A Study on Enhancing the Influence of Intelligent Investment Advisors on Users Through Experience Design

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Abstract. With the advent of the Internet finance era, intelligent investment advisors have become a trend in the current investment and financial management landscape and have also become a hot topic of interest in various circles. This article will elucidate how applying experience design to the current market of intelligent investment advisory can provide users with a better service experience, allowing more users to understand and trust the intelligent investment advisory service industry. For users, intelligent investment advisory represents a relatively low entry point into investment. However, research has shown that the factors influencing users' choice of intelligent investment advisory are the learning curve and the high financial literacy threshold, which deter many young and inexperienced individuals from opting for intelligent investment advisory. Based on research findings, the vast population of young and inexperienced individuals presents a potential target for the intelligent investment advisory market. Moreover, this demographic's financial awareness is not yet fixed and can be molded, making it an opportunity for design. This article will focus on explaining how to expand the influence of intelligent investment advisory through experience design, thereby fostering positive financial awareness among users. This, in turn, will cultivate healthy financial habits among young and inexperienced individuals, making them the primary users of the intelligent investment advisory market.

Keywords: Intelligent investment advisors · Experience Design · Internet Finance

1 Introduction

1.1 Research Background and Current Situation

In the current era of rapid artificial intelligence development, intelligent investment advisors are gradually entering the public eye. Public opinions on intelligent investment advisors have become polarized, with some believing that the future market for these services has positive development prospects, while others view the algorithmic black box of intelligent investment advisors as a massive scam. The reasons for this polarization are diverse and may be influenced by factors such as users' financial literacy, understanding

of intelligent investment advisory services, and trust in financial platforms. The intelligent investment advisory industry is developing positively with reasonable scientific and technological means, but still faces some challenges.

To understand the logic behind the intelligent investment advisory industry, it is important to note that intelligent investment advisors use specific algorithmic models to manage accounts. They combine investor risk preferences, financial status, and financial goals to provide users with automated asset allocation and investment advice. Intelligent investment advisors offer low-threshold professional services to users, primarily catering to those who need assistance with financial planning or lack the time for it. They conduct risk assessments and match strategies to achieve automated investments, aiming to generate returns for users.

However, the term "challenges" implies that the intelligent investment advisory market is known and understood by only a few people and has not yet entered the mainstream public view. How to achieve inclusive finance and bring the intelligent investment advisory services into the public eye while gaining trust is a topic worthy of exploration.

1.2 Research Significance and Objectives

Making the intelligent investment advisors market more visible to the public holds certain value. Firstly, intelligent investment advisory services cater to a broad user base. Secondly, intelligent investment advisors can create financial services tailored to individual users. Thirdly, intelligent investment advisors align with the vision of inclusive finance.

With the rapid development of the internet information era, there is a high demand for the popularization of financial management on major platforms. As a result, the number of people attempting financial management is positively correlated. However, a significant portion of people still harbor a cautious mentality, rejecting various financial information. This bias is widespread and can be attributed to factors such as cognitive biases, others' experiences, and negative public opinion. Intelligent investment advisors are suitable for various user types and can customize investment strategies. Therefore, they hold value for inexperienced users.

For the aforementioned user groups, intelligent investment advisors are a suitable investment solution. However, they often struggle to actively engage with intelligent investment advisors, preventing them from realizing their true inclusive value. Currently, the majority of users in the intelligent investment advisors market are from the high-net-worth group. The low-net-worth group has potential value for the intelligent investment advisors market, making the popularization of intelligent investment advisors meaningful.

2 Research and Analysis on Influencing Factors of Financial Management

2.1 Qualitative Analysis of Influencing Factors in Financial Management

The Objective of Qualitative Research. Utilizing a semi-structured interview research methodology, the study conducts a preliminary exploration of existing financial management issues to understand user needs. This method is employed to determine the

research direction and identify the factors influencing financial management, thereby delving into the relationship between users and financial management.

Before the interviews, a logical framework for semi-structured interviews was established (Fig. 1). Initially, basic information about users is collected, categorizing them based on their engagement in financial management. Subsequently, open-ended questions are posed to gather information about their purchasing patterns, reasons for purchases, and their tolerance for potential losses. Finally, in-depth interviews are conducted to explore whether users are willing to embrace intelligent investment advisors.

In the end, the study conducts qualitative interviews with 16 participants, including students around the age of 20, young professionals, stay-at-home homemakers, and middle-aged to elderly individuals facing retirement.
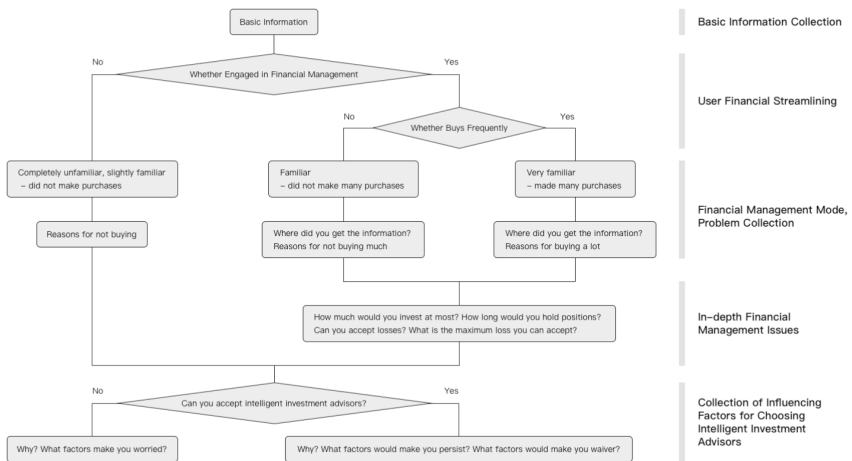

Fig. 1. Structured Interview Logical Framework Diagram

Identifying the Factors Influencing Financial Management. Based on the semi-structured interviews, the research participants were categorized into five groups: Non-Financial Management Group, Low-Risk Financial Management Group, High-Risk Financial Management Group, Intelligent Investment Advisors Acceptance Group, and Intelligent Investment Advisors Non-Acceptance Group. Through in-depth interviews, insights were gathered on the reasons for their purchasing decisions. Statistical analysis was conducted based on the responses of the interviewees, resulting in the following findings (Table 1).

Based on the results obtained from semi-structured interviews, an analysis and summary of the identified factors were conducted. Two major influencing factors were categorized: factors affecting the choice of traditional financial management and factors affecting the choice of intelligent investment advisors.

Factors influencing the choice of traditional financial management include risk perception (user's ability to perceive risks), learning costs (user's learning and time costs

Table 1. Semi-Structured Interview Results Summary Table

Investment in Finance: Low	Investment in Finance: High	Not involved in financial management	Will choose intelligent investment advisors	Will not choose intelligent investment advisors
Fear of risk	Knows the financial industry	Not familiar with financial management	High level of public trust	Only trust myself
Cannot afford losses	No pressure	No disposable income	Safe and effective	Fear of data leakage
No disposable income	Has disposable income	Feels complicated	Not knowledgeable about financial management	Low security level
Lack of financial knowledge	Financial management can make money		Helps in understanding financial management	Does not trust intelligent products
Unwilling to manage money			Doesn't have to worry about it personally	Afraid of being deceived
Working Capital			Earn more than doing it oneself	Chooses are not what I want
			Adequate funds	Cannot operate
			No risk of loss	Will not consider if there is a loss

associated with financial management), income and expenditure awareness (levels of income, expenditure, and financial awareness), and environmental influences (including family, friends, region, etc.).

Factors influencing the choice of intelligent investment advisors include risk perception, learning costs, level of trust (user's trust in the platform and intelligent investment advisors), user experience (user's experience when using intelligent investment advisors), privacy concerns (issues related to personal information and privacy), and profitability (returns on intelligent investment advisors).

2.2   Quantitative Analysis of Financial Management Influencing Factors

The Goal of the Quantitative Questionnaire. After subjectively summarizing the interview results and objectively analyzing the data, a quantitative questionnaire research method was employed to delve deeper. Based on the summarized impact factors, a logic for the quantitative questionnaire was established. This questionnaire primarily utilized situational questions to quantify the influence of different factors on the research users,

aiming to derive the most significant impact factor based on the objectively obtained data (Fig. 2).

First, users are divided into two groups: those who do not engage in financial management and those who do. The financial management group is further divided into those willing to purchase high-risk products and low-risk products. Before entering the situational questions, there is a preliminary assessment of the user's likelihood of making a purchase. By comparing this with the purchase likelihood from the situational questions through controlled variable methods, a scored numerical value is obtained. Finally, basic demographic research is conducted to analyze the impact of the environment on financial management.
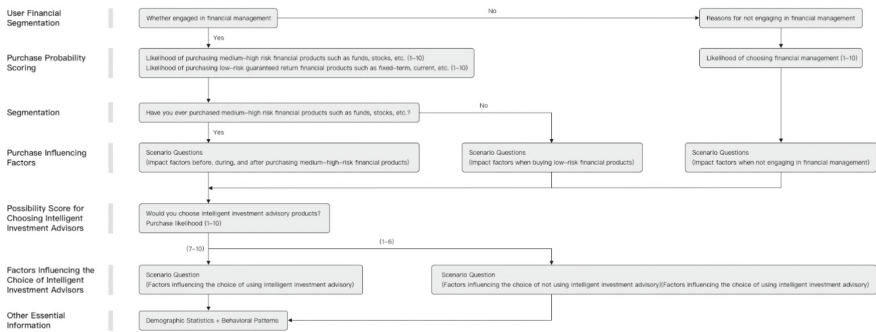

Fig. 2. Quantitative Questionnaire Logic

Analysis of Quantitative Questionnaire Results. The quantitative questionnaire targeted individuals aged 20 and above, with the majority falling within the 20 to 30 age range. A total of 316 questionnaires were collected, with 295 deemed valid for analysis. Demographic analysis revealed a predominant presence of young participants spanning various age groups. Occupationally, respondents were primarily students and employed individuals, with a minority being entrepreneurs or freelancers, and very few retirees. Regarding education, the majority held a bachelor's degree or higher, constituting 60% of the sample.

Cross-analysis indicated that individuals aged 35 and above were the primary purchasers of high-risk financial products such as funds and stocks. Additionally, the demographic of those who had purchased funds and stocks included young adults aged 21 to 25, suggesting an increasing financial awareness among the younger population. This group, characterized by strong information dissemination capabilities, holds potential value for future research.

Distinct differences were observed in the financial behavior patterns of the participants. Those who invested in current or fixed-term products tended to have a low tolerance for losses, with the maximum acceptable loss typically being less than 10% of the total investment. Conversely, individuals who had experience with high-risk products like funds and stocks demonstrated a higher acceptance of potential losses. This indicates a correlation between risk awareness and financial literacy among the participants.

In the questionnaire scenario, a comparative analysis was employed by setting up contrasting groups to accurately calculate the inclination of the impact. In the following charts, the higher the absolute value on the y-axis, the greater the impact of the influencing factor on the users.

For the analysis of impact factors on purchasing high-risk investments such as funds and stocks, it is divided into pre-investment, mid-investment, and post-investment based on the investment timeline. As seen in Fig. 3, "Financial Awareness" has the greatest impact on users before investment, while "Risk Perception" has the greatest impact on users during and after the investment.
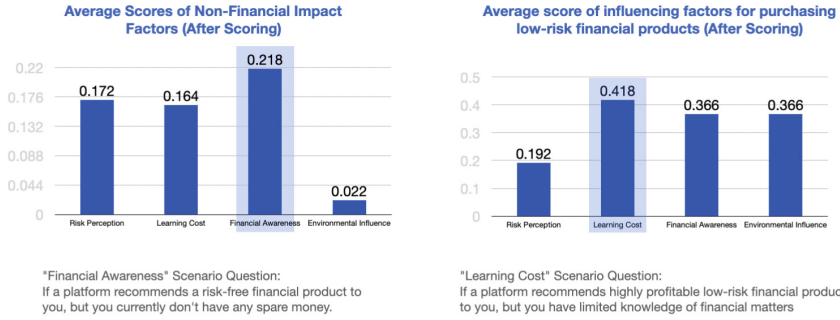

Fig. 3. Data Analysis of Impact Factors for Purchasing Funds and Stocks

From Fig. 4, it can be observed that for individuals who do not engage in financial management, "financial awareness" has the greatest impact on them. They lack proper financial knowledge, which is one of the significant reasons influencing their reluctance to participate in financial activities. For individuals purchasing low-risk financial products, "learning cost" has the most substantial impact on them. Lack of understanding of financial knowledge becomes a hurdle on their investment journey.

From Fig. 5, it can be observed that the most significant factor affecting both the choice and non-choice of intelligent investment advisors is "learning cost." Users who choose not to use intelligent investment advisors do so because of a lack of understanding of financial knowledge, making the learning cost of financial management too high for this group. On the other hand, users opt for intelligent investment advisors if these platforms can reduce the learning cost associated with financial management, making them a viable investment channel.
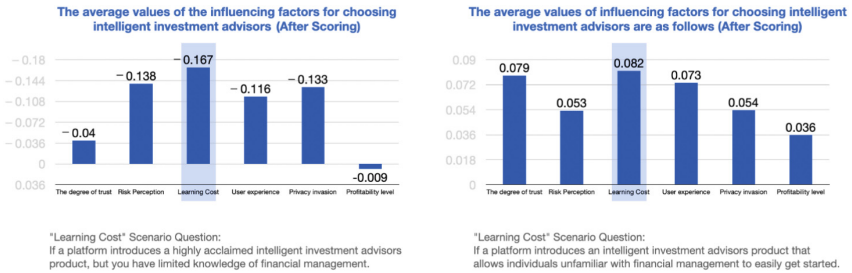
In conclusion (Table 2), "financial awareness," "risk perception," and "learning cost" emerge as the three most significant factors in the financial decision-making process and the selection of intelligent investment advisors. Consequently, addressing how to instill positive financial awareness in users, cultivate healthy financial habits, and scientifically disseminate knowledge about finance and intelligent investment advisors becomes a challenging aspect of this research topic.

Fig. 4. Analysis of Impact Factors for Non-Financial Planning and Purchase of Low-Risk Financial Products

Fig. 5. The impact factor data analysis of whether to choose intelligent investment advisors is as follows

Table 2. Summary Table of Maximum Impact Factors

Investment Situation	Maximum Impact Factor
Not engaging in financial management	Financial Awareness
Before purchasing medium to high-risk financial investments	
During and after purchasing medium to high-risk financial investments	Risk Perception
Purchasing low-risk financial investments	Learning Cost
Choosing not to use intelligent investment advisors	
Choosing to use intelligent investment advisors	

3   Exploration of User Demand for Intelligent Investment Advisors

3.1   Establishing Three Major User Profiles

Based on the qualitative and quantitative research and analysis in the previous stages, in-depth interviews were conducted for different types of people regarding intelligent investment advisory. The interview results can be broadly categorized into three groups: the first group consists of individuals who understand finance but lack time for managing it, the second group includes those with limited knowledge about finance and weak awareness of income and expenses, and the third group comprises complete novices with no understanding of finance.

3.2   Identifying the Target Users

The final decision is to target individuals aged 25 and above who are working and have limited knowledge in financial management, specifically young novices in finance. Based on the earlier quantitative research, this age group tends to show a higher inclination toward purchasing medium to high-risk financial products, indicating a relatively strong risk tolerance. When categorized by whether they engage in financial management, the age group of 26–35 currently has fewer individuals involved in financial management, suggesting potential market opportunities.

Choosing individuals aged 25 and above in the workforce is motivated by their stable income, existing asset base, and the fact that they already possess some level of financial awareness influenced by their professional environment. However, selecting young finance novices is based on the idea that they have a blank slate in terms of financial knowledge and awareness of income and expenditure. This group is highly malleable, and targeting them aligns with the goal of intelligent investment advisors, which is to assist individuals who lack financial knowledge or time for financial management. Engaging finance novices and convincing them to understand and use intelligent investment advisory products remains a current challenge.
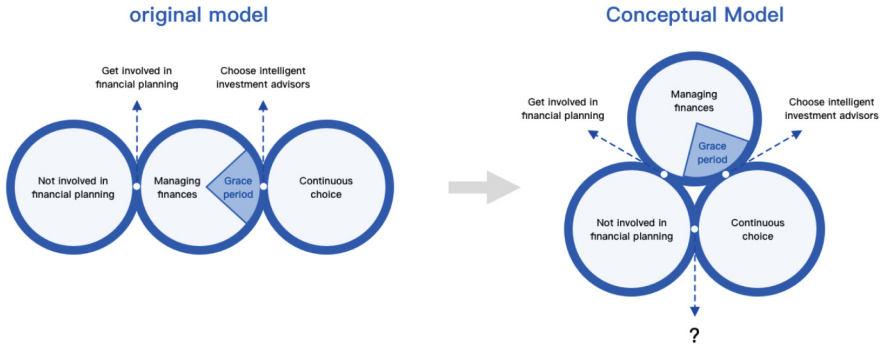
3.3   Explore Opportunities for Intelligent Investment Advisors in the Young Novice Demographic

The young novice demographic holds potential value in the intelligent investment advisors market. Based on the cross-analysis of financial willingness and willingness to choose intelligent investment advisors in the previous quantitative analysis, it can be concluded that among the group willing to choose intelligent investment advisors, the majority prefer to invest in medium to high-risk financial products, constituting 48.6% of the total surveyed population. "Trust level" has the most significant impact on this group. On the other hand, among those unwilling to choose intelligent investment advisors, the majority are individuals who do not engage in financial management, accounting for 81.3% of the total surveyed population. "Risk perception" has the most significant impact on this group.

At the current stage, individuals with experience in investment and financial management are more likely to choose intelligent investment advisors. However, young novices

who do not engage in financial management are hesitant to enter the field of intelligent investment advisors due to their lack of experience. Therefore, the barrier to entry for novices in the intelligent investment advisory domain has not decreased but rather increased, and this barrier refers to experience.

Fig. 6. Derivation of Preliminary Conceptual Model

Based on the current analysis, explore the opportunities for intelligent investment advisors in the young novice financial group, and conduct a preliminary analysis of the future connection between novice financial groups and intelligent investment advisors (Fig. 6). Is it possible to break the existing state, reduce the threshold of intelligent investment advisors for financial novices, allowing them to bypass financial experience and directly engage with intelligent investment advisors? This can achieve incremental market growth for intelligent investment advisors in the young novice market, and it holds certain significance.

4 The Incremental Market for Intelligent Investment Advisors in the Young Novice Financial Group

4.1 Cognitive Level and Learning Costs of Young Financial Novices Regarding Intelligent Investment Advisors

The Cognitive Level of Young Financial Beginners Regarding Intelligent Investment Advisors. Based on the preliminary qualitative and quantitative research, it is evident that novice financial beginners have certain cognitive biases towards financial matters. These biases are primarily manifested in misconceptions about disposable income, misunderstandings about internet products, and misconceptions about asset management. The mentioned cognitive biases have an impact on the decision to choose intelligent investment advisors. The current cognitive level of young novice financial individuals needs improvement, and fostering a solid financial awareness is crucial to breaking into the incremental market for intelligent investment advisors.

The Learning Cost of Young Financial Beginners for Intelligent Investment Advisors. From the results of the quantitative study, research subjects' learning costs

for intelligent investment advisors mainly manifest in cognitive costs and time costs. These two factors interact inversely—complex cognitive costs hinder users, while saving time costs can help them. Cognitive costs refer to users' understanding of financial knowledge. Novice users often perceive finance as complex and high threshold, leading to resistance to financial-related matters, which greatly hinders a potential user base. Time costs refer to the fact that intelligent investment advisory services can save a significant portion of time costs for low-net-worth clients. The former has disadvantages, while the latter has advantages. Overcoming the challenge of reducing users' cognitive costs related to finance and saving time costs is crucial for intelligent investment advisors.

4.2   The Potential Value of Young Financial Novices

Characteristics of the Young Novice Group.   The consumption concepts and financial cognition of the young, financially inexperienced group exhibit significant characteristics. Traits such as unplanned spending, following trends, and early adoption are common among the young demographic. Despite this, there are opportunities and latent value within this group. They are easily influenced by their environment, and with the rapid spread of information, internet products tend to proliferate within their social circles. Additionally, this demographic has quick asset liquidity, engages in frequent internet consumption, and is more likely to allocate a portion of their funds for financial purposes. As a result, they can potentially become an incremental market for intelligent investment advisory services. Given their immature financial mindset, nurturing a solid financial understanding is crucial for this novice group.

Psychological Characteristics of the Young Novice Group.   The young novice group also possesses certain psychological characteristics, including group thinking, herd mentality, and suggestibility. This group is susceptible to the influence of surrounding factors; for instance, if there are many individuals engaging in financial activities in their environment, those who initially had no interest in finance may be influenced to consider financial management. Leveraging these psychological traits, intelligent investment advisory services need to gain recognition from a portion of the group to impact more individuals and encourage them to try intelligent investment advisory platforms. This underscores the importance of building trust in intelligent investment advisory products and platforms within this demographic.

Beliefs of the Young Novice Group.   The young demographic exhibits a strong sense of belief in most things, curiosity, and a pursuit of goals. In the realm of finance, individuals with good financial knowledge aim for high returns, accumulating sufficient assets, and surpassing average levels. For novices, even a small profit can evoke a sense of self-satisfaction, motivating them to take an interest in finance, thus forming a positive cycle that transforms into actively learning financial knowledge. The strong belief system of the young demographic is a distinctive characteristic during this age period.

5 Overview of Experience Design

5.1 Definition of User Experience Design

Experience is a dynamic process in which the emotions of the experiencer change with the variations in experiential behaviors. Experience involves the establishment and maintenance of relationships between cognition, behavior, and emotion. Therefore, experiences can be categorized into cognitive experience, behavioral experience, and emotional experience. Experience significantly impacts users' perceptions of a product, influencing their attitudes and opinions toward it. User experience is a dynamic and continuous process with various touchpoints along the experience journey. Addressing pain points at each stage and enhancing user experience are critical factors for the sustainable development of a product.

5.2 The Necessity of Experience Design in Intelligent Investment Advisors

Analyzing the necessity of experience design in intelligent investment advisors based on the three experiences mentioned above.

From the perspective of cognitive experience, intelligent investment advisors need to capture the public's attention and require users to approach them with a rational mindset. However, cognitive biases result in mixed opinions among the public about intelligent investment advisors, leading to information asymmetry. Therefore, it is necessary to address how to effectively use cognitive experiences to enable the public to form a rational understanding of intelligent investment advisors.

From the perspective of behavioral experience, user investment behavior is a linear process. However, a poor user experience can prevent this linear process from forming a closed loop, affecting the sustainability of a product. Additionally, intelligent investment advisors require users to have a good understanding, and achieving long-term holding is essential to highlight the product's advantages. However, in reality, most users, especially financial novices, find it challenging to achieve long-term holding. Improving the user experience in financial behavior, including various stages such as pre-investment, during investment, and post-investment, is essential for intelligent investment advisors.

From the perspective of emotional experience, investment may seem rational and cold, but for users, it involves investing assets and emotions. Users have expectations for their investments, and long-term investment can stabilize their mindset. There are certain emotional factors at play. Additionally, a stable mindset can lead users to achieve long-term holding, and this is based on both cognitive and behavioral experiences.

In conclusion, cognitive experience, behavioral experience, and emotional experience are all essential. There is a necessity for the development of intelligent investment advisors to encompass all these aspects.

5.3 The Advantages of Applying Experience Design in the Market of Intelligent Investment Advisors

The majority of internet financial products operate in an online mode, which has certain limitations in terms of user experience. Firstly, users are often passively receiving

information. Secondly, there is a potential for cognitive biases in online information retrieval. Thirdly, users can easily be distracted by other information, leading to a short experience cycle. Considering these three issues, it is challenging to make significant breakthroughs in experience design based solely on online applications.

Therefore, the offline experience of intelligent investment advisory services might serve as a breakthrough. Applying cognitive, behavioral, and emotional experiences in an offline setting could address the limitations of online experiences. By leveraging experience design, it is possible to enhance the impact of intelligent investment advisory services, help users develop a solid financial understanding, and cultivate positive financial habits.

Transforming the user investment process into a closed loop of positive feedback is beneficial for the development of the intelligent investment advisory market and contributes to the overall advancement of the financial market.

6   The Practical Application of Experience Design in the Intelligent Investment Advisory Market

### 6.1   Ideas for Offline Experience Design

The final established design involves telling the story of intelligent investment advising through offline experience stores. The aim is to provide users with a tangible financial experience, expanding the financial experience beyond the online realm.

The design comprises three main sections: the testing section, the interaction section, and the trading section.

The testing section is designed in a tangible user interface (TUI) format to conduct tests. Based on users' judgments of market fluctuations, an analysis of their financial personalities is performed. Users engage in buying and selling transactions based on their judgments, avoiding the probabilistic cognition of a gambler's mentality. Ultimately, a paper-based user financial personality card can be printed as a keepsake. In the stage where users input the amount, a tangible interaction method is employed. Users can directly operate using provided physical coins, distinguishing it from online tests where users may freely drag numerical sliders. This ensures that users are more cautious, intuitive, and aligned with their psychological tendencies during the investment process.

In the interaction section, users can control the content on the interactive wall (Fig. 7) using a sensor-equipped bracelet. This section includes popular science information about financial knowledge and explanations of intelligent investment advising. After users perform operations, the wall generates projected animations and text, allowing users to gain a deeper understanding of financial knowledge. The interactive wall uses a comparative narrative to illustrate the differences between intelligent investment advising and individual financial management, metaphorically representing weather as market conditions and plants as investment amounts. Through interactive projections and sound interactions, users can vividly experience the information conveyed by the interactive wall, enhancing their understanding of intelligent investment advising and financial management.

The trading section follows the characterization obtained from the testing section to recommend strategies that match the user's financial personality. When consumers
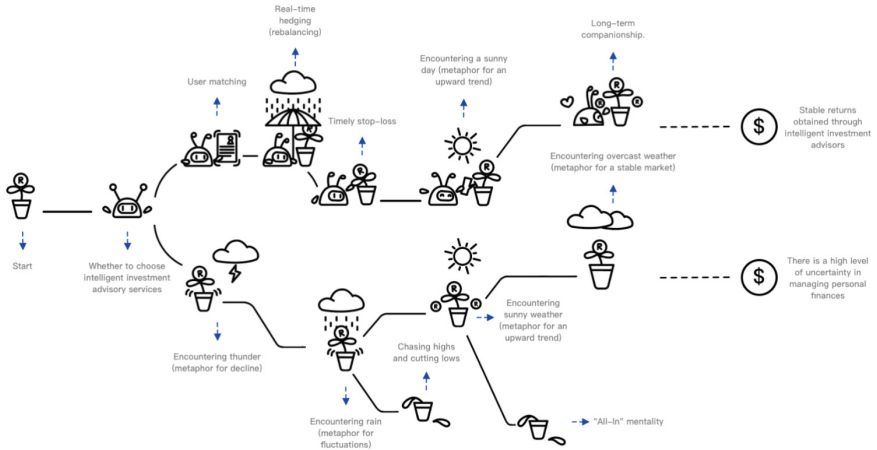
Fig. 7. The content on the interactive wall includes projections, animations, and textual information

purchase funds, they receive a financial card containing information about the purchased funds. In the offline experience store, users can scan the QR code on the card to access fund information. Users can set reminders to sell when reaching a certain profit within a specific time, encouraging long-term holding. This trading method differs from the original online financial management, introducing a certain level of passivity. This helps prevent users from frequently checking returns and encourages them to achieve long-term holdings.

Based on the above introduction, the testing section aims to help users establish a good financial understanding, the interactive section aims to expand the influence of intelligent investment advisory through experience, and the trading section aims to cultivate users' positive financial habits. This simultaneously addresses the "income and expenditure awareness," "risk perception," and "learning costs" mentioned in the earlier qualitative results. It also corresponds to the behavioral experience, cognitive experience, and emotional experience mentioned in the experience design. The three major sections connect the experience of intelligent investment advisory into an inseparable chain, from the pre-investment financial knowledge input and self-awareness, to the cautious investment and long-term holding during the investment, and then to the repeated investment after the investment returns. It forms a positive loop, holding significant meaning for the future development of the young and inexperienced demographic in the financial market.

6.2 Design Plan

The offline experience center of intelligent investment advisory aims to provide visitors with the enjoyment of financial management and encourage them to invest wisely to create wealth. The design is presented in the form of an exhibition hall, with the overall emotional theme being technology, fun, and growth. The goal is for visitors to perceive

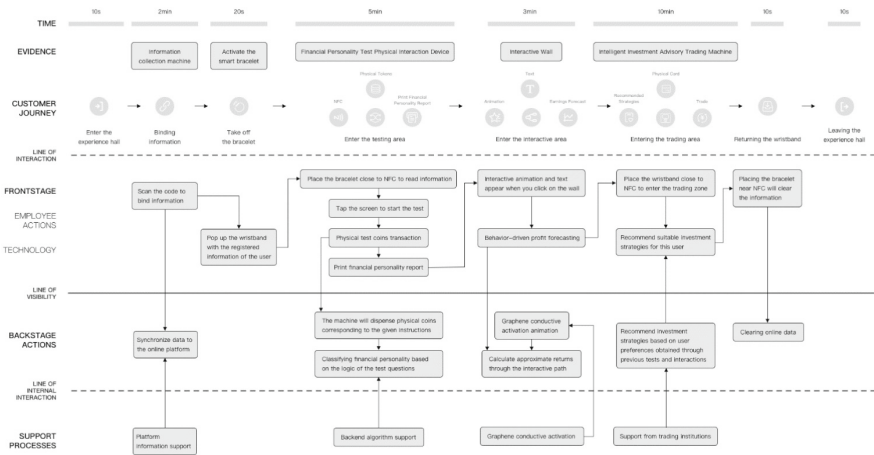the power of technology, the enjoyment of financial management, and the growth of knowledge (Fig. 8).

Fig. 8. Service Blueprint

7   Summary and Outlook

7.1   Conceptual Design Summary

The offline experience hall is dedicated to reducing users' learning costs in financial management and expanding a brand-new financial experience. Research indicates that the willingness of young people to engage in financial management is relatively low. One reason for this is that, despite the accelerated flow of information, the financial management community is relatively closed, with a high entry barrier. Users on online platforms need to actively seek financial information, and due to the inherently counter-intuitive nature of financial management, users often hope to achieve high returns with low investment in a short period.

The goal of the offline experience hall is to fill the gap in young users' experience with tangible financial activities. Through passive, simple, and enjoyable means, users can acquire relevant information about financial management and intelligent investment advisory. The aim is to transform the financial and consumption habits of the younger demographic and enhance their awareness of income and expenses. By providing information in a direct and engaging manner, the offline experience hall allows intelligent investment advisory to enter the field of view of young novices, offering them suitable choices for investment and financial management.

7.2   For the Outlook of Intelligent Investment Advisory in the Future

For intelligent investment advisory itself, with the rapid advancement of global AI technology, there remains significant potential for the intelligence enhancement of intelligent

investment advisory. As time progresses, the market's acceptance of intelligent investment advisory is expected to increase gradually compared to the traditional advisory industry. Correspondingly, the development of the industry should expand on a sustainable basis within reasonable and legal frameworks. It is hoped that more individuals will continuously optimize products in the intelligent investment advisory industry, providing the general public with higher-quality and inclusive financial products.

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