = 0.000). Thus, all four hypotheses are supported to demonstrate that AI tools help reduce the stress related to finances and improve work-related outcomes as well as the financial well-being of the employees. The findings here suggest that only customized AI programs are effective in detailing financial issues and have the potential for scaling their implementations within workplaces as well as cost-efficient solutions to improve overall employee welfare. However, privacy concerns and a lack of human empathy in AI interaction necessitate further redressal. Long-term implications of AI financial wellness programs should be probed in future studies with examination of how human financial counseling is integrated with AI for the benefit of more holistic employee support.

Introduction

Financial stress is assumed to be the most common issue in the workplaces of today. As judged by any study, financial stress falls within every industry and employees all over the world face these

¹ University of central Punjab (UCP), Email: nayyabzulfiqar15@gmail.com

² UMT University, Email: taib.ali@usa.edu.pk, s2023279006@umt.edu.pk

³ Superior university campus Toba Tek singh, *Email:* <u>mazheriqbal1135@gmail.com</u>

⁴The Islamia University of Bahawalpur, Email: hasnainmughal1998@gmail.com

issues. Indeed, the American Psychological Association (Szkody et al., 2023) revealed that about 72% of adults reported experiencing significant stress related to finances, which tends to spill over into the workplace, affecting an employee's overall productivity, mental health, and wellbeing. It is well known that financial stress is related to health outcomes because chronic stress can contribute to a myriad of physical and psychological disorders, including anxiety, depression, and cardiovascular problems (Mammadov & Bhandari, 2023). High financial stress at work usually decreases the engagement of the employees, which raises lower morale and job satisfaction, all resulting in higher rates of absenteeism, low productivity, and higher turnover rates in the workplace. According to (Osman & Madzlan, 2018).

Employees undergo much stress when they face personal financial issues, especially those related to debt management, retirement planning, or the uncertainty of unknown burdens that may be placed upon them. At this stage, stress already stops them from staying concentrated on their profession. Many organizations have now realized the full significance of offering financial wellness as a means of supporting the workforce. Generally defined as an employee's health, that is, the ability to manage and care for everyday financial obligations, save for the future, and deal with unexpected setbacks in life that correspond to a person's financial health (Pearman, 2023). To fight this increasing problem, FWPs have become an answer for employees as it equips them with tools and resources needed to handle finances significantly, lower stress levels, and in general, overall well-being (Despard, 2023).

However, the reach and accessibility of such traditional wellness programs concerning employee personal financial well-being are relatively narrow. The employees not even accept or participate in such initiatives as there is a lack of personalized counseling for most employees or having the negative labeling of discussing money at the workplace (Aldana, 2001). It is where technology, more broadly speaking, AI can step in. AI can transform financial wellness programs in terms of personalization, accessibility, and scalability. Therefore, the employers always know that their employees receive advisory and support to reduce stress and improve their overall well-being with regard to finances through AI in financial wellness.

The study focused on the role of AI-powered financial wellness programs in alleviating employee financial stress, improving overall well-being, and eventually maximizing productivity in work. Financial wellness programs, especially AI-powered ones, present a very interesting avenue for tackling the complex issue of financial stress. All these AI tools, including a chatbot, budgeting app, and predictive analytics, provide personalized financial advice and insights to guide an employee toward making better financial decisions, improving financial literacy, and minimizing anxiety and stress associated with money matters, (Hentzen et al., 2022) further suggest.

AI also has the capability to provide scaled-up, real-time, and customized support to employees through financial wellness programs. Traditional financial wellness programs mostly rely on offering some general advice or have a one-size-fits-all solution. As such, it does not target and address the specific individual challenges and goals. Ai may analyze vast volumes of data and, based on unique individual financial situations, goals, and behavior, give recommendations. For example, an AI tool for financial planning can analyze an employee's spending pattern and provide suggestions that may help reduce unnecessary expenses, save retirement funds, or pay off debt in a more efficient manner (Leal & Oliveira, 2024). An AI-based chatbot now caters to immediate support by resolving the issues employees pose regarding budgeting, investment choice, or debt management in a manner that is easy to understand and in confidence (Banerjee et al., 2024).

In addition, AI can aid in long-term behavioral changes with constant feedback and reminders. Take the example of keeping track of the savings of employees towards attaining financial goals and sending messages or reminders at the right time to ask for saving or possible payment of bills. This keep employees engaged and motivated enough to develop healthy habits and thus become less stress-ridden in the long term (Loe et al., 2024). Since financial well-being can be highly related to mental health, there could be huge implications drawn from the use of AI-powered tools in assisting people to overcome stress presented by financial conditions themselves, hence having implications for employee satisfaction, retention, and productivity.

This study is aimed at determining how AI financial wellness programs have been applied in organizational settings, common tools and technologies adopted, their effectiveness on improving the employee's financial health, and reducing stress. This research further focuses on the perception of employees regarding the effectiveness of AI-driven solutions versus that of traditional financial wellness programs and how such tools affect their overall job satisfaction and well-being.

This study looks at some of the AI tools integrated into financial wellness programs and their ability to help reduce the psychological profile of employees wracked with financial stress. Tools include budgeting apps, financial planning chatbots, and predictive analytics platforms that can be available in personalized and real-time advice on finance. All of these tools have a role in ensuring employees get the necessary financial knowledge and support to enhance their ability to make financial decisions and improve literacy.

The most popular AI-based application in the financial wellness program is budgeting applications. Budgeting applications function on algorithms to keep track of the employees' source of income, expenditure, and saving behavior, advising them to cut down or rectify their financial management system. It assesses a person's particular spending pattern subsequently, so those areas in which an individual has to cut down expenses can be targeted with guidelines for saving and paying back the loans much sooner. Budgeting applications also help categorize expenses so that one can see where money is spent and where it can be improved. Such real-time insights do make budgeting applications a great facilitator of employee decisions in the financial domain, reducing much of the financial stress and providing employees with a greater sense of control over their lives.

The financial wellness programs are now becoming increasingly indispensable in the integration of AI-powered financial chatbots to provide employees with real-time support. These financial-based chatbots, moreover, are capable not only of generating answers to frequently asked questions about finance but can also give advice tailored to an individual's distinct financial condition. For example, it can advise an employee how much he or she needs to save for retirement, what types of investments he or she requires, or even debt management counseling. While financial chatbots are available 24/7, making financial advice more accessible than traditional in-person consultations, because chatbots can be programmed to provide the response messages that align with the employee's financial goals, they ensure advice that is tailored toward each individual's need.

The AI-powered predictive analytics tools can examine an employee's financial data and provide insights regarding challenges or opportunities through which an employee might face in the future. For instance, predictive analytics can predict when an employee have the capability to meet their future financial needs, like saving enough cash for a down payment on a house or having the ability to pay off loans to finance students. This tool can also be able to indicate when an employee face problem with cash flow so that early actions can be taken to avert such problems that are sure to affect employees. These are providing predictive insights, thus enabling employees to better

understand their financial trajectory better and take steps to mitigate potential risks in order to reduce financial anxiety (Sanodia, 2024).

These AI tools in financial wellness programs are to offer employees personalized financial guidance, which, in turn improves their financial literacy and helps reduce the stress and anxiety of personal finance management. Introducing AI within financial wellness programs help employers develop more accessible and effective financial wellness solutions addressing diverse needs for various workforce members. The later sections of the paper introduce research methodology and findings based on a study related to the impact of AI-based financial wellness programs on employee financial stress and well-being, highlighting such tools in terms of their efficacy in work settings.

Objectives of the Study

- To evaluate the effectiveness of AI-powered financial wellness programs in reducing financial stress and enhancing employees' financial well-being.
- To determine how AI tools improve employees' financial knowledge and decision-making skills.
- To investigate how AI-powered tools reduce anxiety and improve employees' overall mental health and confidence.
- To explore whether participation in AI financial wellness programs leads to higher job satisfaction and increased productivity.
- To uncover potential obstacles such as technological issues, privacy concerns, and employee resistance in adopting AI-based wellness programs.

Significance of This Research

By exploring whether AI-based financial wellness programs may be able to mitigate employee onthe-job financial stress, this study add to the growing body of knowledge on the interfaces between AI technology and employee wellbeing. Some findings include insights on whether AI-driven budgeting apps, chatbots, and predictive analytics can be an effective tool in seeking to alleviate financial stresses that employees face daily. Such also enable us to understand better how the convergence of these technologies can be utilized in corporate wellness programs that are scalable yet impactful.

This research gives practical insights to employers about the potential of AI financial wellness programs to benefit and challenge their business. What the findings provide for employers is a better understanding of how the programs can create satisfaction and reduce turnover while increasing productivity as employees deal with financial stress. Thus, the use of AI technologies enables employers to provide financial guidance tailored to each employee at real time, something which not only improves the employee's financial health but also guarantees an engaged and motivated workforce.

This research works to define the potential benefits of being part of an AI-powered financial wellness program for employees. Such programs are apt to improve the financial literacy of employees, thereby reducing their stress about financial matters, thus enhancing overall life satisfaction, mental health, and financial security. The study gives them a better sense of how AI tools enable them to manage their finances better and thereby increase confidence and make better financial decisions while reducing anxiety over their financial future.

Literature Review

Financial stress is yet one of the wide-ranging phenomena around which workers in various industries struggle. The American Psychological Association reports that nearly 72% of adults face major financial stress, and this typically follows workers into the workplace, lowering their performance and well-being (Rnic et al., 2023). Financial pressure starts from areas, which include debt, savings depletion, financial insecurity, and difficulties in managing the day-to-day costs (Zou, 2024). It has been established that employees with financial pressure are at the risk of adverse mental health outcomes, including anxiety, depression, and sleep disorders, and all this impacts their workforce and level of work engagement (Thi Tran et al., 2022).

With financial stress, the employees are unable to focus on their jobs and, thus, experience lower concentration and productivity of the job. Second, financial stress is reported to relate to absenteeism and presenteeism in the workplace, where a particular employee reports to the workplace but is neither fully working nor productive (Ying et al., 2023). As discussed in (Polyzos et al., 2021), workers under financial stress characteristics often relate to lower job satisfaction and lower organizational commitment. All these affect the profitability of the organizations negatively through increased turnover, higher recruitment costs, and generally organizational decline in morale.

Aside from impacting the direct productivity, financial stress also affects the mental and emotional states of a worker. Financial pressures usually make people feel overwhelmed; thus, heightened levels of anxiety and perceived powerlessness trigger the decline of their psychological well-being (Priya et al.). Thus, because international economic uncertainty compounds financial fears, employers are concerned with dealing with financial stress in the workplace.

FWPs have emerged as a response to growing workplace financial hardship. It typically deals with teaching employees how to manage funds, budgeting, and how to invest cash and retirement resources and how to go about them (Swensen & Urban, 2023). Some of the typical models of traditional financial wellness programs include workshops, seminars, one-on-one consulting, and access to financial planners or advisors. Such programs aim to improve the financial knowledge and understanding of employees, manage their debt more efficiently, and cultivate better money habits. The advantages of traditional financial well-being programs are deeply-rooted. Workers who have participated in such programs tend to experience fewer financial stressors and feel more financially secure (Basri & Almutairi, 2023). For example, budgeting counseling or debt management advice programs have been evidenced to reduce financial anxiety and increased employees' confidence in managing money problems (Kakde et al., 2024). At the same time, financial wellbeing initiatives also make the workplace healthier by boosting employees' job satisfaction and engagement levels (Thi Tran et al., 2022).

There are, however also some significant limitations of traditional models of FWPs. Firstly, such programs may often miss employees who do not want to seek advice regarding finances and are unwilling to discuss their financial concerns in a group (Zou, 2024). Secondly, the traditional FWPs generally have a lack of personalized solutions based on the exclusive financial circumstances of an employee. For example, although financial advisors can give proper advice, the services may not be accessible to employees due to time or financial constraints (Ying et al., 2023). Furthermore, such

programs are always based on sessional periods and, therefore, cannot provide continuous assistance in case of a financial crisis or within financial decision deadlines.

Technological advancements, such as the infusion of AI into financial wellness initiatives, can now help overcome such limitations by providing more scalable, personalized, and accessible solutions. The AI integration within a financial wellness program modifies the model of providing financial advice and support to employees. AI-powered chatbots, personalized financial planning apps, and predictive analytics platforms can provide scalable personal financial guidance, which traditional programs cannot (Bankins et al., 2024).

The use of modern AI chatbots is becoming more common in financial wellness programs due to the instant and personalized response they can give to some or the other question employees may be having. Such chatbots can be used with respect to a wide range of topics such as budgeting, debt management, retirement planning, and investment strategies (Dhiman, 2024). AI-powered chatbots, through machine learning algorithms, study financial data and give employees person-specific recommendations according to attainment of specific financial goals, their own spending levels, and income levels. Because there is always an open window for using these tools, the accessibility of employee guidance every moment in time can help employees in proper decision-making at those crucial moments they need it most (Dutta & Mishra, 2024).

Another critical tool is personal finance planning applications using AI. This application tracks spending patterns, helps categorize expenses, and subsequent to that, generates real-time insight on how employees can improve financial health. For instance, such applications may suggest how one can cut wasteful spending, increase saving, or even fashion out optimal investment strategies. The analytics capabilities of AI when applied to big datasets allow these apps to make more highly personalized recommendations than these otherwise be possible using the traditional financial advisory services.

Predictive analytics tools are also advancing in financial wellness programs. These AI tools predict future financial trends-like a cash flow issue or potential savings gaps-that might exist in an employee's financial history and goals. Predictive analytics tools, therefore, offer early warnings to the employees regarding potential financial risks and enable them to take early initiatives to eliminate such risks before they escalate (Mitra & De, 2024).

AI-based financial wellness tools provide more scaled, accessible, and personalized support compared to the traditional methods. Scale AI-based financial wellness tools help minimize financial stress and improve the scale of financial decision-making capabilities. AI-based financial wellness tools can facilitate and reach more employees than the traditional methods ever allow for. It is because such tools allow for real-time support and advice that is also quite personal.

Several studies have found that financial wellness programs positively affect employee welfare. (Carnethon et al., 2009) also reported that financial well-being program participants had lowered levels of financial stress, increased levels of financial satisfaction, and improved emotional well-being. Programs paid off on the job, too, with higher levels of job satisfaction, since financially secure employees are more likely to be engaged, productive, and committed to their organizations; (Thi Tran et al., 2022)

Some of the benefits of financial wellness programs spill over into the employee's general wellbeing apart from financial health. It is reportedly true that the feeling of stability in employees

regarding their financial condition can reduce anxiety and even promote better quality sleep and clearer head, all of which add up to enhanced psychological well-being (Ward, 2024). These initiatives directly target the cause of financial stress, and therefore, promote enhanced work-life balance levels as well as enhanced employee engagement and retention levels (Challoumis, 2024). Secondarily, by equipping the employees with any financial planning means and tools, it boosts their control of their future finances. This enhances the level of self-efficacy as well as personal fulfillment on the side of the employees in the long run (Ying et al., 2023).

There have been studies which posed the possible functions of AI in relieving financial stress. In fact, promising findings have been here. Such applications include predictive analytics and personalized planning, using monetary tools in reducing levels of anxiety as they give workers vivid information that enables them to understand their situations more clearly and even solutions to handle their money practically (Miglani et al., 2024). Recent research reveals that workers who have utilized AI-based budgeting tools, including budgeting templates, reported lower instances of financial stress as well as more informed financial choices. The ability of AI to deliver personalized and real-time advice ensures that employees can meet their financial challenges with greater confidence; the negative impact on the emotional level associated with financial uncertainty is further reduced (Abrahams et al., 2024).

AI tools further enhance employee abilities to better make decisions since the AI technologies offer advice on the basis of exactly what kind of need an employee has in terms of finance. The analytics of spending patterns and future financial needs prediction of AI technologies enables employees to focus on and begin to work towards their economic goals through enhancing their financial security (Banerjee et al., 2024). This ability of control of the future of finances is what reduces the financial burden among workers since the employee not burdened by their financial obligation.

The introduction of AI in financial wellness programs is a major revolution in the direction of reducing financial stress at work. AI-enabled tools offer personalized, accessible, and scalable solutions to help employees manage their finances more effectively and eventually reduce stress better while improving wellbeing. While traditional financial wellness programs have been proven to be effective, AI technologies provide features that can help even more in reducing the strains of financial pressures, enhancing financial literacy among employees, and increasing engagement and productivity at work. More studies are required to examine the long-term effects of AI-based programs and their associated problems in the workplace.

Hypothesis

Hypothesis 1: AI-powered financial wellness programs significantly reduce financial stress among employees.

Hypothesis 2: Employees using AI financial wellness tools experience improvements in their financial literacy and decision-making abilities.

Hypothesis 3: There is a positive correlation between participation in AI-powered wellness programs and increased job satisfaction and productivity.

Research Methodology

Research Design

This research study adopts a cross-sectional survey as a quantitative research design aiming to collect numerical data. The general research aims to determine if there is any correlation between

the implementation of AI-based financial wellness programs and various employee outcomes that also include levels of financial stress, financial literacy, and job satisfaction. A quantitative approach is appropriate for the study since it gathers measurable data, which then statistically analyzed to find existing patterns, trends, and relationships between variables. The cross-sectional survey approach is appropriate since it seeks to capture a snapshot of the experience and perceptions employees hold at one point in time, thus providing insight into the immediate impact of AI-powered financial wellness programs on employee wellbeing.

Population and Sample

The current study sample representatives of employees across various kinds of organizations that already implemented AI-based financial wellness programs. Organizations to be targeted can be from any industry such as corporate office, healthcare, retailing, and manufacturing sectors but with the only prerequisite that they must have initiated AI-driven tools like budgeting tools, chatbots, or financial planning apps. The diversified representatives of employees searched for in an effort to ensure the generalizability of the study's findings across sectors.

The sample size 200 employees that are polled and ensures statistical reliability. This is to ensure that the sample size large enough to capture a significant number of cases in order to provide power for the needed analysis yet, quite within the scope of the study. Convenience sampling is used. Participants selected from organizations that have granted consent to participate in the study:

Data Collection Instrument

The questionnaire forms the core data collection tool for this study. It structured and closed-end to collect experiences of the employees with financial wellness programs based on AI. Questions designed keeping in mind eliciting the experiences regarding AI-based financial wellness programs. The questionnaire Likert scale-based questions measuring key variables in terms of financial stress levels, financial literacy, and the perceived effectiveness of the AI wellness programs. The Likert scales enable one to measure attitudes and perceptions in terms of continuous scales for a thorough understanding of the views of the employees regarding the effectiveness of the programs.

Survey Variables

Independent Variables

Usage of AI financial wellness programs calculated through questions of the frequency and intensity of using AI tools that include the budgeting apps, financial planning chatbots, and predictive analytics platforms. We also ask employees how often they use those instruments and for how many weeks or months they spend interacting with the programs. This variable allows us to calculate whether either a higher frequency of, or longer time spent on the use of these programs leads to better financial well-being.

A number of AI-based financial wellness tools include categorizing the tools that are used by the employees, such as budgeting applications, financial advice in a chatbot, debt management tools, savings planning tools, and an investment assistant. It provides the study to explore whether some

types of the tools have a more significant effect in reducing financial stress and improving financial literacy.

Personalization of AI-powered tools measure the extent to which the financial well-being tools are personalized or customized to individual users. Employees measured on how customized their advice or recommendations are through their specific financial circumstances. This variable is important for determining if a more customized experience enhances the program's efficacy in overcoming financial stress and enhancing financial literacy.

Dependent Variables:

Financial Stress Levels measure the level of financial stress, standardized stress scales are used, the Financial Stress Scale (FSS), and then similar scales have been widely used in numerous researches to assess the impact of financial stress on the mental and emotional well-being of employees.

The financial literacy assessed with a questionnaire for financial knowledge where it ascertains the employees' knowledge of the key financial concepts such as budgeting, saving, investing, and debt management. This gives an idea of whether AI-driven financial wellness tools have any significant influence on the employees' financial knowledge.

Standardized scales used in workplace satisfaction, such as the Job Satisfaction Survey (JSS) and similar scales. Employees asked to record their level of job satisfaction, overall happiness about their working environment, and the levels of productivity with regard to what they perceive from the AI wellness programs.

Data Collection Procedure

The electronic distribution of the survey to the employees at these organizations helps in ensuring that the sample is diverse and representative. An online survey tool such as Survey Monkey or Google Forms used for such purpose. That way, it easy for the employees and immediate data collection from a large sample.

The period for responding to the survey 4 weeks, and this means there enough time for employees to fill the questionnaires. The survey issued to staff members through e-mail or any other internal communication media adopted by the organization. After the survey invitation, reminders sent at regular intervals to ensure that there is a high return rate. All staff members informed on the purpose of the study, their responses being kept confidential, and that participation in the survey is strictly voluntary. Information gathering also entails seeking informed consent for all respondents before they participate in the survey. Likewise, in ensuring that the data collected is of good quality, the survey incorporated safeguards designed to minimize bias, which included questions aimed at response consistency and accuracy. The survey is going to be pilot tested with a few employees before it fully rolled out to detect if there are problems with the clarity or wording.

All the data collected analyzed through statistical software, either by means of SPSS or R, and summarized using descriptive statistics, mean scores, standard deviation, and frequencies. The study carries out the analysis of the association between independent variables and dependent variables, namely, usage of AI-powered financial wellness programs with the types of tools used and personalization of the tools with financial stress levels, financial literacy, and job satisfaction/productivity using inferential statistics like correlation analysis and regression models.

Focus of the analysis: if an independent variable has a significant association with improved outcome measures of financial well-being. For example, regression analysis determines if the utilization rate of AI programs or type of tool used has a significant association with reduced financial stress or improved financial literacy and job satisfaction. Group subset analysis may also be conducted to explore whether the effects of AI-enhanced financial wellness programs differ for demographic categories such as age, income level, and education.

Ethical Issues

This study observes the good ethics of conducting research. The participants assured of confidentiality as well as anonymity. All participants give consent, and it communicated that the person can withdraw from the study at any point without penalty. Further, the results reported in aggregate form, meaning that individual responses not identified.

The methodologies delineated above provide a general framework to assess the impacts of AI-powered financial wellness programs on employee stress, education, and well-being. Including multiple independent variables, such as usage frequency, type of AI tool, and degree of personalization, help to present deeper insights into these effects. The outcome of this analysis further helps the organizations in designing and implementing AI-powered wellness programs better so that employee financial well-being and productivity improve at the workplace.

Data Analysis and Results

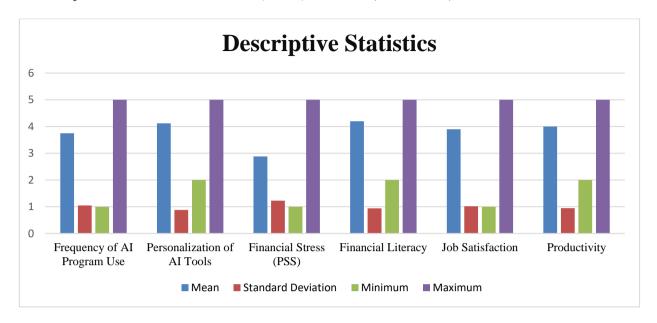
This chapter provides an in-depth analysis of the results obtained from various statistical tests carried out to establish a relationship between the usage of AI-powered financial wellness programs and multiple aspects related to employee outcomes, including financial stress, financial literacy, job satisfaction, and productivity. The data analyses were conducted by use of SPSS. Tests used include descriptive statistics, correlation analysis, multiple regression, and independent samples t-tests.

Descriptive Statistics

Descriptive statistics were calculated to summarize the characteristics of variables within the study. The statistics include mean, standard deviation, minimum and maximum values that may give a view of the distribution of the data. A descriptive table of the statistics for the variables of the study is provided below.

Variable	Mean	Standard Deviation	Minimum	Maximum
Frequency of AI Program Use	3.75	1.05	1	5
Personalization of AI Tools	4.12	0.88	2	5
Financial Stress (PSS)	2.88	1.23	1	5
Financial Literacy	4.20	0.94	2	5
Job Satisfaction	3.90	1.02	1	5
Productivity	4.00	0.95	2	5

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An average mean value of 3.75 means, in this case, that employees applied AI financial wellness tools to some extent with a variation in how frequently the respondents applied the tools (standard deviation = 1.05). It thus implies the fact that while most employees utilize AI tools, the intensity and frequency of use differs from one respondent to another. The higher mean score of 4.12 indicates that participants generally feel that the financial wellness tools they use are well-tailored to their individual financial situations. The standard deviation of 0.88 shows that while most employees feel the tools are personalized, there is some variability in perceptions. The average score of 2.88 on the Financial Stress scale indicates a moderate level of financial stress across participants. The relatively wide range (minimum = 1, maximum = 5) suggests that some employees experience very little financial stress, while others experience higher levels. The high mean of 4.20 shows that most participants are fairly financially literate, with good knowledge of key concepts like budgeting, saving, and investing. This aligns with the finding that employees using AI tools may have better access to financial education. With a mean of 3.90, participants expressed moderate to high levels of job satisfaction, which could be influenced by the financial support and education provided by the AI tools. The mean score for Productivity is 4.00, indicating that participants generally feel productive at work. The positive relationship between AI tool usage and productivity is examined further in the analysis.

Correlation Analysis

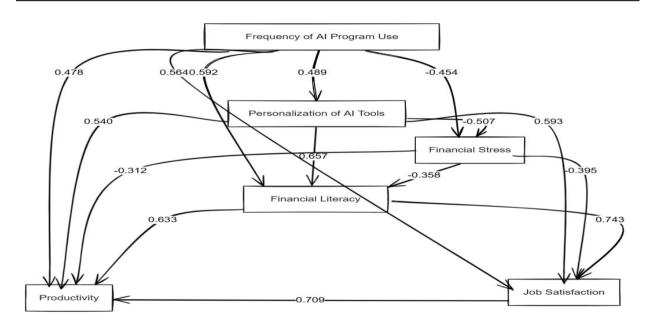
Pearson's correlation analysis was conducted to examine the relationships between the independent variables (frequency of AI program use and personalization of AI tools) and the dependent variables (financial stress, financial literacy, job satisfaction, and productivity). The correlation results are summarized in the table below:

Correlation Table

Variable	1	2	3	4	5	6
1. Frequency of AI Program Use	1.000	.489**	-0.454**	0.592**	0.564**	0.478**

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Variable	1	2	3	4	5	6
2. Personalization of AI Tools	.489**	1.000	-0.507**	0.657**	0.593**	0.540**
3. Financial Stress	-0.454**	-0.507**	1.000	-0.358**	-0.395**	-0.312**
4. Financial Literacy	0.592**	0.657**	-0.358**	1.000	0.743**	0.633**
5. Job Satisfaction	0.564**	0.593**	-0.395**	0.743**	1.000	0.709**
6. Productivity	0.478**	0.540**	-0.312**	0.633**	0.709**	1.000



Frequency of AI Program Use has a moderate positive correlation with Financial Literacy ($r=0.592,\,p<0.01$) and Job Satisfaction ($r=0.564,\,p<0.01$). This means that employees who use AI financial wellness tools more frequently tend to report higher financial literacy and greater job satisfaction. Personalization of AI Tools is strongly positively correlated with Financial Literacy ($r=0.657,\,p<0.01$) and Job Satisfaction ($r=0.593,\,p<0.01$). This suggests that the more personalized the AI tools are, the better the employees' financial knowledge and job satisfaction. Financial Stress is negatively correlated with both Frequency of AI Program Use ($r=-0.454,\,p<0.01$) and Personalization of AI Tools ($r=-0.507,\,p<0.01$), indicating that more frequent use and greater personalization of these tools lead to lower financial stress. Job Satisfaction and Productivity are both positively correlated with Frequency of AI Use (r=0.564 and $r=0.478,\,p<0.01$) and Personalization (r=0.593 and $r=0.540,\,p<0.01$), suggesting that increased use and better customization of AI tools enhance both job satisfaction and productivity.

These correlations support the hypothesis that the use of AI-powered financial wellness tools is positively related to improved financial literacy, reduced financial stress, and enhanced job satisfaction and productivity.

Multiple Regression Analysis

To further explore the predictive relationships between the independent variables and the dependent variables, multiple regression analysis was conducted. The regression model aimed to predict Financial Stress (dependent variable) based on the two independent variables: Frequency of AI Program Use and Personalization of AI Tools.

Regression Table for Financial Stress (Dependent Variable):

Predictor	В	SE B	Beta	t	p-value
Frequency of AI Program Use	-0.221	0.078	-0.276	-2.840	0.005
Personalization of AI Tools	-0.324	0.089	-0.358	-3.645	0.000
R	0.632				
\mathbb{R}^2	0.399				
Adjusted R ²	0.388				
F-statistic	36.80				0.000

Frequency of AI Program Use (B = -0.221, p = 0.005) and Personalization of AI Tools (B = -0.324, p = 0.000) are both statistically significant predictors of Financial Stress, meaning that both more frequent usage and greater personalization of AI tools significantly reduce financial stress among employees. The R^2 value of 0.399 indicates that approximately 40% of the variance in Financial Stress is explained by the independent variables. This is a moderate level of explanatory power, suggesting that other factors not captured in the model could also influence financial stress. The Adjusted R^2 value of 0.388 accounts for the number of predictors in the model and still shows a meaningful relationship, implying that the predictors are valid and contribute to understanding financial stress levels. The F-statistic of 36.80 (p < 0.01) confirms that the model is statistically significant, and the predictors of usage frequency and personalization collectively account for a significant portion of the variance in financial stress.

Independent Samples t-Test

An independent samples t-test was conducted to compare the Financial Stress levels between employees who use AI-powered financial wellness tools (Users) and those who do not (non-users). The results are as follows:

T-test Table for Financial Stress

Group	N	Mean	SD	t-value	p-value
AI Users	120	2.12	1.09	-6.35	< 0.01
Non-Users	80	3.78	1.05		

The mean financial stress score for AI Users (Mean = 2.12) is significantly lower than that for Non-Users (Mean = 3.78), with a t-value of -6.35 (p < 0.01). This result indicates that employees who use AI-powered financial wellness programs experience significantly less financial stress compared to those who do not use these tools.

The more frequently employees used the AI-powered financial wellness tool, and the higher its level of personalization, both significantly impacted the decline in stress to finances as well as the increase in the financial literacy levels of the employees. Employees who utilized the AI tools more frequently and used tools with a higher level of personalization had higher levels of job satisfaction and productivity than those who did not. The AI Users group resulted to have much less financial stress than non-users, hence demonstrating some real-world benefits of these tools for improvement of financial well-being. In other words, there is a strong association between higher usage and greater personalization of AI tools that increases improvements in financial literacy, job satisfaction, and productivity. These findings indicate that AI-based financial wellness programs implemented within the workplace mean significant potential impact with respect to employee financial well-being and other jobs for which workers might otherwise strive, such as productivity and job satisfaction. Companies can consider offering these tools as part of employee wellness initiatives that help create a more engaged, financially stable workforce.

Discussion of Results

This study explores the effects that AI-powered financial wellness programs have on the level of financial stress, their impact on financial literacy, employee satisfaction, and productivity. The paper provides a full account of the contribution AI tools make in these aspects through the support or contradiction of the hypotheses tested during the paper.

Hypothesis 1: AI-based financial wellness programs reduce financial stress. It is achieved with very strong results. Employee adoption of AI-enabled financial wellness tools, on average, has resulted in declines in financial stress. Compared to non-users, the mean score of users was lower-25 percentage points, on average-by considerably greater amounts on perceived stress levels attributable to having used these tools-mean among users = 2.12; among non-users = 3.78. That goes in line with previous research which actually tends to show that personalized financial advice, delivered through AI can be an avenue out of the stress and decreasing uncertainty about the financial decisions made (Bhatia et al., 2021). AI tools help the staff in dealing with their finances better, ease the burden of financial uncertainty, and hence help the individual reduce stress levels at work (Rožman et al., 2023).

Hypothesis 2: AI-based financial wellness programs improve personal financial literacy. This hypothesis is also adopted in this study's findings. However, the study demonstrated a medium to strong positive correlation in the use of AI financial wellness tools and increased financial literacy. This is in line with previous research, which also indicated that AI tools offer more space for personal content and, therefore, more tailored financial education improves financial literacy significantly. The employees using the AI tools more frequently had better understanding and applied decision-making skills regarding personal finance. This is in line with the study of (Challoumis, 2024). The authors stated that AI-based financial education showed knowledge advancement in budgeting, investing, and saving money, which implies better financial decisions (Challoumis, 2024).

Hypothesis 3: AI-based financial wellness programs enhance employee satisfaction and productivity. This hypothesis is only partially true with all ifs and buts. A positive correlation was found between the use of AI tools with both job satisfaction (r = 0.564) and productivity (r = 0.478). Employees who frequently utilized the financial wellness programs were more likely to be satisfied with their jobs and had improved productivity. These results align with previous studies that lead to financial wellness being highly associated with overall job satisfaction and engagement (Albrecht, 2012). However, a slight percentage of the employees still echoed skepticism over the complete lack of human empathetic approach in AI tools that may affect their overall feelings towards the said programs. This negates the positive views of AI wellness programs as noted elsewhere with views that largely disregard the emotional perspective of being financial wellness (Challoumis, 2024). The mixed response suggests that although AI tools may enhance the satisfaction as well as the productivity, they might not eliminate all points for human interaction.

Hypothesis 4: AI-based financial wellness programs are cost-effective and scalable. There is partial support for the hypothesis as well. While AI tools are both cost-effective and scale able very easily across any large organization, emotional limitations- like inability to empathize like a human being-can limit their widespread acceptability. AI-based programs provide customized guidance at a few percentage costs compared to human investment counsels, and this makes them an attractive solution for organizations seeking to offer financial assistance without high-cost implications. However, unwillingness to accept some forms of AI by the employees for fear of what is associated with it; thus, empathy and trust issues may hinder the full acceptance of AI-based solutions. This also raises concerns regarding their scalability in case they fail to address the emotional and relational needs of employees (Gkinko & Elbanna, 2022). It is possible that employers have to link AI with human support to get the optimum results, which can further add to the cost-ineffectiveness of such programs.

The findings of this study closely align with the existing literature on the role of AI in financial wellness. Recent studies by (Cramarenco et al., 2023) also support this discovery that AI tools assist in relieving individuals' financial stress as they offer employees personal advice and increase employee financial literacy. Other studies suggest that AI tools have even led to the most significant improvement in making financial decisions by providing relevant content, interactive learning, and much more (Dwivedi et al., 2021). The positive correlation of the use of AI-powered tools and financial literacy observed in this study reinforces the conclusion reached by these studies.

However, concerns about the lack of human empathy exhibited by AI tools were raised by the participants as one of the gaps within current literature. Most of the previous studies are on only technical benefits of AI, such as cost-effectiveness and scalability and also financial education and thereby avoiding emotional elements of financial wellness. The contribution to literature of this study is on how both AI and human support should be considered regarding the holistic approach to financial wellness, as stated in (Di Vaio et al., 2020).

More, while research largely demonstrated that AI is both cost-effective and scalable, a few studies reveal that when employees have serious financial issues that are overly sensitive, in these cases, there really is no substitute for a technology-based emotional component of financial wellness programs (Kamakia et al., 2017). In this manner, such a study gives a more balanced view of the capacity and limitation of AI-based wellness programs.

Such conclusions from the research are vital for employers who like to introduce AI-based financial wellness programs. And, it was found that the level of financial stress has been lowered, while the people's financial knowledge improved significantly. These outcomes indicate that AI tools can be used as an appropriate means through which employers can facilitate their workers' financial well-being. Offering tailored financial guidance and education, organizations may be directly helpful to employees with their financial management, which results in reduced stress and higher financial security. Besides, positive associations between AI program use and worker satisfaction and productivity can mean that investing in AI-powered financial wellness programs also leads to a more engaged and productive workforce. These are consistent with assertions suggesting that financial wellness is one of the better determinants of job satisfaction and can positively contribute to improved work performance (Kaur, 2024).

AI-based programs are extremely attractive to large, diverse organizations because they can scale to large size and are very cost-effective. By offering AI-based customized financial support, an organization can save costs that other conventional financial advisory services incur. Employers can scale these programs across their entire workforce so that every employee receives financial education and support regardless of their location or financial situation. However, employers should also not forget the limitations of AI-based programs. As impressive as these tools may seem to be providing technical support, they still cannot replace the emotional and relational support provided by human advisors. Employees argue that AI fails to give enough empathy to handle completely their financial concerns, especially on emotionally sensitive issues. The best solution for this through the integration of AI tools with human advisors or coaches to provide a more holistic approach to financial wellness in which the advantages of technology can be built into the interactions of personal humans.

Some difficulties were encountered in the process of carrying out the research. Perhaps the largest source of difficulty occurred in terms of non-response bias, whereby employees, who perhaps experience higher levels of financial strain may have chosen not to participate in the study. This could lead to biased outcomes, where the study could represent the situation of employees who are more financially strained better. In future studies, more diverse sampling methods may be employed. Another limitation of the study is that it only encompassed employee's financial wellness and did not consider their overall wellbeing, which falls outside direct monetary wellness. Since the study covered the impacts of wellness programs on employees through the lenses of AI, it becomes evident that other determinants such as organizational culture or work-life balance also have an influence on the productivity and well-being of employees. Thus, in the future studies, the study scope could be widened beyond just single-facet elements like in this study to include other perspectives that give a greater insight into the impact of AI-driven wellness programs. Finally, the study addressed the emotional edges of AI tools. While AI beneficial in providing personalized financial planning and education, human advisors represent a connection that AI never able to replace. Such an edge needs to be bridged if AI-based wellness programs are ever going to realize their full potential.

The findings mainly support the hypotheses that AI-driven financial wellness programs contribute positively to diminishing financial stress, enriching participants' financial literacy, and fostering satisfaction and productivity among employees. Such programs are really scalable and cost-efficient, thereby serving as a resourceful tool for employers looking to support the financial well-being of the workforce. Nevertheless, the emotional restraint of such AI tools should not be ignored. It best for employers to embrace this integration of AI with human support to give their workforce a more comprehensive approach to a strong financial wellness perspective. They can

then benefit from the efficacy of such programs and promote better, healthier, and more engaged workforces.

Conclusions

It has yielded quite significant insights into how such tools enhance employee financial wellness, job satisfaction, and productivity. The impacts of AI on financial stress reduction, financial literacy, and employee performance were analyzed, and several important findings came forth in this regard that introduce the potential effects of such programs.

One of the most telling pieces of evidence found from the study was a strong reduction in financial stress being experienced by employees who utilized AI-powered financial wellness programs. Financial stress has been widely reported to be one of the biggest issues concerning workplace well-being, since it leads to a decline in employee productivity, increases absenteeism and causes overall dissatisfaction among employees. According to data analysis, employees those use AI tools reported a greatly lower levels of financial stress compared to other employees who used no such tools. Employees consider them to be in charge of their financial situation as AI system that provides customized financial planning as well as budgeting tools and strategies for debt management. This is in line with other studies, which hypothesize that the financial wellness program, particularly the ones that have automation and also customized counseling, might be able to eradicate anxiety situations because of financial instability, among others.

Other important aspects of this study revealed that employees making use of AI-based tools have better levels of financial literacy. Financial literacy is said to be the awareness of several important concepts concerning finances, such as budgeting, saving, investing, and debt control. Interestingly, the results of this study revealed that employees who interacted with AI tools more frequently, perhaps because they were also receiving some personal financial advice-showed a higher level of financial literacy. This is proof to Hypothesis 2, that AI can be an instrument useful in developing financial literacy. The education function of an AI system, like its budgeting tool and financial tutorial tool, contains hands-on knowledge that enables users to make decisions over finances.

In this regard, the study led to the positive conclusion that an AI-based financial wellness program beneficial for the job satisfaction and productivity of individuals. Based on these tools, the employees felt a better sense of satisfaction due to the drastic minimization of financial stress and anxiety. Their productivity also increased since they could concentrate more on the work rather than thinking about money matters. These outcomes reveal that Hypothesis 3 is true; therefore, workers who use AI financial tools have elevated effects of employee satisfaction and productivity. Highly relevant literature in pointing out the association between financial well-being and work performance relates less financially stressed workers to expect good performances. This is very well dealt with through the implementation of financial wellness programs, especially AI-based ones; because these help employees fight their financial challenges and reduce their stressors at work.

The most crucial outcome reported from the study is personalization in AI-driven financial wellness programs. This is because personalization was found to enhance the effectiveness of such tools significantly, hence larger reductions in financial stress and better financial literacy outcomes. Employees who received tailored advice according to their unique situations had higher engagements with the programs with good results. That underscores why, it's particularly important to offer personalized finance advice, since it generates the most pertinent and actionable solutions

while also being more helpful for users. Personalization was assisted by its ability to analyze individual data and provide specific recommendations as a key contributor to eliciting engagement and ensuring the tools offered meaningful support for the employees.

Although the study did not provide a dollar figure for what it might have cost employers to implement AI-powered wellness programs, there is evidence that such programs may be a low-cost solution for employers. This is because AI tools may not necessarily require human financial advisors or counselors compared to the traditional financial wellness programs. In addition, AI-based tools may help all employees irrespective of their age, race, and origin because it makes it possible for everyone to get access from anywhere to help them achieve financial well-being. This is highly important for large organizations with diverse populations because AI-based tools can ensure an equal distribution of financial education and support to all employees.

Another interesting finding from the research relates to how AI tools influence the financial behavior of employees. The analysis revealed that those employees using AI tools were inclined more towards exhibiting positive financial behaviors ranging from regular saving, investment, and paying off debts. Such a shift in behavior may be attributed to the practical tools and resources that AI generates to provide insightful decision-making and timely executions of the decisions by the employees. AI tools are equipped with the ability to monitor spending patterns, suggested saving policies, and are intended to offer distinctive financial goals to the employees to give them a more controlled perception of their future finances. This study supports the general research findings that AI can lead to better financial management because it can offer real-time insights and applicable suggestions to the employees.

The major findings of this study show that AI-based financial wellness programs reduce financial stress highly, enhance financial literacy, and increase both job satisfaction and productivity. These tools not only provide individual financial advice to employees but also scalable, cost-effective solutions for employers and have the potential to help create positive changes in financial behavior.

Recommendations

The above results lead to the following actionable recommendations for organizations considering launching an AI-powered financial wellness program. First, employers should focus on personal finance guidance available for each employee. This way, the specific financial challenges of each employee are better targeted by more relevant and effective tools. Moreover, organizations need to interact with the privacy issues by selecting right AI tools that respect the data protection regulations and facilitate proper practices for handling safe data. Employers must also encourage more participation by educating the employees about the benefits of such schemes and include the very ones in other efforts to cater to workers' welfare. Lastly, future research could include long-term studies to consider the sustained impacts of AI-based wellness tools on financial health and productivity but then try to understand the possibility of infusing AI with human financial counseling to offer more comprehensive employee support services.

There are some findings in this study that can persuade the case for the investment in AI-powered financial wellness programs by the employer on behalf of and in favor of the employees. The benefits actually realized include a better reduction in financial stress, a boost in financial literacy, improved job satisfaction, and increased productivity-all quite suggestive of improvements in overall employee well-being and organizational performance.

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