

Financial Planning Apps: User Engagement and Learning Effects

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Colophon

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Abstract

Financial planning is a critical determinant for households' long-term wealth and income security, yet many individuals struggle to translate their financial intentions into concrete actions. This industry paper evaluates the potential of the *Seasn App* - a non-commercial, research-based digital tool used to help users identify the best investment portfolio, to simulate various life events, and ultimately to plan for retirement. We present findings from two complementary studies conducted in the Netherlands. First, a consumer survey (N=345) reveals a strong "do-it-yourself" financial culture and a clear demand for trustworthy, low-cost planning tools that prioritize privacy. Secondly, an experimental field study (N=127) tests the actual app's onboarding and engagement among a younger, tech-savvy demographic. While the survey confirms high conceptual interest in the app's "digital twin" approach, the experimental results highlight significant behavioral frictions and "effort hurdles" that impede adoption even among motivated users. We conclude that whereas digital innovation is necessary to improve financial well-being, its success depends on minimizing onboarding complexity and integrating tools into existing financial eco-systems. These insights offer valuable lessons for pension funds, financial service providers, and policymakers who seek to enhance individual financial self-reliance through technology.

Samenvatting

Financiële planning is een cruciale factor voor het langetermijnvermogen en de inkomenszekerheid van huishoudens, maar veel mensen hebben moeite om hun financiële intenties om te zetten in concrete acties. Dit Industry Paper beoordeelt het potentieel van de *Seasn App*, een niet-commerciële, op onderzoek gebaseerde digitale tool die gebruikers helpt om de beste beleggingsportefeuille te identificeren, verschillende levensgebeurtenissen te simuleren en uiteindelijk te plannen voor de oude dag. We presenteren bevindingen van twee complementaire studies die in Nederland zijn uitgevoerd. Ten eerste toont een consumentenonderzoek (N=345) een sterke *do-it-yourself* financiële cultuur en een duidelijke vraag naar betrouwbare, goedkope planningstools die privacy prioriteren. Ten tweede test een experimentele veldstudie (N=127) de onboarding en betrokkenheid van de daadwerkelijke app onder een jongere, *tech-savvy* doelgroep. Hoewel de enquête een hoge conceptuele interesse in de *digital twin*-aanpak van de app bevestigt, benadrukken de experimentele resultaten aanzienlijke gedragsfricties en *effort hurdles* die gebruik belemmeren, zelfs onder gemotiveerde gebruikers. We concluderen dat digitale innovatie noodzakelijk is om het financiële welzijn te verbeteren, maar dat het succes ervan afhangt van het minimaliseren van de complexiteit van de onboarding en het integreren van tools in bestaande financiële ecosystemen. Deze inzichten bieden waardevolle lessen voor pensioenfondsen, financiële dienstverleners en beleidsmakers die de individuele financiële zelfredzaamheid via technologie willen vergroten.

1. Introduction

Financial planning is widely recognized as the cornerstone of household financial well-being. A vast body of research in economics, finance, and behavioral science has shown that individuals who actively plan their finances - saving, investing, and budgeting with foresight - tend to achieve greater financial security and accumulate substantially more wealth over time (e.g., Ye et al., 2025). Conversely, households which fail to plan often under-save, over-borrow, or misallocate assets, leading to long-term financial vulnerability. Classic economic frameworks such as the Life-Cycle Hypothesis (Modigliani, 1966) and buffer-stock saving models (Carroll, 1997; Carroll et al., 1992) emphasize the role of planning in consumption smoothing and in preparing for uncertainty, whereas behavioral studies highlight the importance of interventions which make planning easier or more automatic. The empirical consensus is clear: planning behavior itself - the propensity and ability to make forward-looking financial decisions - is a key determinant in household financial outcomes.

Despite its importance, effective financial planning remains a difficult task for many individuals. Behavioral barriers, such as procrastination, inertia, and limited self-control, as well as structural barriers, such as low financial literacy or complex decision environments, often prevent people from engaging in sustained planning. Previous studies carried out by Thaler and Benartzi (2004) and Chetty et al. (2014) showed that individuals frequently fail to act on their intentions unless guided or supported by well-designed tools and institutional frameworks. In response, researchers and policymakers have increasingly turned to digital and educational interventions which are intended to make financial planning simpler, more engaging, and more personalized.

The literature on concrete digital financial planning apps and tools, however, is limited. It appears that existing apps and research generally focus on narrowly-defined use cases such as asset allocation (i.e., robo advice) and banking services (see Hentzen et al., 2022; Brüggen et al. 2025). Few contributions have studied apps that facilitate (parts of) long-term and forward-looking financial planning. Kramer et al. (2025) found, for example, that Dutch pension-plan participants who responded to an invitation to use an interactive pension dashboard increased their pension knowledge, but they did not enhance their willingness to take further action. In the U.S., Matz et al. (2023) and Gargano & Rossi (2024) showed that apps, which support financial planning by suggesting specific savings goals, appear to increase users' savings. Finally, Daminato et al. (2024) have demonstrated that an app distributed by a Swiss pension fund increased pension contribution rates primarily through reduced "hassle costs", that is to say, the app in effect made it easier for users to increase their contributions.

This industry paper contributes to the body of literature by presenting two studies that evaluate the *Seasn App* - a non-commercial, research-based financial planning tool designed to assist individuals with life events, pensions, and investments. The *Seasn App* distinguishes itself by its user-centered design - it is free of charge, easy to download, and can be used anonymously. Its digital twin technology provides personalized financial advice that dynamically adapts to user characteristics and preferences while, at the same time, it maintains transparency and academic credibility (see Kretschmer and Post (2025) for a detailed overview).

To explore its full potential, we conducted two complementary studies. The first study, a consumer survey, examined perceptions, needs, and barriers regarding financial planning apps among Dutch consumers. The results showed a substantial interest in trustworthy, low-effort tools such as *Seasn*, confirming that there is a strong potential demand. The second study, a proof-of-concept field experiment, tested actual adoption and engagement among university students in a real-world educational context. While adoption was unexpectedly low, the pilot yielded critical lessons concerning effort barriers, timing, and contextual fit.

The combined evidence from both studies demonstrates that the *Seasn App* addresses a genuine market need, however, it faces challenges in bridging the gap between interest and action. The lessons are threefold: (i) even an innovative app cannot easily eliminate the effort and trust hurdles inherent in financial decision-making; (ii) contextual factors, such as workload and cognitive capacity, strongly affect adoption; and (iii) partnering with credible institutions, such as pension funds or educational organizations, appears to be the key to achieving wider acceptance.

In the following sections, we present the findings of both studies in detail and conclude with a general discussion that integrates their insights, highlighting how the *Seasn App* can evolve to effectively promote financial planning and education in both academic and real-world settings.

2. Consumer survey

Before starting experimental research on the *Seasn App*, we conducted a consumer survey to better understand the potential users' needs and perceptions. Prior research (e.g., Daminato et al., 2024; Kretschmer & Post, 2025) has shown that the adoption of new financial planning apps is often hindered, specifically by barriers such as: the *effort hurdle*, referring to the time and energy required for users to learn and integrate a new tool into their financial routines, and the *credibility hurdle*, reflecting users' skepticism towards using new digital financial services.

As a pre-test before introducing the *Seasn App* to our student sample, or to a live audience, we surveyed our target group in the Netherlands. The goal of this pretest was threefold:

1. To assess whether users perceive a genuine need for a financial planning app
2. To verify whether the *Seasn App* conceptually covers all intended areas of usage, and
3. To examine whether potential users sufficiently value such an app to overcome the effort hurdle associated with its adoption.

To gather this information, the survey included several key questions (see Appendix A). In particular, respondents were asked the following:

- Where do you currently look for financial information? (*Waar zoek je nu financiële informatie?*)
- Which financial planning apps are you familiar with? (*Welke financiële planning-apps ken jij?*)
- What do you think is the largest drawback to a financial app? (*Wat is volgens jou het grootste bezwaar tegen een financiële app?*)
- Which app feature would you find most useful? (*Welke app-functie zou jij het nuttigst vinden?*)
- What other factors influence your choice of a financial app? (*Welke andere factoren beïnvloeden je keuze voor een financiële app?*)
- Where would you like to see your financial life planning the most? (*Waar zou jij jouw financiële life-planning het liefst zien?*)
- How much would you be willing to pay annually for the app? (*Hoeveel ben je bereid om jaarlijks te betalen voor de app?*)

The responses to these questions provide valuable insights into how potential users approach financial planning, what they expect from financial technology, and which barriers might limit the adoption of this technology. The results serve as an important validation

step, ensuring that the *Seasn App* addresses users' real-world needs and that it has a good chance of being well-received in the market for financial planning applications.

Procedure

We collected the data on *Prolific* during the month of August 2024. The target sample consisted of adults residing in the Netherlands. Participation was limited to those individuals who indicated that they had the Dutch nationality, who reported that they were fluent in Dutch and that they were between the ages of 20 and 68 years old. Participants received € 1.20 in compensation for completing the survey, which took a median time of 6 minutes and 10 seconds.

Before beginning the survey, all participants provided informed consent. Anonymity and confidentiality were ensured throughout the study, as we only used participants' *Prolific* IDs for data management and analysis. In total, 225 respondents completed the survey. Following our pre-specified screening and data-quality checks (attention checks and consistency rules), we excluded 13 invalid responses. The final dataset, therefore, comprises 212 valid observations from the relevant Dutch target group.

Sample

The demographic profile of these participants can be summarized as a cohort of young early-career individuals. A significant majority of the sample - approximately 66.98% - was under the age of 35, with the 25-34 age bracket forming the largest single group at 41.51%. This distribution is reflected in their employment status, in which 54.72% are employed full-time and another 15.09% are currently students, suggesting a population that is either entering or established in a phase of life in which long-term financial decisions, such as pension planning and home buying, have become quite relevant.

Financially, the participants largely represent the middle-income segment of the Netherlands. The most common net annual salary range is between €25,000 and €50,000 (44.34%), followed by the €5,000 to €25,000 range (24.53%). In regard to their personal lives, the group is notably independent; over 41% of respondents do not currently have a partner, and among those who do, a significant portion still manages their finances independently or only collaborates on major decisions. This "solo" or "DIY" approach to financial management aligns with the paper's earlier finding that users are looking for self-service digital solutions.

While the overall financial sentiment is cautiously optimistic - with 75.47% describing their situation as either 'fair' or 'good' - there is an underlying vulnerability within the group. Roughly 15% of the participants admit to struggling with their finances, and even those in the 'fair' category report having some concerns about their financial future. This mix of a tech-savvy, independent workforce possessing varying degrees of financial security underscores

the potential impact of a tool such as the *Seasn App*, which seeks to provide clarity and structure to users who are largely navigating their financial lives on their own.

Results

Figure 1 reveals that respondents primarily search for information themselves (45.8%), followed by receiving advice from friends and family (32.5%); fewer than 10% report using a professional financial advisor. This indicates a strong DIY culture, suggesting that any app that is used should supply credible, easy-to-digest guidance at the moment of need, subsequently replacing ad hoc searches and informal advice.

Figure 2 shows that customer awareness in the market of financial planning apps is concentrated. We find that most respondents (50.0%) recognize *Brand New Day*, whereas all other apps are far less known. *Brand New Day* is a Dutch online pension and investment platform focused on tax-advantaged third-pillar retirement accounts and simple, self-managed investing, with a large retail reach in the Netherlands. This brand's salience points toward the fact that pension-use cases dominate mental models of "financial planning" among consumers here.

Figure 1. Sources of financial information

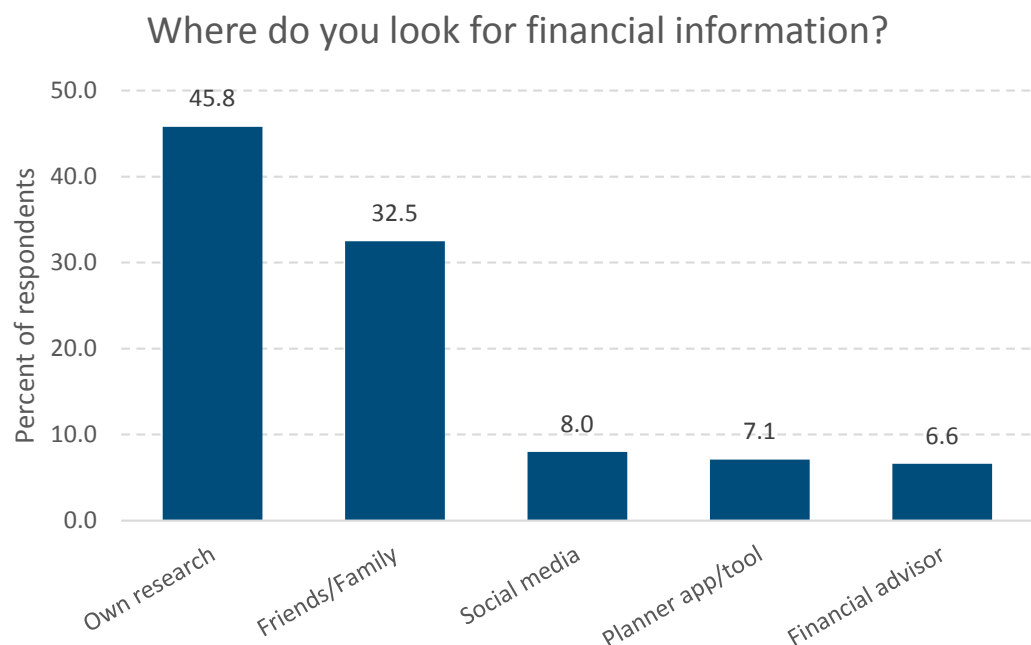


Figure 2. Brand awareness of financial planning apps

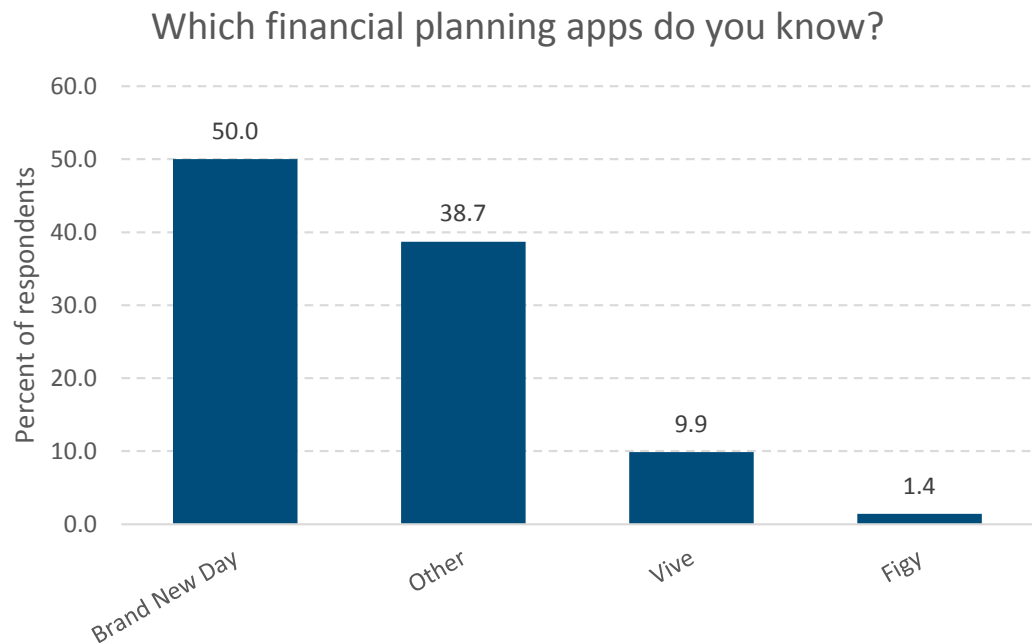


Figure 3 shows that the leading concerns are privacy (35.4%), quality of advice (20.3%), and trust in the app (17.5%). Notably, only 6.6% cite difficulty/complexity as a barrier. This pattern mirrors our earlier ‘credibility hurdle’: trust and data protection outweigh usability. In the case of using *Seasn*, transparent data practices, explainable recommendations, and visible governance will most likely matter more than marginal UX gains.

Figure 3. Perceived drawbacks of financial apps

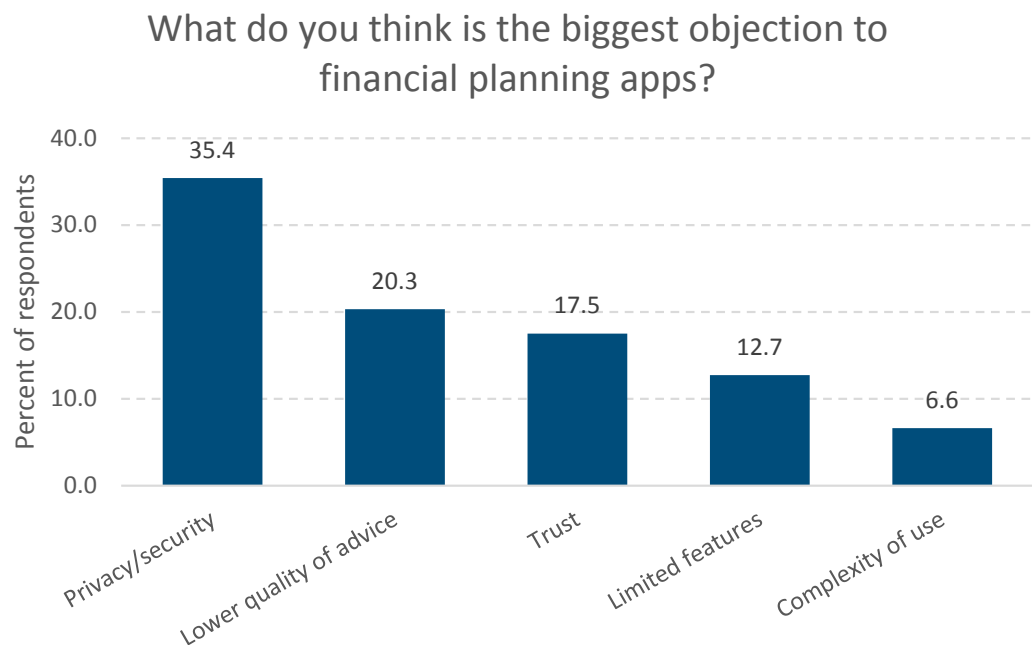


Figure 4 shows that respondents prioritize investment strategies (28.8%) and pension planning (25.9%). This again aligns with the *Brand New Day* awareness and suggests that retirement-oriented goal framing and long-horizon investing tools are the clearest entry points for perceived value. On the other hand, Figure 5 identifies a range of functions and quality of advice (57.1%) and personalized advice (25.9%) as the top purchase drivers of such an app. Interestingly, only 7.5% rate technical integrations (e.g., with banks) as being very important at the selection stage. Together with Figure 3, this implies the core proposition: breadth, quality of advice, and personalization are decisive, whereas integrations appear to be secondary during evaluation, as long as the core value remains strong.

Figure 4. Most valued features

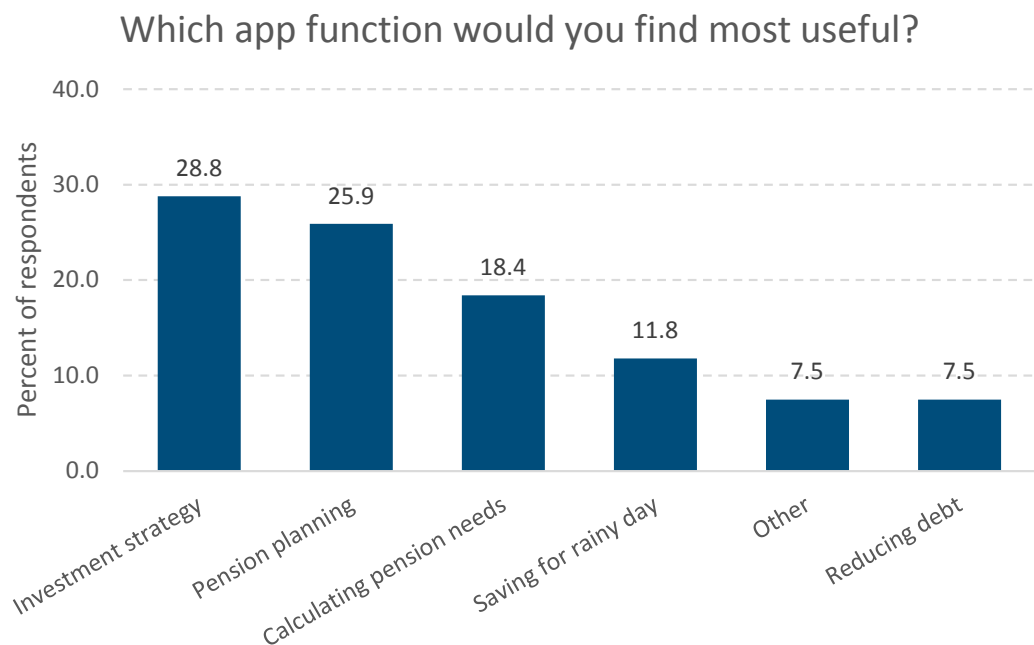


Figure 5. Purchase drivers when choosing an app

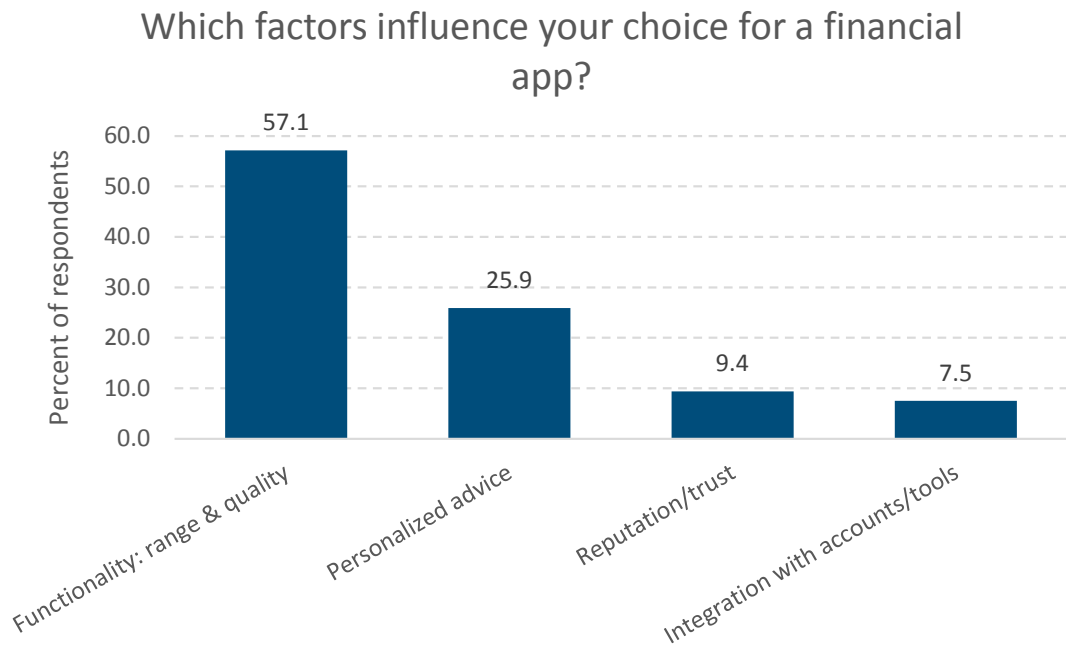
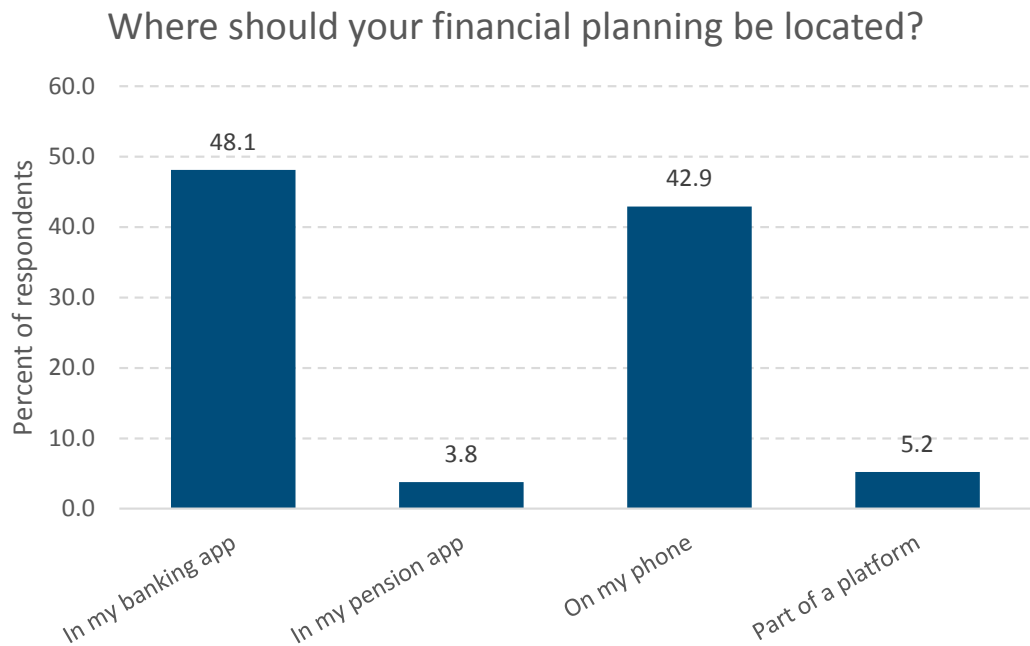


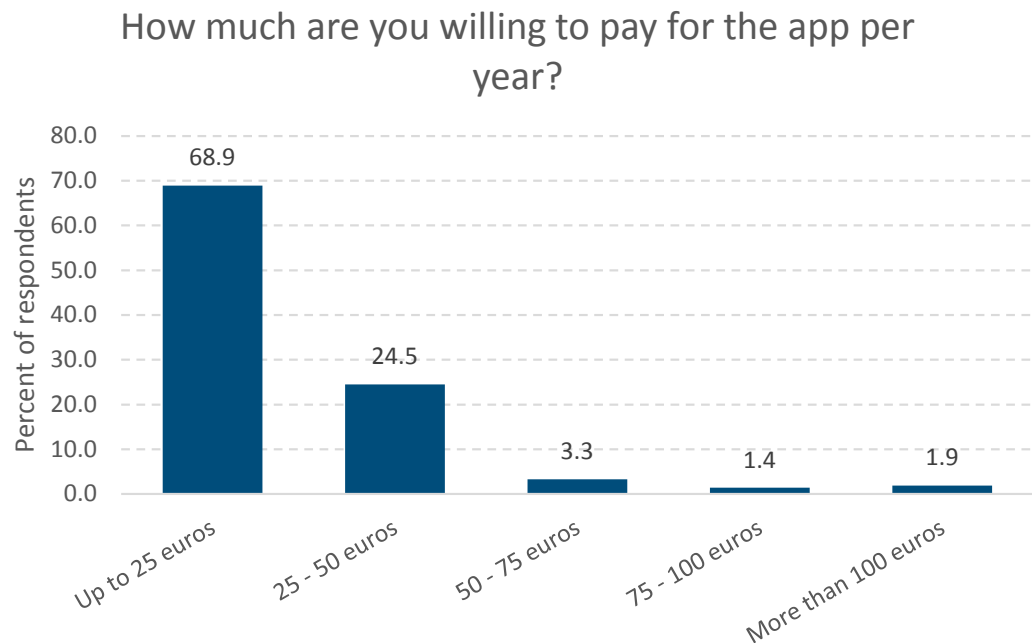
Figure 6 shows that despite the low importance assigned to integrations in Figure 5, nearly half (48.1%) prefer planning in a banking app or via bank account integration, and 42.9% prefer on the cellphone (stand-alone mobile). This apparent tension likely reflects the question framing: integrations may not be the reason to choose an app, but once planning is underway, users prefer to live where their money lives (banks) or on a mobile hub. In the case of *Seasn*, prioritizing bank-data connectivity and a mobile-first experience should increase day-to-day utility without having to market integrations such as the headline feature.

Figure 6. Preferred locus for financial life-planning



Finally, Figure 7 shows that price sensitivity is high in the market of financial planning apps. It appears that 68.9% are unwilling to pay more than € 25 per year and that 24.5% would pay € 25–€ 50; only 1.9% would be prepared to pay > € 100. A low-cost or *freemium* model with optional paid add-ons (e.g., premium advice modules, advanced retirement projections) appears to be the most necessary. Given that trust and advice quality drive choice (Figures 3 & 5), a low entry price and visible proof of quality (e.g., audited methodologies, reputable data sources) are likely to serve as the optimal positioning.

Figure 7. Willingness To Pay (WTP)



Summary

The results of the pre-launch survey suggest that the *Seasn App* is very well-suited for the successful adoption of financial planning applications in the Dutch market. Across all key indicators, the preferences and needs of potential users closely align with the *Seasn App*'s core features and advantages.

First, a large share of respondents (45.8%) is currently searching for financial information themselves, whereas only a small fraction relies on professional advisers. This self-directed behavior indicates that there is a clear demand for accessible, trustworthy digital guidance. The *Seasn App* directly meets this need by allowing users to perform financial planning independently, without any effort or external dependency. Its double-function interface enables users to explore personalized planning options without disclosing personal information, lowering both the effort hurdle and the credibility hurdle that were identified in previous research.

Second, the dominance of *Brand New Day* in respondents' awareness, as seen in Figure 2, underscores the importance of pension and investment planning in the Dutch consumers' mental models relating to financial management. The *Seasn App*'s focus on pension and investment strategy, together with its ability to adjust assumptions for life events and macroeconomic conditions, places it squarely in this preferred spot of user interest.

Concerns regarding privacy (35.4%), quality of advice (20.3%), and trust (17.5%), as stressed in Figure 3, appear to further strengthen *Seasn*'s appeal. Because the app has been developed by a reputable university team of financial researchers, it offers high-quality, transparent advice backed by credible institutional support. Moreover, its

anonymous registration and non-intrusive setup directly address the leading privacy concern, while the fact that it has its origins in academia simultaneously enhances feelings of trust and quality of advice.

In regard to the desired functionality, respondents valued investment strategies (28.8%) and pension planning (25.9%) most highly (Figure 4). It is precisely these features that *Seasn* provides, further enhanced by a digital twin that dynamically personalizes advice. When asked what could influence one's choice of app, the participants emphasized the breadth of functions and quality of advice (57.1%), as well as personalization (25.9%) (Figure 5). *Seasn's* integrated life-planning approach, including adaptive feedback mechanisms, directly delivers on these expectations.

Additionally, nearly half of the respondents (48.1%) preferred to manage finances through their bank on a mobile app (Figure 6). *Seasn's* mobile availability and optional bank integration capabilities thus align perfectly with preferred usage contexts. Finally, since the vast majority (68.9%) are only willing to pay less than € 25 annually (Figure 7), *Seasn's* cost-free access eliminates the most significant economic barrier to adoption.

All things considered, the evidence suggests that *Seasn's* combination of free access, effortless onboarding, privacy protection, scientific credibility, and adaptive personalization closely aligns with user preferences. As shown in Table 1, the app's core functional design directly addresses the primary needs and concerns voiced by the market. With 93.4% of respondents believing that such an app would not be too complex to use, *Seasn* could anticipate a high level of acceptance and a high degree of demand when first being introduced on the market.

Table 1: Alignment of Seasn App Features with Market Demand

Seasn App Feature	Market Need / User Preference	Evidence from Survey Findings
"Digital Financial Twin"	Low Barrier to Entry	93.4% of users seek simplicity; the "twin" allows planning without immediate data entry.
Research-Based & Non-Commercial	Trust & Objective Advice	Users prioritize unbiased, science-driven guidance over commercial sales.
Anonymous Data Protocol	Data Privacy & Security	Privacy was identified as the #1 barrier to adopting financial planning apps.
Interactive Life-Event Simulation	Stress-Testing Future Goals	Users value seeing how 'life events' (e.g., family, home) impact pension outcomes.
Open-Access / Free Model	Cost-Effectiveness	A significant majority of the 'DIY' segment prefers high-quality, low-cost digital tools.
Integrated Wealth Overview	Holistic Financial Control	Respondents expressed a need for one tool that handles investments, property, and pensions.

3. Experimental study

Before evaluating the behavioral and educational effects of the *Seasn App* in a pre-registered academic study, we conducted a proof-of-concept experiment with a pool of first-year International Business students at Maastricht University. The purpose of this proof-of-concept was to test the uptake and short-term effects of the *Seasn App*. By introducing the app in a controlled-university environment, we aimed to assess whether a brief informational intervention would increase adoption and engagement, and whether short-term improvements in financial confidence, literacy, and well-being could be observed.

The study was conducted in a large introductory Finance course in which approximately 400 students are enrolled each year. Tutorial groups (usually consisting of 12-15 students) were randomly assigned to either the treatment or the control condition. The intervention was delivered via *Canvas*, Maastricht University's official digital learning platform, where students in the treatment condition received a targeted announcement inviting them to try the *Seasn App* and participate in the study. Two weeks later, all of the students completed a follow-up survey to measure app usage and short-term financial outcomes.

Design and Procedure

We randomly assigned tutorial groups to either the treatment (even-numbered groups) or the control (uneven-numbered groups) condition. Following the intention-to-treat design, the main goal of the treatment was to encourage students in the treatment group to download the *Seasn App* from the App Store and to complete a series of financial planning tasks featured in the app. After completing these tasks, participants were instructed to submit their 'double' (i.e., digital twin) through a dedicated function in the app. This submission enabled us to verify whether the participants had completed the planning exercises as instructed and whether they had established common knowledge among themselves so that the task completion could serve as a prerequisite for eligibility in the voucher draw. The financial planning tasks covered three main areas: (1) real estate evaluation, (2) fundamentals of the German public pension system, and (3) an investment exercise illustrating the effects of compound interest. The actual wording of these planning tasks is provided in Appendix A.

The intervention was communicated by using *Canvas*, Maastricht University's official digital learning platform. *Canvas* allows instructors to share course materials, post announcements, and communicate directly with students who are enrolled in specific tutorial groups. In addition, tutors in the treatment groups were instructed to make a brief announcement at the start of the experimental period, emphasizing that there was an

opportunity to participate and which outlined both the hard incentives (receiving vouchers), and the soft incentives (contributing to academic research and supporting our study).

Students in the treatment group received an announcement on *Canvas* entitled, "Try a New Financial Planning App – Win a Voucher and Support Research." The announcement explained the research goal, outlined the features of the *Seasn app*, and it emphasized the three main benefits that the participants would receive in exchange for participating:

- (1) the opportunity to win one of five €100 Amazon vouchers
- (2) the chance to apply the knowledge gleaned from the finance course to practical, real-world tasks, and
- (3) the chance to contribute to a tool that could help others to improve their financial future.

Moreover, the announcement on *Canvas* clarified that the app was not intended or suited for assisting in course assessments (e.g., final exam). Participation involved downloading the app and completing a series of simple tasks during the next two weeks, as detailed in the instructional documents attached. The control group did not receive an announcement or any words of encouragement to use the app.

Two weeks after the initial announcement, participants in both the treatment and control groups received a customized *Qualtrics* survey. The survey first assessed app usage and engagement, asking whether students had downloaded the *Seasn App* and how actively they had interacted with its features. In addition, all of the participants - regardless of experimental condition - completed a set of standardized psychological and financial measures designed to evaluate the potential short-term effects of the intervention.

We particularly assessed their financial literacy by using six multiple-choice questions that covered the main topics featured in the experimental tasks: real estate evaluation, inflation, and investment principles such as compound interest. In addition, we measured their confidence in managing money by using five items that captured the participants' perceived ability to handle personal finances, to make informed decisions, and to maintain control over spending and saving behavior. Subjective financial well-being was assessed by using eight items that evaluated the participants' sense of financial security, their satisfaction with their current financial situation, and their perceived financial stress. Finally, future self-continuity was captured using a single-item measure that assesses how connected participants feel with their future selves - a concept linked to long-term financial decision-making and self-control. Together, these measures allowed us to examine the impact of informational encouragement on app uptake and to explore its short-term associations with financial literacy, confidence, and well-being among first-year university students (Hung et al., 2009; Lusardi & Mitchell, 2011; Nanda & Banerjee, 2021).

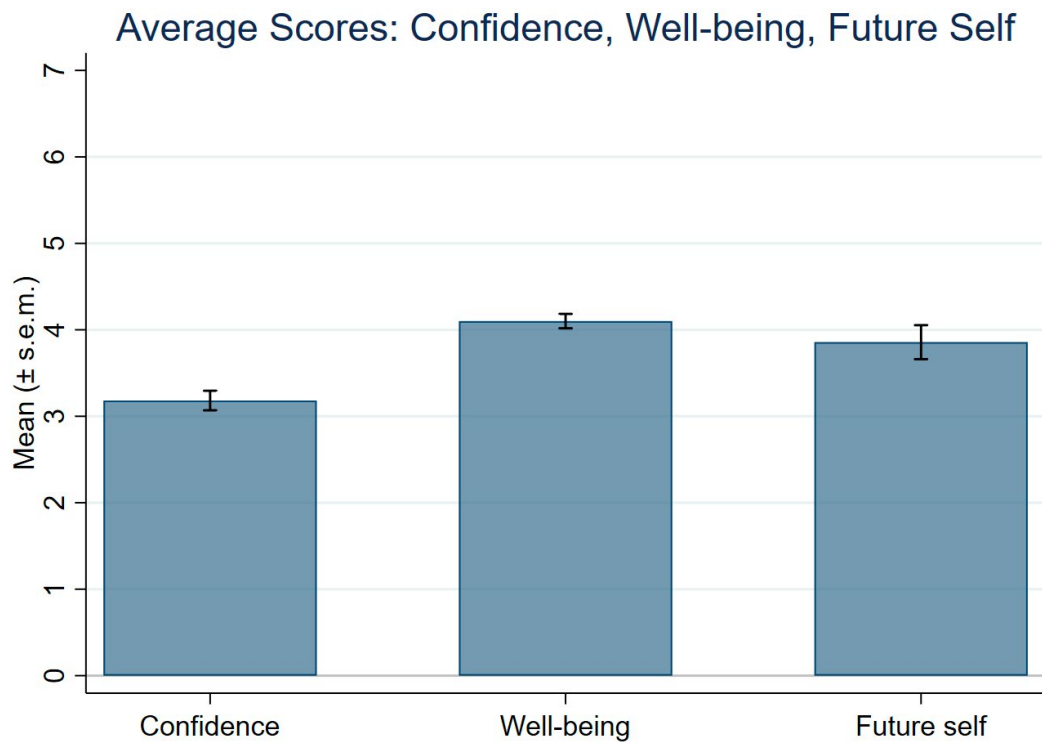
Results

A total of 65 students responded to the survey - 55 from the control group (approximately 25% of the sample) and 10 from the treatment group (approximately 5% of the sample). After excluding incomplete responses (6 from the control group and 3 from the treatment group), the final sample consisted of 56 participants. Of these, only one student in the control group, and none in the treatment group, reported having prior knowledge of the *Seasn* app. This student indicated that he or she had seen the *Canvas* announcement but had not downloaded the app. Thus, the app's actual adoption rate was 0%.

These results indicate that, contrary to prior expectations, the adoption of the app proved to be a major challenge. Moreover, the proof-of-concept was unsuccessful, as we received no feedback or usage data on app downloads, registrations, or technical issues. Consequently, we were unable to use the collected survey measures - covering financial confidence, financial well-being, and future self-continuity - to assess treatment effects since none of the students in the treatment group reported having used the app. As a result, the survey data can only be used to describe average levels within the overall sample, irrespective of treatment or group assignment.

Figure 8 reports the descriptive statistics for these measures, showing moderate financial confidence (mean = 3.18 out of 5, SD = 0.85) and relatively high financial well-being (mean = 4.10 out of 5, SD = 0.62) across the sample. Students are moderately connected to their Future Self (mean = 3.86 out of 7, SD = 1.47). However, this variable displays greater variability, suggesting differing degrees of long-term thinking among students. These findings provide useful benchmark data for studying financial attitudes in the student population and they will help to inform us more about future designs and specifically-targeted interventions.

Figure 8. Scores of the financial measures



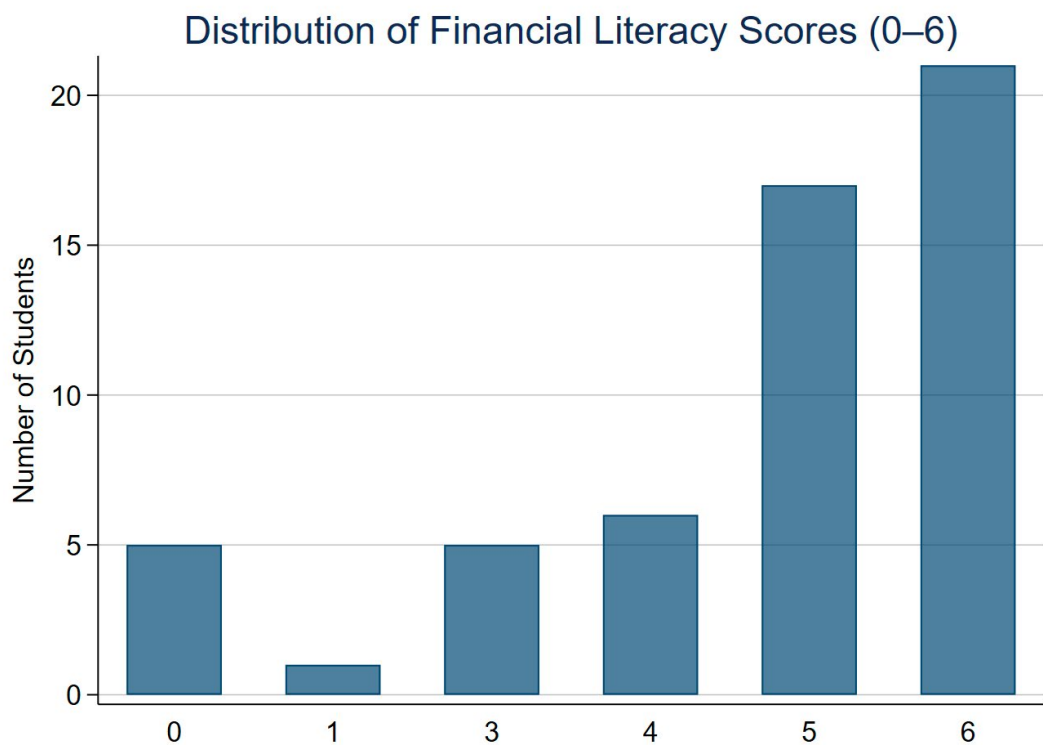
To assess financial literacy, the participants answered six standardized questions covering basic and applied concepts: interest compounding, inflation, diversification, time value of money, real estate liquidity, and retirement saving behavior. Across all of these items, accuracy was high, particularly regarding foundational concepts, and this can be seen as follows:

- 84% of participants correctly answered the interest question.
- 84% also answered the inflation question correctly.
- 88% correctly identified that owning a single stock is riskier than a diversified portfolio (diversification).
- 75% correctly identified the benefits of starting to invest early (time value).
- 86% correctly recognized that rental properties can be illiquid, which can be a drawback for retirement income.
- 75% correctly identified present bias as a psychological barrier to retirement saving.

In total, 43 of 56 participants (77%) answered at least five of the six questions correctly, indicating a relatively high level of financial literacy in this student sample. However, misconceptions remain, particularly regarding psychological barriers to saving. The bar chart presented in the following Figure 9 displays the distribution of financial literacy scores among 56 student participants, based on their responses to six conceptual and applied financial knowledge questions.

The results show that 39% of students answered all of the six questions correctly, whereas an additional 34% answered five out of six correctly, indicating a good understanding of basic financial principles among the majority of the sample. Scores of 4 or below were observed in 27% of participants, and only 2 students (4%) answered 1 or 0 questions correctly.

Figure 9. Financial literacy of the sample



Summary

The results of this proof-of-concept experiment underscore how considerable a challenge it is to achieve the active adoption of a newly-introduced financial planning app, even under controlled and incentivized conditions. Despite the clear communication that was sent through Maastricht University's official digital learning platform and employing both hard and soft incentives, no students in the treatment group reported having downloaded or used the *Seasn App*. This outcome stands in stark contrast to the positive indications from the previous consumer survey, in which many respondents expressed an openness towards financial planning apps and they highlighted the importance of the features that *Seasn* offers - such as accessibility, credibility, and personalized advice. The experimental findings thus suggest that an expressed interest does not automatically translate into behavioral engagement, particularly in low-stakes, time-constrained student environments.

The absence of app uptake prevented an evaluation of treatment effects on the targeted psychological and financial outcomes. Nevertheless, the survey results provide valuable baseline insights into the financial knowledge of first-year students who study Finance. Moreover, these results allowed us to learn about the limitations of using first-year Finance students as participants and the potential weaknesses in the app distribution process. Moreover, the very low response rate in the treatment group has prompted us to reassess the procedures that were employed for distributing and setting up the app. We realized that the registration process was less straightforward and seamless than we had initially assumed.

Given these findings - and considering the students' high workload during the teaching period - we propose a guilt-based explanation for the substantially lower survey participation rate in the treatment group (5% vs 25%). It appears that many students who initially intended to participate (presumably roughly the same numbers as the control group) encountered difficulties installing or registering the app and therefore they failed to complete the setup. As a result, feelings of disappointment, guilt, or frustration may have led these students to avoid participating in the follow-up survey two weeks later.

Therefore, from a methodological perspective, the proof-of-concept highlights several important lessons for subsequent implementations. Future studies should aim to employ better engagement strategies, such as in-class demonstrations, live guidance, or integration into coursework, to ensure that the participants interact meaningfully with the app. In addition, reducing friction in onboarding - by using direct links, simplified authentication, and visible feedback mechanisms - could help to overcome the initial adoption barrier.

4. Limitations and Future Research

While the findings of this paper provide critical insights into the demand and friction associated with digital financial planning, several limitations should be acknowledged to contextualize the results.

The “Shadow Competition” of Generative AI

A significant external factor not explicitly captured in the initial survey design is the rapid rise of Generative AI (e.g., ChatGPT, Claude). Well-educated and younger cohorts increasingly utilize AI for diverse decision-making tasks, including financial planning. This could explain the low Willingness to Pay (WTP) observed in our survey, where the majority of respondents were unwilling to exceed a € 25 annual fee. Users may perceive specialized planning tools as less valuable when “advanced” AI assistants - available for approximately € 200 per year - offer broad utility across all life domains, including the ability to generate financial spreadsheets and simulate scenarios. Current updates to the *Seasn App* are already incorporating AI to enhance user engagement. Future market research should therefore examine whether users perceive these AI-driven features as a functional substitute for AI features available outside the app.

Experimental Environment and AI-Assistance

The high financial literacy scores observed in the experimental study should be interpreted with caution. The tasks and literacy questions were not conducted in a “lockdown” or proctored environment. Subsequently, we cannot rule out the possibility that students utilized external resources or AI tools to complete the assessment. This lack of a controlled environment is a limitation common to field-based “proof-of-concept” studies, but it also suggests that the observed literacy could have been inflated by real-time digital assistance instead of it reflecting the participants’ baseline knowledge.

Representativeness and the “Effort Hurdle”

The 0% adoption rate among the student sample at Maastricht University highlights a dual challenge. On the one hand, this result has likely been influenced by the specific demographic; students often lack the immediate assets or life-stage urgency (e.g., imminent retirement) that necessitates rigorous planning. On the other hand, we consider these results to be relevant to the broader market introduction of the app. The ‘effort hurdle’, the cognitive and administrative friction of onboarding, is a universal behavioral barrier. Even for a tech-savvy and highly literate group, the perceived cost of “getting started” outweighed the potential benefits, suggesting that the adoption among the general population will require even more radical simplification or institutional ‘nudges’.

Awareness vs. Actual Usage

Our survey results indicate a discrepancy between brand awareness and actual behavior. While name recognition for specific players such as *Brand New Day* was high (N=106), data on actual usage frequency showed that the vast majority of respondents (92%) do not consistently use a dedicated financial planning app. Instead, 'Other' responses were dominated by general banking apps (e.g., ING, Rabobank, ABN AMRO) or manual methods such as Excel. This suggests that *Seasn's* primary competition is not necessarily other specialized planning apps, but instead it is more the "status quo" of fragmented financial management within primary banking environments.

5. General Conclusion

To sum up, the results of the consumer survey and the proof-of-concept field experiment provide a comprehensive view of both the market potential and the practical challenges of introducing the *Seasn App* as a tool for financial planning and education. While the two studies differ in design and context - the first measuring perceptions and intentions in the general population and the second testing actual behavior in a controlled university setting - they jointly highlight critical lessons for future implementation.

First, the consumer survey demonstrated substantial interest and conceptual demand for an accessible, trustworthy financial planning app. Most respondents currently manage their finances independently and expressed a desire for credible, personalized tools that simplify complex decisions around investment and pension planning. *Seasn's* key features - its free access, anonymous registration, personalized digital-twin advice, and scientific foundation - directly align with these preferences. These findings confirm that, in principle, the *Seasn App* addresses an identifiable market gap by combining ease of use with expert-level credibility.

Second, the proof-of-concept experiment revealed that real-world adoption remains challenging, even among a receptive, financially literate audience. Despite offering incentives and providing clear communication through the university's official learning platform, none of the students in the treatment group downloaded or used the app. In hindsight, this outcome reflects both contextual constraints and implementation barriers. The participating students faced a heavy academic workload and they experienced time pressure, which reduced their capacity to take on additional tasks. Moreover, the registration process proved less seamless than expected, suggesting that the app did not yet overcome the effort hurdle identified in the consumer study. Feelings of frustration or guilt after unsuccessful attempts may have further discouraged participation in the follow-up survey. All this evidence combined leads us to having learned three main lessons. First, the *Seasn App* - while conceptually strong - is not a "holy grail" that can automatically bypass user effort and trust barriers. Secondly, context matters in that successful engagement requires users to have both the motivation and cognitive space to interact meaningfully with the app. Third, the distribution strategy should rely on credible institutional partners, such as pension funds, universities, or financial service organizations, which can provide endorsement, visibility, and co-branding to enhance trust and perceived relevance.

In conclusion, although the *Seasn App* provides a scientifically-grounded solution to fill a genuine market need, its ultimate success depends on moving beyond functional excellence towards seamless integration into the user's daily digital and financial life. By lowering the barriers to the first "click," we can better empower individuals to translate their financial intentions into long-term behavior. Under these conditions, the app is expected

to have a substantial impact on financial well-being, as the act of planning, which includes the propensity and ability to make forward-looking financial decisions, continues to be a fundamental determinant in household financial outcomes (Hung et al., 2009; Lynch et al., 2010; Xiao & O'Neill, 2018).

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Appendix A

Seasn App Tasks

Seasn App Challenge: Build Your Digital Double's Golden Pension & Win a €100 Voucher
Over the next 2 weeks, you'll use the **Seasn App** to complete a small series of hands-on tasks that simulate real-world financial planning - and get the chance to win one of **five €100 VVV vouchers**

After registration, you'll meet your **twin double** - a blank profile representing the person you're planning for. Rather than relying on a generic forecast, your goal is to **build a realistic, personalized financial future** through three essential tasks:

1. **Add a property** as a source of rental income or future resale value.
2. **Create a direct pension commitment** to roughly see how much money comes from a regular pension scheme.
3. **Set up an equity investment account** to close the pension gap, aiming for a **€10,000/month retirement income**.

To qualify for the **voucher raffle**, submit your **newly-created twin (financial profile)** through the app.

Let's get started - your digital twin, *who might represent a friend or family member*, is waiting for your financial planning skills!

Exercise 0: Set-up

Before you can start planning your digital twin's financial future, the app will prompt you to either *add products* or *add a double*. In this challenge, we'll follow the path of **adding financial products**, eventually leading to the creation of a fictional digital twin with a strong pension outlook.

To ensure everything runs smoothly, your first step is to add a **bank account** (specifically a *checking account*) so the app can process incoming and outgoing cash flows. To do this:

1. Open the **"Manage Products"** section in the app.
2. Tap the **"+"** button.
3. Select **"Add Bank Account"**.
4. Choose **"Enter data manually"**.
5. Enter a name for the account and the bank (can be anything, but fields cannot be left blank).
6. Set the **Account Type** to **"Checking"**.
7. You have to set an **initial balance**. For example, you can choose a **safety buffer of €5,000**.
8. Confirm, **save**, and return to the **Products overview**.

Exercise 1: Real estate = real value

Your first entry in the app should be a property. Please note that the app currently only includes real estate data for Germany, so make sure to select or enter a property located in Germany.

To do this:

1. Go to **"Manage Products"**.
2. Press the **"+"** button.
3. Select **"Add Property"**.
4. **Choose vdp Research** to use this powerful tool to **estimate the value**

You now have two options:

- **Use a fictional property (= any German address)** and estimate its value.
- Or enter a **real property** and surprise the owner by showing them the **estimated current value** and **future value** (at your digital twin's pension entry age).

In either case, you'll be asked to answer a few basic questions about the (real or hypothetical) property. Once completed, your entry will be saved automatically.

The app will then estimate:

- **Proceeds from selling the property** at pension age, assuming the money is reinvested in a **risk-free pension product**.
- **Expected rental income** during retirement.

Congratulations - this was your **first step toward building your digital twin's golden pension!**

Exercise 2: Add a Direct Pension Commitment

Now it's time to take the next step in planning your digital twin's financial future - by simulating a **direct pension commitment**.

To do this:

1. Go to **"Manage Products"** in the *Seasn App*.
2. Press the **"+"** button and select **"Pension and Insurance"**.
3. Choose **"Read out data from PDF/photo or add manually"**.
4. Choose **"occupational pensions"** and then **"Direct pension commitment"**.
5. Enter data manually.

What to Enter (suggestion):

- Use the following example to guide your entry:
 - **Year of birth:** 1980
 - **Age career began:** 20 (start of professional life)
 - **Retirement age:** 68 (i.e., retirement in 2048)
 - **Predicted capital accumulated:** €547,600
 - **Predicted monthly pension:** €3,470

Underlying assumptions:

- **Monthly contribution (during professional life):** €300
- **Estimated return:** 5% annual interest during the contribution phase
- **Payout period:** 20 years (from age 68 to 88)
- **Return during retirement:** 3% annually

You can either replicate this example exactly or adjust the numbers to fit your digital twin's life and preferences (e.g., change retirement age, contribution amount, or expected return).

Congratulations - this was your **second big step** toward building your digital twin's golden pension!

Exercise 3: Add an Investment Account – Make Your Pension Golden!

Now that you've added a **property** and a **direct pension commitment** and you have seen **how both can contribute to your twin's pension income**. However, let's give your digital twin's pension that final boost. In this task, you'll simulate an **investment account** - focused entirely on **equities**.

Goal:

Create an investment portfolio that - combined with your other two products - provides a total pension income of **€10,000 per month** during retirement. (If the property you used is currently worth more than € 600,000 you should aim for a higher pension income)

What to Do:

1. Go to **"Manage Products"**
2. Click the **"+"** button and select **"Investment Account"**
3. Choose **"Enter data manually"** and assign any name for the account and bank.
4. Under **securities**, add:
 - **Name:** *MSCI World*
 - **ISIN:** *IE00B4L5Y983*

5. Enter the amount of **equity capital** you estimate your digital twin needs to reach the target of **€10,000/month pension income**, taking into account what is already covered by:
 - Rental income or property sale proceeds
 - The direct pension commitment (annuity)
6. (Optional) Add a **savings plan** to see how far your digital twin can go if they continue building capital over time.
7. Click **“Save”** and return to **“Manage Products”** to confirm that **all three products** (property, pension plan, investment account) have been entered.
8. **The big moment!** Tap the **rocket icon** in the task list (lower menu) to see how your digital twin will perform at retirement age.

If your investment is **not enough**, try adjusting the amount and **add more equity** until you reach your **€10,000/month goal**.

Well done - your digital twin is on track for a truly golden retirement!

Final Step: Submit Your Work by Sharing Your Profile

To complete the challenge and enter the raffle, you'll need to submit your work by sharing it with the app's community. This allows us to assess your submission, and it also enables other users to explore your profile as a digital double - especially those who haven't yet entered their own data but want to get started right away make use of such doubles. In order to do this:

1. Open the **“Profile”** section in the app.
2. Tap **“Create new double”**.
3. Choose a **username that includes your VVV code** - this is how we'll recognize your submission for the prize draw.
4. Since your profile currently consists only of financial products, enter a **brief description** based on the suggested list (can be fictional or simple - just make sure **no fields are left blank**).
5. Tick the box to **agree to share your work**.
6. Press **“Submit”** to complete the process.

You're done - your digital double is now in the system and you're officially in the running for the voucher raffle!

Concluding Notes:

Congratulations - if you've completed the three tasks and built a pension income from **three different sources**, you've done enough to qualify for the **voucher raffle**!

Don't worry if your numbers or products differ from the suggested examples - **creativity is welcome**, as long as your digital twin ends up with a realistic, multi-source pension plan.

The tasks focused on building a "good" pension income - but is it really enough for your digital twin? A natural next step is to think about their **expenses** - both now and in retirement. Ask yourself:

- What kind of lifestyle do they (or you) want in retirement?
- How much do things cost now - and how much will they cost in **2048**?

Tip: Use the **rocket icon** to simulate your plan and explore **future prices**. Adjust until you're confident that your twin's lifestyle is covered.

- **Choose from a wide range of digital doubles**

Let your friends or family get started instantly - without entering data - by picking a double from the existing profile pool.

- **Add life events**

Simulate real-life changes like **marriage, children, divorce**, or **unemployment** to **stress test** your financial plan and see how secure it really is.

We hope you enjoyed the challenge and feel inspired to explore the app further - or even share it with someone who might benefit from it!



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