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Man vs. Machine: The Future of Financial Advising

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Citation

Man vs. Machine:
The Future of Financial Advising

By

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Abstract

This research evaluates the potential impact of artificial intelligence on the financial advising industry, particularly regarding the demand for human financial advisors within the industry as artificial intelligence rapidly evolves. With the recent launch of ChatGPT, a cutting-edge AI chatbot, the role of financial advisors, which previously seemed mostly exempt from any technological alternatives due to the essential emotional intelligence of a human financial advisor, is potentially at risk for replacement. This research provides an in-depth analysis on the feasibility of artificial intelligence replicating necessary humanlike characteristics of a human financial advisor and utilizes results of an anonymous survey where participants' demographics such as age, location, gender, employment status, and income levels are combined with information regarding personal perspectives such as their attitude towards hiring a financial advisor and their trust levels towards AI replacements in this role to determine how demand would potentially be affected should these developments within this technology occur.

Introduction

Artificial intelligence (AI) as it relates to the financial advising industry is a relatively new concept that has no definite opportunities, risks, or constraints outlined. AI experts are rapidly innovating AI models to produce smarter, faster, and overall better programs constantly. With the recent launch of new AI models and programs, there are many questions arising regarding what AI really is, how the technology behind it is integrated into society, and how it will influence top professions in the future. The financial advising industry is an industry that has been established for many years and has definite regulations and compliance requirements outlined by regulatory government agencies and corporations such as the U.S. Securities and Exchange Commission (SEC) and the Financial Industry Regulatory Authority (FINRA). There are also social standards that financial advisors adhere to, such as knowing their clients and establishing relationships that lead to high quality service and financial advice curated towards the client and their individual needs. With AI's recent advancements, financial advising, which was previously not generally considered a profession that could be harmed by or benefit largely from AI, could be at risk. Financial advising is most likely going to change in the near future as a result of artificial intelligence, and there is no sufficient evidence as to exactly how. Whether the financial advising profession as a whole is at risk for replacement or not is not clearly outlined by any recent research; however, there are multiple publications that provide general estimates as to what AI could bring into the financial advising industry.

Through thorough research conducted by myself and largely accredited research sources, this thesis combines multiple perspectives, including those of financial professionals themselves, researches of the financial services industry, researchers of artificial intelligence technology, consumers of the financial services industry, consumers of artificial intelligence, and individuals who are not currently participating in the financial services industry in order to provide an accurate depiction of what awaits for the future of financial advising. This thesis provides in-depth research to portray an accurate overview of the financial advising industry, including what the financial advising industry encompasses as well as the outlook for the industry in the near future; an accurate overview of artificial intelligence, including what AI is and the various types of AI that are realized and theorized; an accurate representation of AI as it relates to the financial advising industry currently; an accurate representation of the demand outlook for financial advising after AI is considered using a survey conducted by myself; and a conclusion of the preeminent next steps the financial industry should take after all other research is considered.

Financial Advising Industry Overview

The financial services industry is a high growth sector representing 8.3 percent, or $1.7 trillion, of United States gross domestic product each year, according to SelectUSA, a U.S. government program led by the U.S. Department of Commerce. Of the multiple subsectors of the financial services industry and the occupations within these subsectors, personal financial advising accounts for services that provide individuals with money management advice to financially obtain their future goals. Most personal financial advisors typically provide advice to their clients that will assist them in making financial decisions related to investments, insurance, taxes, retirement, estate planning, and a variety of other financial aspects or issues. They build and maintain personalized strategies for their clients based on the client's risk tolerance, short- and long-term goals, and liquidity needs. Typically, they are required to have various securities licenses to provide their services, and these licenses are obtained through exams administered by the U.S. Securities and Exchange Commission (SEC), and they are regulated by the SEC as well.

In addition to the license requirements, it is necessary that financial advisors maintain strong personal qualities and skills including analytical skills, communication skills, leadership qualities, and interpersonal skills. In order for an advisor to build their clientele, they must master these skills and apply them towards developing client relationships and gaining the client's confidence.

The financial advising industry is rapidly expanding, with employment growth projected to be much faster than average at 15% from 2021 to 2031, as depicted in Figure 1, according to the U.S. Bureau of Labor Statistics. In 2021, financial advising accounted for 330,300 of U.S. jobs (Bureau of Labor Statistics), and that number will only increase throughout the next ten years. Demand for advisors among the general population is increasing due to baby boomers continuing to retire and the number of employee pension plans steadily declining. Baby boomers are the oldest working generation, celebrating their birthdays between ages 59 and 77 in 2023, and many have already begun to retire. They have obtained significantly higher net worth than other generations due to a variety of factors including more time to accumulate wealth, societal norms such as earlier marriage that led to earlier increasing net worth, and better economic conditions in their younger life compared to current economic conditions for younger generations. According to the Berkley Economic Review, when baby boomers were between ages 25 and 34, 45% of them could afford to purchase their first home, which was nearly half of the population in that age range at that time, compared to 37% of millennials in this same age range now. Baby boomers are nearly nine times wealthier than younger generations and are projected to transfer $84.4 trillion of wealth over the next 20 years (Pino). Not only are baby boomers looking for advice in managing their assets, but younger people will also need assistance in managing assets as wealth is transferred to them as heirs. In addition, according to the Social Security Administration, the number of workers covered by defined benefit pension plans has fallen to less than 20% within the past 25 years. This leaves many workers in need of an individual retirement plan (IRA), which is one of the many products offered by financial advisors.

Not only will demand for more advisors increase, but the demand for replacements for current advisors will increase as well. An aging population is the primary driver of employment growth within the financial advising occupation, with the average age of financial advisors being 55, and one-fifth of advisors being age 65 or older (J.D. Power). Furthermore, only 11% of financial advisors are under age 40 (J.D. Power), leaving this industry desperate for new talent. Cerulli Associates released new research sponsored by Commonwealth Financial Network that revealed data portraying that within the next ten years, 37% of advisors are expecting to retire from their occupation as depicted in Figure 2. This will leave $10.4 trillion of controlled assets, or 40% of total industry assets, with a retiring advisor (Cerulli Associates). According to this same research, one-fourth of these retiring advisors are unsure of their succession plan. The business transition from an advisor to their successor is a critical stage that determines the legacy of the retiring advisor and sets the foundation for their successor's career. With a relatively steady number of advisors retiring each year, this profession is currently in need of younger advisors and is also overflowing with clients who are anxious about what the future holds for their assets. This necessary business transition leaves advisors searching for certain qualifications in and attributes about their successors to make the process as smooth as possible. Of the practice management professionals who took part in the survey by Cerulli Associates, who all obtained a minimum of five years of experience as an advisor and maintained $50 million in client assets under management, 88% expressed the importance of their successor having a good personality,

85% emphasized the necessity that the acquiring advisor prioritize the clients' interests, and 85% expressed that their successor must maintain an adequate regulatory and compliance record (Cerulli Associates). All of these results conveyed a strong alignment of the advisors' values and service delivery to the client. The only issue with attracting and retaining new talent that meets the requirements outlined by the professionals currently in the advising roles in this rapidly expanding industry, is their option for a successor may not be human. The recent availability of artificial intelligence may have a significant impact on the outlook for the financial advising industry.

Artificial Intelligence Overview

Artificial Intelligence (AI) first emerged in the mid-20th century, and it has only continued to develop at a rapid rate, especially in the most recent decades. AI encompasses all computers or computer-controlled robots that are designed to perform tasks using intellectual processes similar to humans, such as learning from experiences, discovering meaning, generalizing ideas, and gaining the ability to reason (Copeland). These computers and computer-controlled robots use algorithms and programmed computer software to make decisions or predictions by constantly analyzing and interpreting data to teach itself and build its database to get progressively better at assigned tasks. Artificial intelligence can be broken down into three categories based on its capabilities. The first type of AI is Artificial Narrow Intelligence (ANI), also known as weak or narrow AI. This type of AI is the only type that has been successfully implemented into the day-to-day lives of humans. ANI is goal-oriented and can perform the specific tasks it is programmed to with a limited range of abilities. This system can formulate, perceive, and detect patterns; however, it is limited to a certain set of constraints, parameters, and contexts. It cannot replicate a human mind, but it can simulate human behavior based on the database it is provided with. Artificial General Intelligence (AGI) is the next tier of AI that is commonly referred to as strong or deep AI. This type of AI uses a theory of mind to not only simulate basic programmed human processes, but to mimic human intelligence by learning, thinking, comprehending, and applying its intelligence to solve complex problems. It also recognizes and replicates behavior such as emotions, beliefs, and feelings. These capabilities cause AGI to be indistinguishable from humans in any given situation. Essentially, AGI understands all aspects of the human mind and can replicate it. The last type of AI is Artificial Super Intelligence (ASI), which is a system of AI that can not only understand and replicate human intelligence, but it can outperform humans in any given task. While this type of AI is still hypothetical, it is difficult to discern how long it will take for ASI to become a reality. Theoretically, it would be a system too complex for humans to understand and program; therefore, it would teach and improve itself resulting in technological advancements and innovations far beyond what humans can imagine as of now. ASI would be entirely self-aware, and the consequences of a system this complex are unknown as of today.

While there are three types of artificial intelligence, only one is realized in our everyday lives, and that is ANI. There are multiple advancements in this type of AI that are expected to be integrated into every sector in the near future, from artificial intelligence that can identify cancer as well as a radiologist with fifteen years of experience in the health sector (Jaber) to artificial intelligence that can fly an F-16 fighter jet for seventeen hours and having the potential to eventually replace humans in dangerous airspace in the aerospace and defense sector (McFadden). There have been multiple notable technological advances throughout the history of artificial intelligence, such as NASA successfully launching autonomous robots Spirit and

Opportunity to navigate Mars and collect revolutionary data in 2004 (NASA Staff). This was a huge scientific exploration, and it provided scientists and the public with an idea of Earth's sister planet. Another notable instance of artificial intelligence arose when Apple acquired and revealed Siri as the first ever virtual voice assistant in 2011 (S. R. I. International). This was a huge stepping-stone for the company, and ultimately this innovation helped push Apple to be one of the most successful companies in the world. History was made again when Tesla released self-driving technology in their vehicles in 2015 (The Tesla Team). These developments were all products of ANI, and each instance was a new model designed to perform the task and evolve its performance for the task assigned. Each instance of new artificial intelligence launching to the public provided a platform for people to witness the advancements within the technology firsthand, and now AI is integrated so deeply into people's lives that they do not even realize how often they are relying on it. With each instance of AI development, people have become more curious, and when the most recent complex language model emerged in November of 2022, the frenzy surrounding artificial intelligence reached an all-time high. As depicted in Figure 3, according to Google Trends there was a mild yet consistent interest of artificial intelligence in the public with small spikes around the time of AI milestones such as NASA's Mars exploration, Apple's release of Siri, and Tesla's autopilot in its cars; however, ChatGPT (Generative Pretrained Transformer) broke this relatively stable pattern by causing a spike in public interest that has yet to subside.

  ChatGPT, developed by OpenAI, is a cutting-edge chatbot able to process conversation and generate responses based on the input it receives. It is an incredibly complex language model that performs language tasks such as writing and conversing, and it is currently being developed to eventually mimic human emotional intelligence. This language model quickly attracted users, and within five days of release, ChatGPT reached one million users (Ahmed). As shown in Figure 4, this surpassed other services as the quickest service by more than two months, with the closest service being Instagram taking two and a half months to reach one million users. The popularity and attraction to this service was well-warranted, as ChatGPT is the most advanced AI language model the world has ever been exposed to. Up until March of 2023, ChatGPT used the versions GPT-3 and GPT-3.5 to generate its responses to input by users. GPT-3.5 is an improved version of GPT-3, which was the most developed generation of the language model. Research released by OpenAI outlines the large-scale, multimodal model GPT-4, which produces human-like performance results on various professional and academic benchmarks, including scoring in the top 10% of test takers when presented with a simulated bar exam in contrast to GPT-3.5 which scored in the bottom 10%. GPT-4 outperformed GPT-3.5 on a variety of other exams as well, and the model scored in the 60th percentile or higher on over half of the exams, as depicted in Figure 5. According to a Microsoft Research Team, this new version also has integrative ability and can synthesize general principles and patterns in creative ways. In the study conducted by Microsoft, GPT-4 correctly identified and made inferences regarding general emotional state and basic intention; however, it failed to identify difficult social situations which required advanced theory of mind (Bubeck). The reason behind the success of this AI model is not due to advancements in the previously realized AI type, ANI. This model is the first glimpse into AGI models, due to GPT-4 exhibiting human-level performance in multiple areas including reflection of mental state. It can identify basic goals, motives, expectations, and desires and alter its responses based on those factors. With this new model that previews the future of AI in the classification of AGI, artificial intelligence could begin evolving faster than ever before and start

being integrated into multiple professions as it will have the same performance results as top professionals within these occupations. This includes the financial advising profession.

AI in Financial Advising

Up until recent advancements in artificial intelligence, the financial advising profession was considered mostly exempt from any technological alternatives due to the nature of the job. It is a knowledge-based job, and it requires advisors who are able to adapt to each client's needs and provide comprehensive financial plans using a multitude of resources and choosing between a variety of different asset management options. There is a large variety of financial products and plans advisors may offer their clients, from investment products such as stocks, bonds, mutual funds, and exchange-traded funds to financial plans such as retirement plans, tax plans, and insurance plans. There is no conventional, one-plan-fits-all way to provide financial services the way most advisors do. AI has not been proficient in making decisions, especially decisions regarding the best path for customized exceptional results that meet an individual's present and future needs. In a recent interview with AI chatbot ChatGPT (version GPT-3.5) conducted by Sam Taube on behalf of MarketWatch, ChatGPT disclosed that it cannot provide personal advice; however, it can provide general suggestions regarding investments, such as which types of accounts are suitable for generalized groups of individuals. In the article, Rick Nott, a certified financial planner with LourdMurray in California, reported that while ChatGPT's answers were mostly correct, they were confusing and incomplete (Taube). ChatGPT also elaborated on the fact that it did not have personal opinions or control over itself. Due to the chatbot not having opinions, it cannot recommend services based on what it believes is best for the individual.

In addition to lacking adequate investment advice, there is a level of emotional intelligence necessary to produce exemplary results within an advisor's practice that AI lacks. Advisors must be able to navigate their client's emotions and build their confidence levels to provide quality service to them. Complex conversational dialogue has not been perfected or even developed to be comparable between AI and human advisors. These types of conversations and the decisions being made within them would classify as difficult social interactions for AI due to the requirements needed to uphold these conversations, such as efficient explanatory skills, empathic abilities, clear facilitation skills, and the capacity to adequately adapt the initial plan and alter decision paths for the client based on the goals and issues they present. The ability to address and respond to sensitive topics that arise within this profession is also essential, and this type of development has previously never been feasible for artificial intelligence either. Since the interview with ChatGPT was published on MarketWatch, the new generation, GPT-4, has been released. With the academic accomplishments of this new model, strong investment advice and outlines of financial plans can potentially be expected out of ChatGPT in the near future. According to the Microsoft Research Team, this new model also has creative abilities as well that could potentially allow it to adapt quickly to a client's needs and provide the emotional intelligence level that previously left financial advisors safe from technological replacement. Now, not only has it been proven that artificial intelligence can replicate human academic performance, but it can also potentially replicate human emotions and curate responses using creativity rather than conventionality. With these impressive accomplishments in AI, the financial advising industry is potentially at risk. By virtue of this, I conducted an anonymous survey to gauge the amount of risk the financial advising industry will actually endure as a result of these AI advancements.

Research and Analysis

On March 14, 2023, I conducted an anonymous survey collecting personal information and opinions from volunteering participants. The survey was distributed randomly via social media platforms to reach a broad audience and accumulate sufficient data without bias towards any demographic, geographic, or psychographic segment. The survey closed on March 19, 2023, after collecting 100 responses all including data from volunteers who attested to the accuracy of their response upon completion. This information collected included data providing participants' age, location, gender, employment status, income level, attitude towards hiring a financial advisor within their lifetime, trust levels in utilizing AI for this role, and preference between a human advisor and an AI program, should they possess closely comparable performance levels. This survey intended to provide an accurate representation of how AI advancements will influence the demand for human financial advisors, and whether or not there are certain factors demographically, geographically, or psychographically that could influence the demand levels stronger than others would. All data assumes that AI models could successfully advise clients at the same level as human professionals in the financial advising industry today, and all percentages calculated imply that there was a sufficient number of participants to provide accurate results.

Of all participants, 24% reported currently having a financial advisor and 66% reported planning on hiring a personal financial advisor in the future. 2% of those currently with financial advisors planned on no longer working with their advisor in the future. Of the 76% who do not currently have an advisor, 58% plan on having an advisor in the future. This group represents the upcoming demand for financial advisors by clients completely new to the service. 52% of this group are under age 25 and 80% of this group are under age 45. This implies that the upcoming demand of those new to the industry will largely be made up of individuals with investment time horizons of more than 20 years. The 22% who currently have financial advisors and plan on keeping an advisor in the future are likely to be at risk for their advisor retiring considering the study by Cerulli Associates that reported that 37% of advisors are planning to retire in the next ten years (Cerulli Associates). This places them in a group that will potentially be searching for a new advisor. By combining those who will be new to the service and those who will potentially be seeking a new financial advisor, I analyzed the group of potential future demand.

Of all individuals considered in the potential future demand group, only 15% would trust an AI program with proficient skills to manage their assets, and only 20% of those would prefer an AI program over a human financial advisor. To provide an alternate depiction of this percentage, 4 in 100 people would prefer an AI model managing their assets as opposed to a human professional when choosing their financial advisor. Of all participants in the survey that would trust an AI model as their financial advisor, including those who do not foresee themselves hiring a financial advisor at all in their lifetime, 81% of them were under age 45 and 44% of them were under age 25. Of those that preferred an AI model in comparison to a human professional, 100% were under age 45. This shows an accurate depiction that artificial intelligence is being adopted easier into the younger generations. In addition to this, 75% of those who would trust AI models to perform advising tasks live in urban areas, implying that urban areas are more likely to adopt occupation replacements through AI quicker than rural areas. When analyzing responses from participants who had an individual annual income level of $100,000 or more, 33% would trust an AI model with their assets; however, 100% would prefer a human advisor over an AI model. It is noted that this group was also made up of participants of which 78% were aged 46 and older, so it is unclear whether the income level or age range has a

stronger influence over this data. All participants who would trust AI models for financial advising were either employed (full-time or part-time) (75%) or students (25%). No individuals who were retired responded that they would trust an AI model with their assets.

Overall, this research does not portray significant evidence that the financial advising profession is at risk for technological replacement by artificial intelligence as a result of increase in client demand for AI advisors. Only 5% of participants would prefer an AI model over a human advisor assuming they have comparable performance results, as depicted in Figure 6 which is taken directly from the survey results summary. This research does imply that younger generations are more likely to trust AI which could result in increased demand for AI advisors in the distant future. Likewise, financial advisors conducting business in urban areas are more likely to see impacts of AI in their professions sooner than those conducting business in rural areas; however, this appears to be a situation of the distant future as well.

Conclusion

Artificial Intelligence has made significant advancements in recent years, especially with the launch of OpenAI's new cutting-edge chatbot ChatGPT. The newest generation GPT-4 is undoubtedly in its earliest stages of development; however, by being the first glimpse into artificial general intelligence, it is a revolutionary step in the journey of AI development. While there is no accurate time estimate on when AGI will be perfected, if ever, there is a long line of innovation ahead of artificial intelligence especially in its common type, artificial narrow intelligence. The financial advising industry is projected to endure growth at a much faster than average pace over the next decades, especially with the majority of advisors (89%) being over age 40 (Bureau of Labor Statistics). Artificial intelligence as it is realized in the world now does not appear to be a threat to the financial advising profession; however, it could be in the far distant future. The future of financial advising may not be AI as we see it now; however, that can easily change depending on the time it takes for humans to produce AGI and eventually ASI. ChatGPT is continuing to prove that these revolutionary, and previously completely theoretical, concepts have potential to be realized within a period shorter than expected. The only way financial advisors will be able to combat the potential risks associated with AI developments, is to adopt AI as an asset rather than a replacement.

AI can easily be adopted into not only financial advising, but multiple other professions as well, as a supplement rather than a replacement. Financial advisors spend a significant amount of time in the office performing tasks that are necessary for them to perform well in their job but do not require them to utilize their qualifications such as completing and filing paperwork, collecting client documents, and updating account information. These are all things that an AI model could be programmed to perform, and it would allow the advisor more time to provide better service to their clients. AI could be essential to advisors in this way, and it would allow for advisors to focus on things that require certain aspects that AI either has not developed, or people would not trust AI for should it develop in the future, such as high levels of empathy and understanding as well as the creation of trust and confidence in a client-advisor bond. Utilizing AI would allow advisors more time to build their relationships with clients and expand their client base. IFA Magazine published an article featuring multiple experts throughout the financial services industry, each touching on how they perceive the future of AI in financial services. Bradley Lay, expert in entrepreneurship, elaborated on the needs of clients from their advisors when they seek services in the financial advising industry, and those include "emotional support, guidance, and reassurance" (Russell), especially when dealing with complex financial

problems. Even if an AI model could replicate these services, it is unlikely a client would feel the same comfort level after receiving these services from their AI advisor rather than their human financial advisor. AI could also result in major cost-savings within the financial advising industry. Financial institutions could use AI to perform tasks requiring little skills that were previously performed by skilled workers, freeing up these skilled workers to expand their clientele and allocate more time to tasks that generate revenue for themselves and the firm. In addition, AI is less likely to make errors when performing basic tasks, therefore eliminating fees or fines an advisor might endure from making these simple mistakes. For example, NSF fees potentially would no longer be charged to clients due to the AI model constantly reporting an accurate dollar amount for funds available in an account and not allowing for instances to occur where an NSF fee could be charged. Using AI in these ways can result in various benefits for the advisors and the financial advising industry. Overall, after analyzing research conducted by myself and a multitude of other accredited sources, I have found it is unlikely AI will replace financial advisors; however, it is important that financial advisors remain educated on the innovations of AI in the future and respond in proactive approaches to any potential risks AI could impose on the financial advising industry by adopting AI into the workplace as an asset rather than a substitution.

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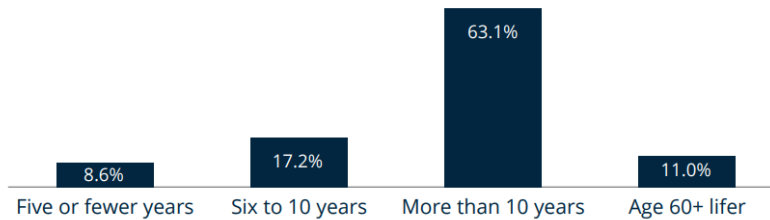
Appendix

Personal Financial Advisors

Percent change in employment, projected 2021-31
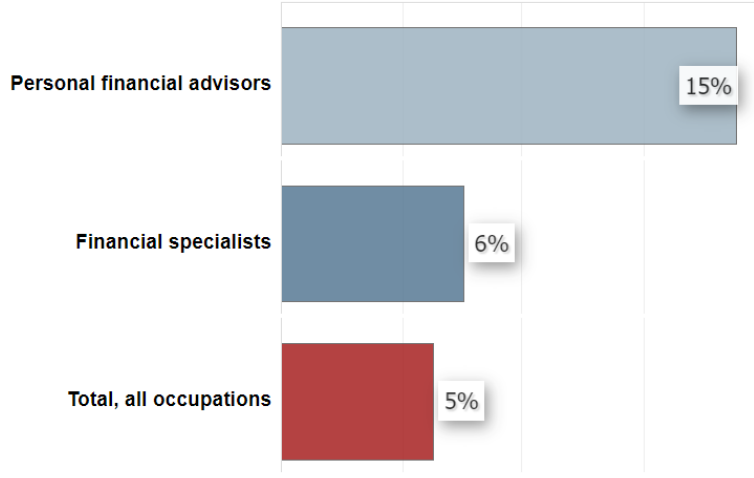
Note: All Occupations includes all occupations in the U.S. Economy.
Source: U.S. Bureau of Labor Statistics, Employment Projections program

Figure 1.

### Anticipated Retirement Timeframe: All Industry Advisors

Succession Plan for All Industry Advisors Transitioning within 10 Years

Sources: Cerulli Associates, Investment Company Institute, Insured Retirement Institute, VARDS, Strategic Insight/SIMFUND, Investment News, Judy Diamond, Department of Labor, PLANSPONSOR, S&P Capital IQ MMD, Financial Planning, Financial Advisor Magazine, Investment Advisor Magazine, and Cerulli Associates, in partnership with the Investments & Wealth Institute, WealthManagement.com, and the Financial Planning Association® (FPA®) | **Analyst Note:** Advisors were asked for the number of years until they expect to retire. The "Age 60+ lifer category" represents advisors who are over age 60 and indicate an expected retirement date of 10 or more years. The data exhibited here is a result of Cerulli Associates' surveying of approximately 1,500 advisors each year.
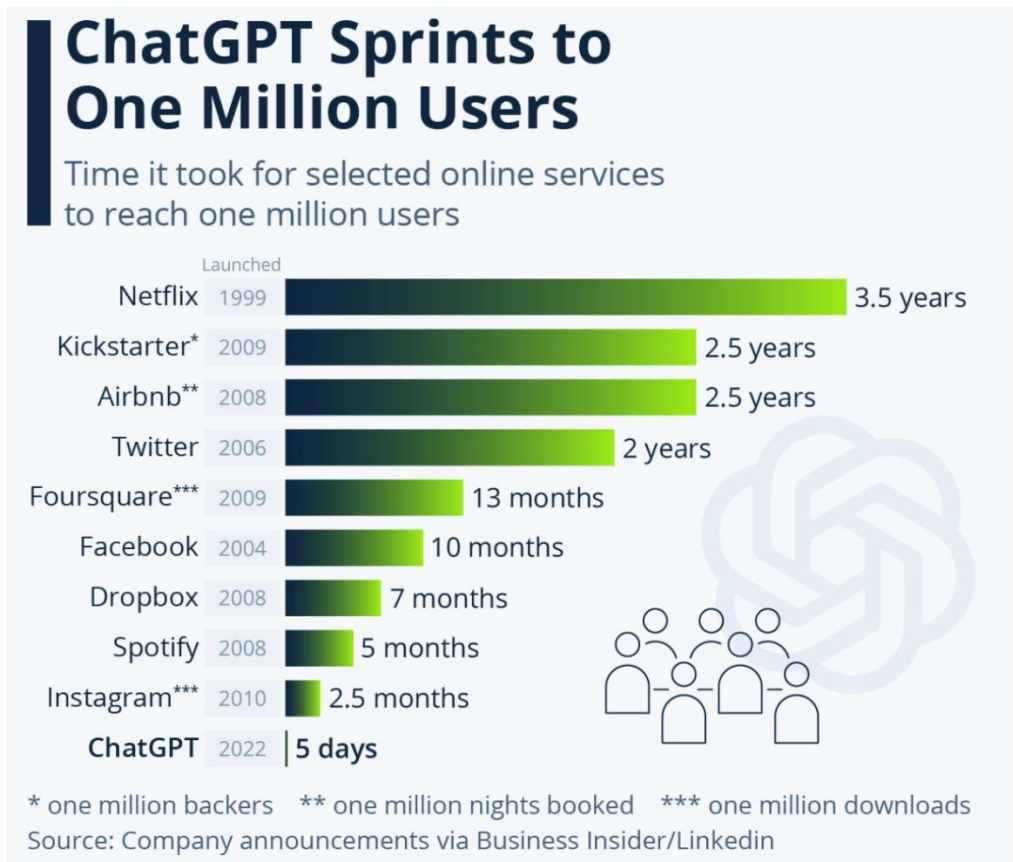
Figure 2.

Artificial Intelligence Topic Interest Over Time
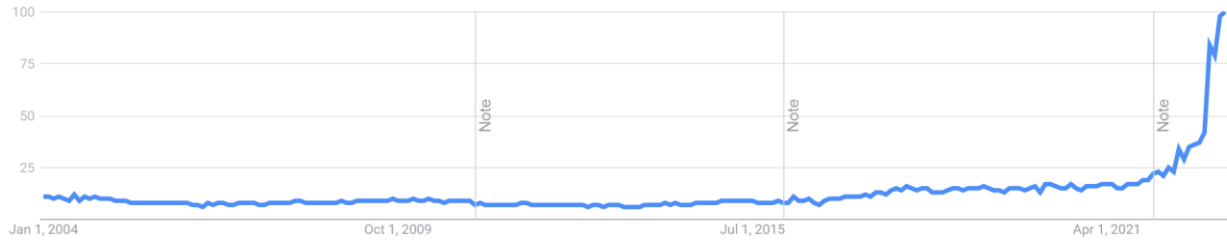
Source: Google Trends
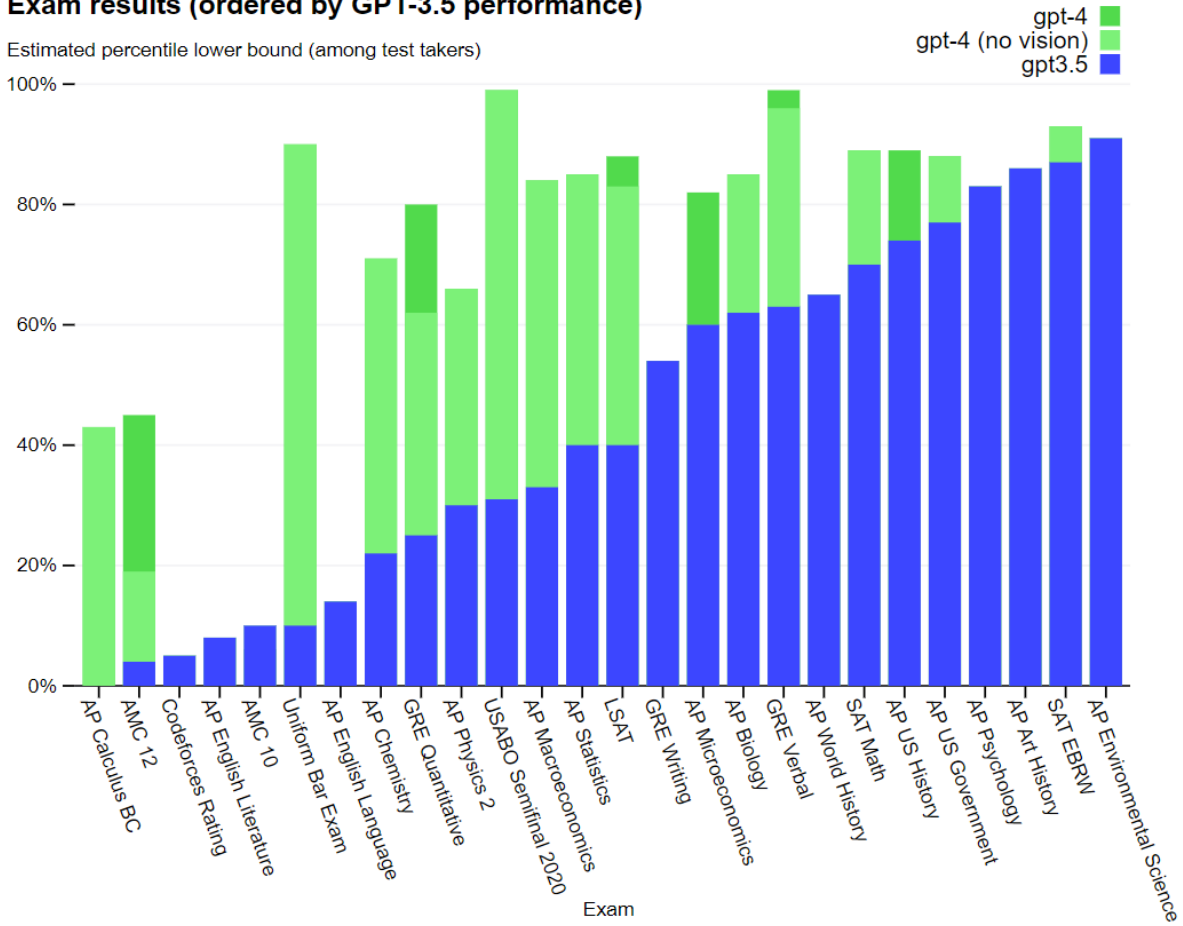**Figure 3.**

Source: Digital Information World
Figure 4.
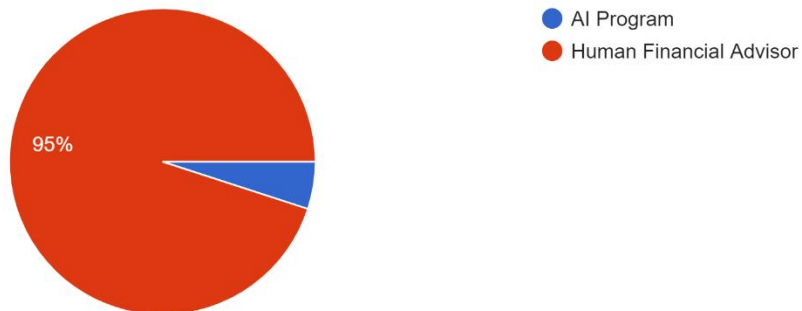
Exam results (ordered by GPT-3.5 performance)

Estimated percentile lower bound (among test takers)

Source: OpenAI
Figure 5.

Which would you trust more as your financial advisor?
100 responses

Source: Thesis Survey by Rylee Driggs
Figure 6.