The Economics of Information in the search for financial planners

by

Daniel Mackenzie Yerger

B.A., University of Colorado Denver, 2012
M.B.A., Colorado State University, 2015

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Personal Financial Planning
College of Health and Human Sciences

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Abstract

The theory of the economics of information posits that consumers will engage in a search for additional information so long as they anticipate that the marginal utility of doing so will yield a more optimal economic outcome, e.g., that they will obtain a better price for goods or services. In turn, sellers of products and services may utilize signals such as advertising and price to enhance the amount of business they do, whether by attracting additional customers or sending strong enough price signals to reduce the marginal utility of additional searches by consumers.

Financial planners benefit from a significant information asymmetry between themselves as sellers of their services and consumers as their potential clients, as they are known as credence claim providers; those service providers whose service is difficult to ascertain the quality or value of before engaging in their services, and the results thereof are difficult to clearly attribute to the services performed. Because of this, consumers have difficulty determining the value of a financial planner both before and after engaging with a financial planner, making the search for quality signals difficult.

Financial planners will regularly market their services using all-encompassing terms such as “comprehensive” and “holistic” but often offer a variety of services that may differ dramatically from financial planning firm to financial planning firm and even planner to planner within that firm. Additionally, many financial planners receive commissions for the sale of investment or insurance products that may not be explicitly known to the buyer of those products, or use a blend of explicit fees and less obvious commissions to generate revenue, which leads to greater difficulty for consumers attempting to compare their total costs with the total value received from a financial planner’s services.

Utilizing primary data gathered from an online sample, this dissertation aims to examine how transparency of price and services benefits consumers in the process of selecting a financial planners. Also examined are what consumers consider the optimal blend of cost, services, and consumer preferences for transparency of fees and services.

The results of the study suggest that information plays very little role in influencing the net costs of financial planning services or the selection of a financial planner based on the quantity or type of services offered. Despite clear data on both price and services, those with perfect information in the study did not obtain statistically significant advantages in pricing or services. Conversely, those who had only pricing data engaged in more information search and still did not obtain preferable pricing, and those with only services data did not use the services data available to them to produce any noticeable trend in the quantity or type of services received. Further, the study found that many consumers of financial planning services will opt for the first planner they research, rather than engaging in additional search for information for more optimal price or value considerations. This suggests that while financial planning professionals and those involved in the marketing of financial planning services may hold strong views about price and service transparency, members of the public are not significantly affected by the availability of either, and that obfuscation of either piece of information may not materially disadvantage consumers of financial planning services, at least insofar as how they opt to select a specific financial planner.

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Dedication

To the fourth great profession, financial planning, and those who spend their time thinking about how to better help people rather than arguing about how we're paid to do so.

Chapter 1 - Introduction

Financial planning and the business of financial advice are ill-defined, with ambiguity in regulation and practice leading to confusion on the part of consumers as to what constitutes financial planning and what it costs. Those within the financial advice industry who identify as financial planners often have differing views on what financial planning is and who does it. A popular framework for understanding the financial planning industry, "12 Paths in Financial Planning," (Dean, et al., 2019) argues that there are twelve primary career paths and semi-exclusive types of firms, all of which sport a myriad of financial planning functions, services, and business models, or are characterized by a lack of the aforementioned. Even within each "path," there are an astonishing number of differences between practitioners of financial planning, the process by which they deliver planning, and how they are compensated for their services. Some of the most heated debates within the professional space of financial planners is that of how they are compensated, often disregarding the second and most important variable: "For what are they compensated?"

All of this leaves the average American consumer put out by a lack of clear understanding of what any financial planner will cost them and even further confused about what any particular financial planner or financial planning firm can do for them. Many firms use the same language to describe their services, such as "comprehensive" and "holistic". Others will describe their services as fee-based, fee-only, or advice-only. Some financial planners will describe themselves as fiduciaries with a legal obligation to give advice in their client's best interest. Yet, countless financial planners and firms could be described by the same combination of words and offer a completely different client experience and value proposition, along with being paid entirely different amounts based upon entirely different criteria.

The American consumer is faced with an incredible amount of information asymmetry in an almost opaque industry when seeking financial advice or financial planning services. A consumer may search online for financial planners or advisors near them or for their particular demographic, and come up with a list of professionals, which may include any number of service and compensation models. It is then left up to the consumer to self-educate on the types of services different professionals perform, along with interviewing a professional or multiple professionals to gain confirmation that they, in fact, offer the set of financial planning services they are seeking. The irony, then, is that even with substantial due diligence, consumers are often still unclear about exactly what the financial professional will do for them and what the outcome of the engagement will be. This is likely in no small part due to the heavy jargon utilized by financial planners, but also, even despite the planner's best attempt to clearly communicate their services, some consumers simply are not financially literate enough to fully grasp the value proposition of financial planning, whether comprehensive or selective in scope and nature.

These problems lead us to examine the question of client and financial planner information asymmetry through an economic lens. The classic economic description of a transaction between a consumer and a service provider assumes perfect, or at the very least, adequate information for the consumer to make a consumption decision. However, because of the opaqueness of the financial services industry, it is hard to argue that even a well-informed consumer has adequate information to objectively and clearly assess the services a financial planner might offer, whether truly offered or assumed on the part of the consumer. From this standpoint, the theory of the economics of information (Stigler, 1961) provides a helpful perspective on how to evaluate the search for a financial planner and the final selection of that professional. The economics of information scrutinizes the assumption of adequate information between buyers and sellers. It focuses on the costs incurred by buyers in attempting to find the best price-to-value of a service or product for their needs and, in turn, the costs incurred by sellers in conveying the qualities of their products or services. In the context of a consumer seeking a financial planner, the key elements of this framework are the time spent by a consumer locating financial planners that they could hire; the due diligence performed in reading reviews, testimonials, and public conduct records through platforms such as Brokercheck and the Investment Adviser Public Disclosure websites; interviewing financial planners; and ultimately making a selection of a financial planner or forgoing the services of a financial planner. Because of the depth of the relationship with a financial planner and the potential risks associated with engaging a financial planner who is a bad fit or who otherwise is unscrupulous, the consumer incurs further costs beyond simple research in the establishment of the requisite trust to engage the financial planning professional in their services (Monti et al., 2014). This further increases the cost of search within the economics of information framework, which can make the search for a financial planner either unaffordable or simply require that prospective financial planning clients make significant, risky, and potentially unwarranted leaps of trust to engage a financial planner, relying on heuristics such as how much they like the financial advice professional they've met with or the judgment of others via referrals and recommendations.

In turn, financial planners are subjected to significant industry conflict regarding how they should hold themselves out as professionals. While some financial planners work within large institutions with well-established and known reputations and business models, many work within smaller firms that have neither the advantages nor costs of being well-known, leaving it up to the planner how they decide to convey their services and the pricing thereof to the public (Yerger et al., 2023). The arguments regarding transparency and opaqueness of both services and pricing have many pros and cons. For example, those who argue that financial planners should publicly share their pricing structure do so with an eye toward reducing the consumers' cost of search by helping them self-select out of services they cannot afford. In turn, many on the side of not sharing pricing will point out that consumers are easily confused and not readily able to articulate a financial planner's services or value proposition clearly and may inadvertently miss-price what they perceive as their services rather than what the financial planner actually offers. This is further compounded by the fact that many financial planners differentiate their services from others by including or excluding compensation from third-party sources, typically from commissions from the sale of investment or insurance products (NAPFA, 2023). This further compounds the cost of trust issue previously identified for consumers but also complicates the cost of the financial planner, as both the necessity and cost of the products some financial planners might recommend are either potentially obscured from the consumer in their assessment of cost. This is, however, not to say that consumers are solely misled by financial planners who might recommend products that they are compensated for selling; after all, those products may be used to defray the direct out-of-pocket costs paid by consumers for their financial planner's advice, whereas in other cases, some financial planners who forgo the sale of such products may not defray the costs of the recommendations they provide their clients, and as such, cost more than their product-selling counterparts. Ultimately, this all compounds upon the factor of trust and the costs of potential dishonesty and raises a separate and distinct discussion of conflicts of interest, which is outside the scope of this paper.

Research Questions

The primary purpose of this study was to examine the costs incurred by consumers as they attempted to gain adequate information about financial planners and ultimately selected a financial planner. The experiment to provide data in examining this issue involved gathering basic demographic and financial information about the respondents, followed by random assignment into a Control Group or treatment group. The Control Group was presented with financial planner profiles, including the scope and nature of their services and their price. This control was representative of a consumer who had done enough research to have adequate information on the services and costs of the financial planner they were selecting. The first treatment group received information on services but not on the cost of the financial planners they were presented with. This represented consumers who have located financial planning firms and researched them but who may be working with firms compensated by commissions or who otherwise have not performed adequate due diligence to understand the actual cost of services provided by the planners, such as revenue-sharing agreements or multi-layered service fees. The second treatment group received pricing information but not information about services, representing the research of firms that clearly or publicly state their pricing but whose marketing signals left the client uncertain about the scope or scale of their services.

This framework allowed us to assess several independent variables' influence on the process of searching for a financial planner by consumers. First, the simple comparison of differences between the Control Group and the treatment groups in how many financial planners they assessed and the ultimate sum of services offered by the professional, and the costs incurred by the respondent and their impacts on the search process. Further, with the gathering of demographic information, we assessed three additional questions: The influence of financial literacy on the results of the control and treatment groups, the influence of financial demographic data (income, assets, and liabilities) on the control and treatments, and the general observations of how the respondents selected their financial planner. Each of these assisted us in better understanding whether consumers' cost of searching for a financial planner was increased or decreased by the presence or absence of signals regarding services and price and the influence of external factors relating to the consumers themselves that the financial planner could not influence.

The population of interest for this study was United States citizens. While financial planning and advice services are provided in most developed countries, it is relevant to consider the confounding factors of cultural and regulatory differences within a population that includes more than one country. As a result, the study focused on the factors influencing the consumption of financial planning services by residents of the United States. This limited the validity of its observations to offerings of financial planning to firms in the United States and to United States citizens, but as the United States has the largest population of financial planning professionals in the world, there may yet be some utility in observations of this population for those in other countries.

If the experiment successfully evaluated the cost of search and consumer preferences for complete or incomplete information in the search for a financial planner, several potentially valuable conclusions could have arisen from the study. If consumers in the Control Group representing a proxy for adequate or perfect information ultimately selected the best costs for financial planning services or received more services when compared to the imperfect information treatment groups, the results would suggest that financial planners can help the public reduce their cost of search by providing clear information about their scope of services and pricing. In turn, if the results were more optimal for those with imperfect information, depending on the treatment group with the strongest results, it would have suggested that consumers are limited by a bounded rationality issue that limits their ability to assess both services and price concurrently and might be better assisted by simplifying the amount of information they can consume when making a financial planner selection. Of course, the inverse could be useful in a different context; for example, if the Control Group provided the best results for costs or services for consumers, planners seeking profit maximization in their practice could limit the information available to consumers without incurring greater costs of search, such that they may take a satisficing approach and pay a sub-optimal or higher amount of money for a lower amount of service. In any event, the likely result of this study was that the financial planning profession could become better informed about the effect of ambiguity in their services or pricing on the public and, with that information, may make better decisions about how to convey the value and cost of their services.

The specific research questions asked in this study are:

- Research Question One: Does Having Perfect Information Impact the Cost of Services?
- Research Question Two: Does Having Perfect Information Impact the Number of Services?
- Research Question Three: How do Consumers Select a Financial Planning Professional?

Chapter 2 - Literature Review

History of Financial Planning

A critical element in the discussion of whether ambiguity and information asymmetry play a role in how and what consumers will pay for the services of a financial planner is to define what a financial planner and financial planning are. While regulation of insurance products in the United States dates back to 1799 (NAIC, 2021) and regulation of securities dates back to 1924 (Federal Reserve, 2000), financial planning is a relatively young profession, with a history dating back only to 1969 (Brandon & Welch, 2009). The inception of the idea of a financial planner came from the meeting of two men, Loren Dunton and James Johnston, which was then expanded to a meeting of twelve financial services professionals and one outside "non-professional" that took place on December 12th, 1969, in Chicago (Brandon & Welch, 2009). While representation at that meeting was largely from investment sales and mutual fund businesses, the idea of a financial planning profession grew out of a common observation: The needs of the clients of many financial advice and advice-adjacent professionals often expanded beyond the capabilities of a singular professional. At the time, most financial advice-giving professionals did so under the auspices of practice as a stockbroker, insurance agent, CPA tax preparer, or attorney. It was not uncommon then for a client of a stockbroker to ask about the tax ramifications of an investment or for the client of an estate attorney to ask about their investment portfolio, to which any prudent professional of the time would have to state that such things were outside of their area of expertise (Brandon & Welch, 2009).

Financial planning thus arose from the establishment of the "Society for Financial Counseling Ethics" and the "International College for Financial Counseling," which quickly was renamed into the "College for Financial Planning" in 1970 and the "International Association of

Financial Planners" or "IAFP" (Brandon & Welch, 2009). In 1972, the IAFP enrolled forty-two students in the first Certified Financial Planners ("CFP") course at the College for Financial Planning (Brandon & Welch, 2009), who then were the first graduates of the CFP Exam in 1973 (CFP Board, 2003). Concurrently, in 1972, the National Association of Securities Dealers ("NASD") released a bulletin for member firms, indicating that registered representatives of the firms should not use the title "financial planner" or phrase "financial planning" to describe their work as the brokers of investment products (Brandon & Welch, 2009). This is noteworthy, as a large amount of the representation seen in the early enrollment at the College for Financial Planning and CFP® Certification came from broker-dealers and NASD member firms; nevertheless, despite the prohibition, enrollment grew steadily over the following decades at the College for Financial Planning, and the number of CFP® Certificants began to grow, and in the decades since the pronouncement, this prohibition has largely fallen by the wayside.

The next event of note in understanding what a financial planner and financial planning are is the case of The College for Financial Planning v. Adelphi University in 1980, in which the College for Financial Planning, the then-current holder of the trademark copyright for the CFP® Marks sued Adelphi University for conferring the CFP® Certification upon graduates from its financial planning program. This represented the first time a legal dispute arose over the use of titles related to financial planning and terms like "Certified Financial Planner." The result was an out-of-court settlement, which led to the proposal that the college relinquish control of the CFP® Marks to an independent standard-setting organization; the College for Financial Planning would continue providing education for financial planners (Yeske, 2016). The independent organization would become the CFP Board, a 501(c)3 organization (CFP Board, 2023).

However, despite the steady movement toward independence and self-regulation of the practice of financial planning, there were conflicts within the financial planning professional community. While the IAFP had existed since the early days as a representative association of professionals and firms interested in the practice of financial planning, the Institute of Certified Financial Planners ("ICFP") had been established by the original CFP® Certificant class from the College for Financial Planning. While the IAFP boasted membership tenfold the membership of the ICFP, both organizations battled over the years regarding what constituted financial planning and whether it was something that any professional with the knowledge could provide or whether it was solely the domain of CFP® Professionals (Brandon & Welch, 2009). This was further complicated in 1983 by the launch of the National Association of Personal Financial Advisors ("NAPFA"), which took the issue a step further in establishing a definition of "fee-only" financial planning, in which financial planning and advice were to be offered solely on a fee-for-service basis, which differed dramatically from the popular sale of investment and insurance products among both IAFP and ICFP members (NAPFA, 2023).

An attempt at unifying the direction of financial planners among the various associations and interest groups came from P. Kemp Fain, Jr., who proposed the idea of "one profession, one designation" (Fain, 1987). His paper proposed a multi-phase approach to consolidating all existing interests, such as those of CPAs and JDs who offered financial planning, through an "amnesty period" in which those practicing financial planning without the CFP® Marks could sit for the CFP Exam or to offer a "conversion" from substantively similar credentials and educational attainment to the CFP® Certification. The proposal also included the idea that CFP® Professionals be bifurcated into those who are in public practice and those who simply held the marks as the outcome of educational attainment, with the concurrent suggestion being that those in public practice perform more continuing education than those who were not in public practice. Once the initial amnesty period was passed, standards for practicing financial planners would increase to include a bachelor's degree from a financial planning accredited institution or possibly the requirement of a medical residency-style program or apprenticeship in which several years of experience could be gained before an individual could call themselves a Certified Financial Planner. The proposal suggested that this would inevitably be decided under state or federal regulation (Fain, 1987). While many of these ideas have come to pass, and their proposal's effect on the current CFP Board standards for CFP® Certification can be seen, none of the anticipated federal or state regulations have come to pass.

In 1988, the SEC recognized the CFP® Certification as the "most recognized designation in the field" (Brandon & Welch, 2009). However, there has been little to no proposal to regulate financial planning as a separate and distinct service or profession, held away from the sale of investment and insurance products or the offering of investment advice. However, in 1999, with the Series 65 examination having established licensing requirements for investment adviser representatives in 1989, the CFP® Certification was recognized as an educational attainment alternative to sitting for the Series 65, alongside the CFA®, ChFC®, CIC, and PFS designations (NASAA, 1999). This was the first formal recognition of the CFP® Marks and other professional designations as being significant from a regulatory standpoint, precluded only by the case of Ibanez v. Florida Department of Business and Professional Regulation, Board of Accountancy, in which the regulator claimed that the attorney Ibanez' use of the CPA license and CFP® Marks were a form of misleading advertising. That case went to the Supreme Court and was decided unanimously in Ibanez's favor (Ginsburg, 1994).

Since the turn of the millennium, financial planning has won and established other accomplishments that assist in defining the role and scope of a financial planner and financial planning. The subject of financial planning was first approved for a Ph.D. in personal financial planning at Texas Tech University in 2000 (Brandon & Welch, 2009), paving the way for academic research of the subject as a standalone interest, distinct and separate from the research of traditional finance, economics, and consumer and family sciences. In 2003, the CFP Board implemented Rule 401, which requires CFP® Certificants to disclose “Material information relevant to the professional relationship, including conflict(s) of interest, the CFP Board designee’s business affiliation, address, telephone number, credentials, qualifications, licenses, compensation structure and any agency relationships, and the scope of the CFP Board designee’s authority in that capacity…” another step towards greater transparency of service models, compensation, and conflicts of interest. The CFP Board further aligned with the then-twenty-year-old mission of NAPFA in defining the term “fee-only” in advisory opinion 2003-1 (CFP Board, 2003).

However, in the twenty years since these sweeping moves towards academic enshrinement of financial planning theories and practices, disclosure of financial planning professional’s compensation and conflicts of interest, and clarification between the various service models of these professionals, very little has occurred to advance the confirmation of who qualifies to be a financial planner or what financial planning is (CFP Board, 2023). While court cases such as Financial Planning Association v. Securities and Exchange Commission took regulators to task for introducing loopholes in regulations that could lead consumers to engage with professionals held to lower regulatory standards (Rogers, 2007), other regulatory activity has seen a deliberate obfuscation of standards between those who practice financial planning under various licenses (Securities and Exchange Commission, 2023). None of it has assisted consumers in better differentiating a financial planner from another form of financial professional or in understanding how those professionals are compensated with total transparency. Efforts to examine the regulation of financial planning have been further frustrated by the interference of multiple government regulators, self-regulatory organizations, and regulatory associations. These varied regulatory interests view financial planning through their unique regulatory lens, such that financial planning is concurrently considered a sales technique by the National Association of Insurance Commissioners, investment advice by the Securities and Exchange Commission and North American Securities Administrators Association, and not investment advice by the Financial Industry Regulatory Authority (Government Accountability Office, 2011).

So why is a lengthy history of financial planning pertinent to the question of financial planner services and financial planning ambiguity? Because despite a fifty-five-year history of education, associations, regulations, lawsuits, a supreme court case, rulemaking, and constant coverage by the media, financial planning is an ill-defined professional practice, and the differentiation of a financial planner from a non-financial planning financial professional is still a set of almost entirely subjective judgments made by both the professional and their self-identification and any consumer electing to engage in the services of that professional. This ambiguity and uncertainty plague consumers' engagement with financial planning services and are at the heart of the research question.

Economics of Information

The theory of the economics of information first arose in the early 1960s via the publication of an article in The Journal of Political Economy under the name “The Economics of

Information" by George Stigler (1961). The theory aimed to address the overt absence of information in the discussion of economics, in which perfect information is assumed, or an instantaneous equilibrium of supply and demand is often reached when evaluating the issue of price. Stigler addressed the issue of information asymmetry between buyers and sellers with several keen observations, both in the behavior of buyers and sellers. For buyers, first, additional searches for information were likely to yield better pricing. Second, there was a diminishing return in value for additional searches conducted by buyers. Consequently, there would come a time when continuing the search for a better price would no longer be beneficial. Third, so long as the search for a better price continued to yield better results for the buyer, buyers would likely continue to engage in the search until they reached the aforementioned equilibrium. Fourth, the larger and less uniform the nature of the transaction (e.g., the one-time expensive purchase of a house as opposed to the cheap daily purchase of coffee), the more likely that a buyer would engage in a search for more information, and that their lack of familiarity with the product or service would magnify the costs of that search.

Conversely, for sellers, Stigler offered that advertising was simultaneously a cost borne not by sellers but by buyers, yet that the mechanism of buying advertising did create a finite range of investment in advertising; simply put, if advertising was free or its costs could be passed through in an unlimited manner, seller's advertising would vastly outstrip its practical application. In turn, since sellers must make the initial investment in advertising, they opt only to purchase as much advertising as necessary to attract buyers. The theory ultimately posited that buyers would engage in as much search as was practical to create a return in lowered costs by doing so, and in turn, sellers will only advertise as much as is practical in terms of both what they can afford and what the marketplace for their good or service will bear in passed-through costs.

The theory was expanded upon in 1970 by George Akerlof in his paper “The Market for 'Lemons': Quality Uncertainty and the Market Mechanism.” Akerlof expanded on the ideas of the economics of information by introducing the question of quality and uncertainty. Where Stigler had addressed the market forces regarding the search for information and the cost equilibrium between seeking more information and paying for advertising between buyers and sellers, Akerlof looked to explain why otherwise homogenous products (particularly cars) would experience such dramatic differences in cost. Akerlof suggested that in any market, there are effectively four types of goods: New and used, good and bad, of which there are four pairings (new/good, new/bad, used/good, and used/bad). It was pointed out that the owner of a product will, over time, develop an information asymmetry with others regarding the quality of the products the owner possesses, e.g., that they will know whether they own a high-quality product or a low-quality product and that this information is not available to potential buyers of the product who do not have the same access and experience to make the same determination. The market response to this information asymmetry is to drag down the value and cost of goods in the presence of uncertainty as a form of protection for the buyers; thus, the seller of a used/good product is likely to get the same price as the seller of a used/bad product, not the other way around, as buyers cannot sus out the difference between one and the other at face value. The cost for a new/good and new/bad product then is at a premium compared to the used goods, not because of any intrinsically greater quality in the goods, but because the probability of the new product being a bad product is lower than in cases where the product is a used product. Akerlof also addressed the issue that prices will encounter a finite upside limitation; while theoretically, any good can command any price, there is a practical limitation in known marketplaces between the price and the value of the good. The example he gave is that of medical insurance; medical insurers cannot raise the price of insurance enough for seniors past the age of 65 to the point that would simultaneously be affordable for the majority of the marketplace and yet still profitable given the substantial information asymmetry between the insured and the insurance carrier, as highlighted by the presence of an adverse selection problem: The only buyers at such premium prices would be those who know they would use more of the insurer's money than they would spend on the premiums! In the context of financial planning, this might be better described under financial planning client interaction theory (Asebedo, 2019), which posits that clients will engage in financial planning so long as they perceive a greater marginal utility in the value of the service over the cost. Succinctly, then, financial planning can be priced by sellers on an infinite continuum so long as buyers can perceive a value greater than the cost. This may explain the market's inclination toward percentage-based pricing, in which the cost is always measured as a fractional margin smaller than the anticipated value (Blanchett & Kaplan, 2013).

This considers the risks of dishonesty, which Akerlof, too, addressed: Because of the information asymmetry between sellers and buyers if the marketplace is oversaturated in dishonest actors, the marketplace will collapse. In turn, the costs of dishonesty are not only measured by the discounting of the value of good products compared to bad products but in the opportunity cost lost for good products in an environment in which good products can never obtain their full value in light of the presence of bad products and the buyer's caution in what they are willing to pay for products of unknown quality. These issues are present in the financial planning domain, where 36% of respondents to a study on whether financial advisors were trustworthy said they trust financial advisors, and a separate but equally sized group said they did not (Browning, 2021). This indicates that the public is well-split on the topic of whether trustworthy professionals provide financial planning services.

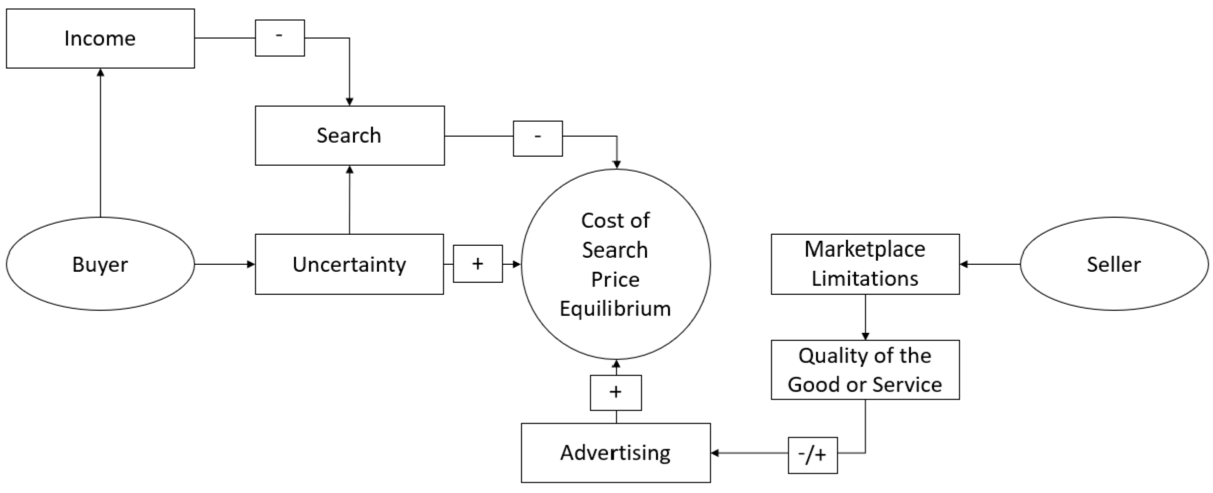

Figure 1. Economics of Information

Signaling Theory

Signaling theory, described by Spence (1973), eschewed the economic framing of marginal utility and focused on the "marketing" elements of how employers and employees indicated their compatibility to maximize the return on labor for both parties. In the context of a financial planning engagement, the "employer" would be any potential client of a financial planning firm, and the "employee" would be the financial planner or financial planning firm. Signaling theory frames the hiring decision of [clients] as an "investment under uncertainty" (Spence, 1973); this normally was oriented towards an issue in which employers are not sure whether an individual they hire will be productive in their business or not, but in the case of financial planning, the question for consumers is whether the financial planner they hire will produce superior financial outcomes as compared to those they might experience if they handled their financial planning needs on their own. This is compounded by the fact that many financial planning techniques and strategies do not show an immediate financial improvement. Thus, the client may not learn whether the financial planner is truly productive for some time after the hiring decision is made. The investment of planning fees or in actual investment and insurance products has already been made.

Before the hiring decision was made, the consumer only had access to the observable traits of the potential financial planner, some immutable, such as race and gender, and some controllable, such as their online presence, marketing material, brand affiliation, education, and so on (Costa & Henshaw, 2022). Notably, some controllable variables may have been available but invisible to consumers. For example, the Brokercheck, Investment Adviser Public Disclosure, CFP Board websites, as well as others, provide disciplinary and regulatory history on financial planners and firms, which might have tipped off a savvy consumer as to the potential risks of working with a financial planner who has been criminally or civilly sanctioned for their professional or personal conduct; yet, many consumers are unaware of these resources and unknowingly hire professionals with spotty histories (Zweig & Fuller, 2019).

With this in mind, financial planners signal their competency and potential productivity to consumers through their observable traits. Because some signals are immutable and others controllable, financial planners can enhance controllable signals to appeal to potential clients. For example, a female financial planner might emphasize that she specializes in working with women or an ex-professional athlete turned financial planner might highlight their history in professional sports as a qualification signal to other professional athletes. In doing so, they may incur signaling costs such as the time and financial expense of developing marketing material and distributing it to the public. The theory assumes that individuals will magnify signals with minimal cost and a maximal signaling value (Spence, 1973). After selecting a financial planner, clients of financial planners can assess the validity of the signals they relied upon during the selection process. Clients will then adjust their normative beliefs about the value of certain signals compared to others, reflecting lessons learned and preferences as they develop. This creates a feedback loop for financial planners.

As the marketplace for financial planning services has shown financial planners that certain signals yield greater prospects (which the theory identifies as the remuneration for their services), financial planners' pursuit of certain signals has adjusted to consumer preferences. For example, one of the most well-recognized competency signals for financial planners are the CFP® Marks, which have 91% total awareness in the mass affluent marketplace (CFP Board, 2025). Yet, as recent research has shown, the return on the investment in the CFP® Marks for financial planners is equivalent to the return on potentially less arduous credentials (Kitces et al., 2022). Remembering the principle of signaling that financial planners will seek to maximize their return on and minimize the costs of signals may lead financial planners to pursue other professional designations as a way of reducing their signaling costs while maintaining the prospects produced by the professional certification signal. However, the value of a signal such as the CFP® Marks or other professional certifications requires familiarity with the signals by consumers in the first place, and while the CFP® Marks enjoy 44% unaided awareness and 91% total awareness among those in the "mass affluent" market (CFP Board, 2025), these signals are not directly related to the nature of the specific services a financial planner offers, and lend themselves to issues of ambiguity in the search for high quality financial planning services.

Credence Claims and Ambiguity

A critical element of the issue of engaging a financial planner is the credence service of financial planning. A credence service is a service in which consumers are unable to evaluate the quality of the service after consumption (Lantzy et al., 2021). Other credence services are auto mechanics and medical doctors. The services of any of these professionals are hard to evaluate before becoming a consumer of the service and are difficult to evaluate after consuming the service, because the treatment or service for the client is unique, and the outcome may be affected by unseen factors. For example, is the healthcare outcome of a doctor's patient the result of the doctor's intervention or other health considerations? These differ from non-credence services, in which the cause and effect of the service and its outcomes can be more clearly observed, such as the services of a house painter, in which their services are observable before, during, and after performance, and there is little room for concern about outside influence factors.

The issue of credence claims by financial planners is an important one, because much of what financial planners offer to their clients is based on probability and confidence. Financial planners cannot make guarantees or promises of future outcomes. They are limited to using financial planning software and the body of financial planning knowledge to make educated predictions about the financial outcomes of various strategies they propose to their clients or help them implement (Altfest, 2004). In turn, because predictions rely upon assumptions, it is almost inevitable that the financial planner will be inaccurate in their predictions -whether overly generous or conservative- and that client results will differ from the initial predictions of the financial planner. This produces the credence claim issue of financial planners: while financial planners can point to positive outcomes attained as a result of their past work, clients cannot rely on financial history to reliably attain future outcomes (FINRA, 2025). Ultimately, then, it is difficult to assess whether financial conditions, such as those in the stock market, are responsible for good or bad outcomes, or whether the financial planner was at fault for unexpected outcomes.

This lends to the issues outlined in economics of information in which address the problem of bad services driving up costs generally to create a proxy that consumers can use cost as a signal of quality; however, consumers have access to tort claims and arbitration as a mechanism of enforcement for their displeasure at the failure of a financial planner to deliver on the value proposition which they have proposed in the first place (Antilla v. L.J. Altfest & Co., 2012; Maliner v. Wachovia Bank, 2005; Peters v. LPL Financial LLC, 2024).

Consumers must ultimately rely upon their own sense of trust in financial planners and may rely upon the credibility of claims by others in assessing financial planners. From this arises the issue of credibility. Studies have found that while consumer reviews of credence claim providers tend to be reliable across various platforms such as Google, Yelp, and others (Lantzy et al., 2021), there is little to no correlation between consumer reviews and peer reviews of professionals such as medical doctors (Daskivich et al., 2018). This is potentially because professionals may evaluate their peers in a manner that reflects different criteria and considerations in what consumers value from professionals than professionals themselves value. Consequently, this means that while professionals may have a better ability to assess the credence claims and signals of their peers, consumer preferences may differ from professional preferences, and in an inefficient marketplace with imperfect information, consumers may be led to engage financial planners based on their credence claims, which may not align to their actual services.

This is a problematic dynamic that reflects the issues of compensation and service model ambiguity in the marketplace for financial planning services. While financial planners may use the same words, such as “holistic” and “comprehensive,” to describe their services, it is ultimately incumbent upon the consumer to not only evaluate what those mean based on other signals provided by financial planners in the marketplace, but also to evaluate what that meant in practice for them individually during or after the services were rendered, and whether those signals met the expectations set for them by the credence claims of their financial planner.

Bounded Rationality

As with economic theory, a common assumption in game theory is that participants are engaging in perfect competition, in which all competitors are rational and each participant knows the rules and consequences related to the outcomes of the game (Burns & Roszkowska, 2005). In reality, it is rare that participants in any decision-making enterprise have perfect information (Dixit et al., 2014). This particular issue is extremely important in the context of the economics of information theory and the research question of how consumers of financial planning services will ultimately make a selection of a financial planning professional. For this issue, the theory of bounded rationality plays an important role. The seminal paper on bounded rationality, "Theories of Decision-Making in Economics and Behavioral Science" (Simon, 1959) described the heuristic learning mechanism of decision-making under imperfect conditions as "satisficing." This term closely mirrors the described behavior of the consumer in the economics of information. Human beings will use pre-existing skills, knowledge, and heuristic devices in order to utilize a limited framework of information, or "cues," in order to make the best decision given the limited information and resources available to them. While it's possible in many circumstances that undergoing additional due diligence might provide more information for the consumer and, thus, lead to better outcomes, papers and studies on the subject would suggest that accuracy suffers from a diminishing return when more information is sought.

In 1996, Gigerenzer and Goldstein published "Reasoning the Fast and Frugal Way: Models of Bounded Rationality." Their paper indicated that while gathering more information did increase the accuracy of decision-making by study participants, participants were often more or less as accurate as thorough and algorithmic statistical approaches to the same problems. This suggested that while the accuracy might improve with more information, much like the utility maximization function underlying the search for more information by consumers (Stigler, 1961), at a certain relative threshold, the cost of the pursuit of more information did not meaningfully improve the outcome of the decision-making. This is important, as the law of diminishing returns plays a critical role in the search for information in both the economics of information and in the theory of bounded rationality. The principle that participants will utilize "enough" information to make their decisions with reasonable accuracy relative to the importance of the decision, resources available, and the cost of obtaining more information is called "satisficing," in concurrence with Simon's seminal paper (1959).

The idea of satisficing played a key role in the research questions. Participants in the study were provided with theoretically unlimited opportunities to research the marketplace for a financial planner. Under the economics of information, we expected that participants in the study would cease their search for more information when they felt there was a diminishing or only nominal return in doing so. This was supported by the idea of satisficing, which not only suggested that the information search would continue only to the extent which it helps inform a better decision but that continuing the search for more information in the study by the participants would, after a point, likely cease to improve the desired outcome (Gigerenzer and Goldstein, 1996). The literature meaningfully suggested to expect study participants to only engage in the information search so long as they personally think it is valuable to them but also only so long as they think that doing so is likely to improve their final financial planner selection.

Financial Literacy

Financial literacy is distinct from financial knowledge. A distinction between knowledge and literacy is that financial knowledge is considered the general understanding of financial topics and subjects, while financial literacy is both the knowledge and capability of applying financial understanding in a meaningful way (Huston, 2010). Thus, while financial knowledge might be grown through the behavior of consuming high-quality financial literature or taking financial classes, knowledge is difficult to operationalize and measure, while financial literacy would reflect not simply an understanding of financial tools and information but the clear application of such tools and information (Huston, 2010). Huston proposed that any assessment of financial literacy must measure at least four dissimilar dimensions of financial literacy (i.e., budgeting, risk management, taxes, and investments) in order to establish a broad measure of financial literacy rather than a narrower topical form of literacy (e.g., investment literacy or insurance literacy).

As this study aimed to consider the ability of the participants to assess the quality and costs of financial planners based on perfect or limited information, the financial literacy of the participants was a relevant factor. Prior research on the subject of planner compensation suggested that those who understand the differences between how financial planners are compensated were more likely to make specific service model selections and that those who are concerned with fees, investment subjects such as diversification, and review background and regulatory information, were more likely to understand how their financial advisor is compensated. However, even those individuals demonstrate some confusion about how financial advisors are compensated (Seay & Kim, 2015). The application of financial literacy to the exploration of financial advisor compensation and selection might suggest that a better-informed consumer would make better choices. However, mixed results and confusion at the endpoint might suggest that even a better-informed consumer was ultimately subject to a degree of satisficing, and consequently, suffered from the potential for errors that may not be improved by further information gathering. Further, financial literacy has a significant and positive relationship with other variables such as income (Monti et al., 2014) and assets (Bell & Lerman, 2005; Cupak et al, 2020). This introduced the potential issue that while financial literacy could equip someone to understand better the services and costs incurred in engaging a financial planner, having a more significant amount of wealth can also result in higher costs for financial planning services (Kitces et al., 2022).

All of this is potentially compounded when reviewing more recent literature on the subject of financial literacy and client engagement. The relatively young theory of “Financial Planner Client Interaction Theory” (“FPCIT”) was proposed in recent years and placed an emphasis on a key utility distinction: “FPCIT posits that the financial planner and client each have a utility function that they seek to maximize as individual units. The financial planner and the client will enter into a client relationship if each expects the relationship to result in respective utility gains that would not be realized if they were to reject the relationship” (Asebedo, 2019). The key distinction here is that both the planner, presumably a highly financially literate individual, and the client, whose financial literacy may vary dramatically, expect the relationship to yield a positive outcome for them, greater than the potential outcome of not working together. In the case of the financial planner, this takes the form of reasonable or excessive compensation, and in the case of the client, this takes the form of an assumption that their financial needs will be better met by the engagement of the financial planner’s services than by self-managing their financial affairs, or at least those within the scope of the proposed engagement. Yet, the client is placed in a position to self-assess their potential financial outcome, which may or may not be readily improved by the engagement with the financial planner. The information asymmetry between the financial planner and the client is potentially exacerbated by the client's own financial literacy or lack thereof (Seay & Kim, 2015.)

Hypotheses

Given the review of the literature and the core theoretical framework of the economics of information, the following hypotheses were established and their relationship to the dependent variables are shown in Figure 2 below:

H1: Participants who engage in more information search will obtain a lower cost than those who do not engage in more information searching.

H2: Participants with higher incomes will engage in less information search.

H3: Participants with higher objective financial literacy will engage in more information search.

H4: Participants with perfect information will obtain a lower cost than those in either treatment group.

Perfect information in the context of the hypotheses and this study was defined as having both pricing and services information, whereas imperfect information was described by the absence of either piece of information.

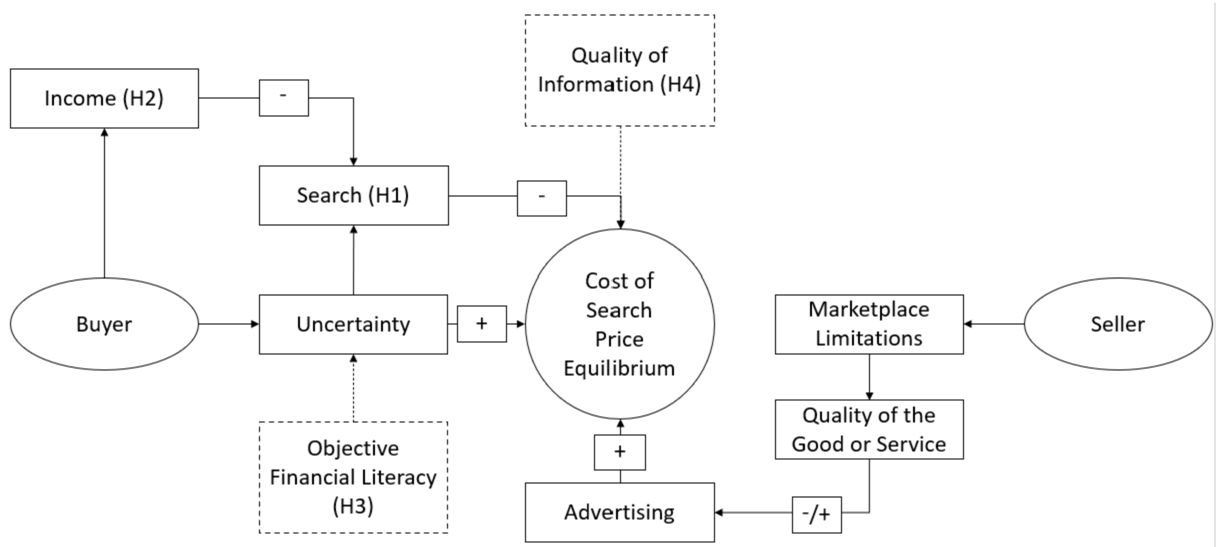

Figure 2. Economics of Information and Hypotheses

Research question one, "Does having perfect information impact the cost of services?" was addressed by H4, as the control and treatment groups in the experiment have different amounts of information. The H4 hypothesis suggested that the results related to the research question would indicate the control group would obtain a lower cost-to-service-provided ratio, though more broad differences in pricing could also be observed.

Research question two, "Does having perfect information impact the number of services?" does not have a theory-based hypothesis corollary. The economics of information focuses largely on the optimal pricing received for an otherwise homogenous good or service (Stigler, 1961), and while it could be argued that the quality of financial planning is enhanced by the number of services provided in the light that Akerlof argues in "The Market for Lemons" (1970), the quantity of services received is never directly addressed. So, while of interest as a research question, there is no specific hypothesis related to research question two.

Research question three, "How do consumers select a financial planning professional?" invoked H1-H3. H1 drew directly from Stigler's arguments that consumers will engage in information search so long as there is marginal utility in doing so (Stigler, 1961), and in so doing, should obtain better pricing than those who do not. However, both Stigler (1961) and Akerlof (1970) address the issue that searching for more information comes at a cost, both literal through paying for information or advertising costs incurred and baked in the price of goods sold, and figurative in the opportunity costs and the value of time spent. Because those with higher incomes have more valuable time, it is expected that they will reach the marginal utility equilibrium more quickly than those with lower incomes, and thus, should engage in less search. Finally, H3 drew from the literature on financial literacy (Asebedo, 2019; Huston, 2010; Monti et al., 2014; Seay & Kim, 2015) which suggests that those with greater financial literacy have an increased probability of engaging a financial planner, but are also more likely to perform additional due diligence over those with a low level of financial literacy, which created an interesting contrast with H2, as there is often a strong correlation between financial literacy and income (Wagner, 2019).

Chapter 3 - Methods

Data and Sample

The population of interest in this study was the adult U.S. population. While the users of financial planners often skew toward higher-income and affluent Americans, even low-income and net-worth Americans can be found seeking professional financial advice as a coping mechanism for financial stress (Grable & Joo, 1999). To gather data for the study, mTurk was used to gather a sample of the U.S. population, targeting 1,000 responses to provide an ample basis for statistical analysis.

Experimental Design

The experimental design is shown below in Figure 3.

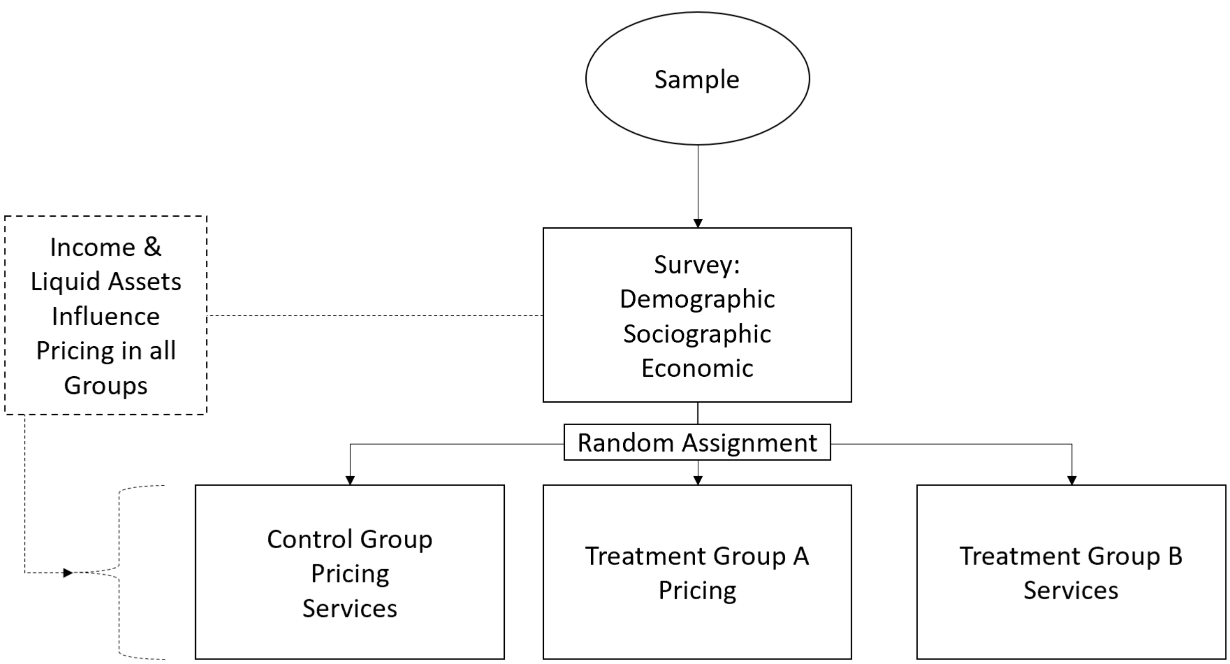

Figure 3. Experimental Design

The experiment in this study sought to replicate the initial search for a financial planner. Specifically, it aimed to observe the behavior of consumers seeking a financial planner and the effect of the information that is available or obscured from consumers during their search for a financial planner. In order to establish parameters for the experiment that were relevant to each individual respondent, respondents were asked a set of demographic, sociographic, and economic questions at the start of the experiment. The format for the questions permitted open-ended continuous variable answers in some cases and categorical answers in others. While many of these questions were control questions to assist in understanding the significance of fixed variables such as race and gender, several of the questions had an influence on the experiment itself. In particular, respondents were asked for financial data, including their income and assets.

Once respondents completed the initial survey, they were given a description of the next step of the experiment. The following text was displayed:

"A financial planner is a professional who specializes in looking at a client's financial picture and advises them on how to achieve their short- and long-term financial goals. In the next module, you will be presented with a financial planner profile and information regarding their service. You may elect to "hire" the financial planner or review other financial planners, with the option to return to the other financial planners you've already seen. You can review as many financial planners as you like. Your task is to select a financial planner you feel would be the best fit for your personal financial planning needs."

After acknowledging this instruction, respondents were randomly assigned to one of three groups: A Control Group, which had perfect information in the parameters of the experiment, which included pricing and services information; a Treatment Group A which only had pricing information in the experiment; and a Treatment Group B that only had information about services in the experiment. Respondents in each group were then presented with financial planner vignettes in a random sequential order, including information on services and pricing or a lack thereof if they have been sorted into one of the treatment groups. Respondents reviewed one or several financial planners before selecting a financial planner based on the information available to them, after which two additional questions followed asking for the respondent's preferences of what financial planners should offer and what they would want their financial planner to offer, and then the experiment concluded. It is noteworthy that all financial planner vignettes were randomly generated, which mitigated the potential influence of the order of presentation and data available to respondents in both the control and treatment groups. Examples of the vignettes for the Control and Treatment Groups can be seen in Appendix C.

Notably, the procedural generation approach to the financial planner vignettes provided several advantages. First, it reduced the random effects of the order of presentation of the financial planner search. As, in reality, different consumers would locate and identify potential financial planners in different ways and different orders, it was important for the validity of the findings that respondents did not review identical financial planners in the same order but were instead presented with a randomized selection of potential financial planners. Second, the lack of other information about the financial planner, such as race, gender, education, qualifications, or experience, reduced the influence of those factors on selecting a financial planner. While those can play a role in financial planner selection, it was meaningful in attempting to get closer to the heart of the issues around information asymmetry between the consumer and planners that this extraneous information be omitted from the experiment, even if doing so represents an omission of information a consumer might also use to help select a financial planner.

Survey Design

Survey Questions

The survey prior to the experimental portion of the study gathered multiple data points to assist in the examination of fixed effects and their influence on the results of the study. These questions included screening questions, demographic questions, economic questions, and a financial literacy assessment.

Screening Questions

Screening questions were utilized to establish minimum eligibility to participate in the study and to ensure compliance with Institutional Review Board guidelines.

Acknowledgment of Research Status. In compliance with Kansas State University Institutional Review Board guidelines, participants were notified of the study's use by Kansas State University for research purposes and affirmatively consented to participate in the study. The acknowledgment also provided the full disclaimers and disclosures for research as indicated by the Kansas State University Institutional Review Board. Both negative responses and non-responses resulted in immediate removal from the study.

Citizenship. Participants were asked whether they were citizens or permanent residents of the United States. This was an important distinction, as the regulation of financial planners revolves around both the planner and the client's state of residence. For the purposes of our study, any participants outside of the United States were removed from the study, as they could not represent typical clients of a financial planner in the United States.

Demographic Questions

The purpose of demographic questions was to provide data to evaluate the potential issues caused by fixed effects in the model. The following variables, including gender, race, and ethnicity, are common fixed effects and served as controls in consideration of the underlying research question.

Economic Questions

The economic questions asked were important as a basis for the software model that delivered the experimental experience for participants but also represented sensitive personal information. As such, the economic questions asked were limited in number and directed solely at the elements required for the random generation of financial planners in the experiment.

Financial Literacy Scale

Participants completed a five-question financial literacy questionnaire drawn from the papers "Bounded Rationality and Use of Alternative Financial Services" (Robb et al., 2015) and "Financial Knowledge and Short-Term and Long-Term Financial Behaviors of Millennials in the United States" (Kim et al., 2018). All five questions were in a multiple-choice format, with one correct answer, one to three incorrect answers, "Don't know," and "Prefer not to say." Correct answers were totaled to establish a composite score used to establish the degree to which a participant seems objectively financially literate or illiterate (Bowen, 2002) (Robb & Sharpe, 2009), with "Don't Know" and "Prefer not to say" answers treated as incorrect answers. The questions were as follows:

1. Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?

(a) More than $102

(b) Exactly $102

(c) Less than $102

(d) Don't know

(e) Prefer not to say

2. “Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?”

(a) More than today

(b) Exactly the same

(c) Less than today

(d) Don’t know

(e) Prefer not to say

3. “If interest rates rise, what will typically happen to bond prices?”

(a) They will rise

(b) They will fall

(c) They stay the same

(d) There is no relationship between bond prices and the interest rate

(e) Don’t know

(f) Prefer not to say

4. “A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage, but the total interest paid over the life of the loan will be less.”

(a) True

(b) False

(c) Don’t know

(d) Prefer not to say

5. “Buying a single company’s stock usually provides a safer return than a stock mutual fund.”

(a) True

(b) False

(c) Don't know

(d) Prefer not to say

Answer Key: a, c, b, a, b. (Kim et al., 2018).

Measurement

Dependent Variables

Table 3.1

Measurement of Dependent Variables

Variable	Measurement
Number of financial planners reviewed	A continuous variable with lower values indicating less search and higher values indicating more search.
Cost of a selected financial planner	A continuous variable with lower values indicating a lower cost and higher values indicating a higher cost.
Services offered by financial planner	A categorical variable that tracks which services a participant selected.
Sum of services offered by financial planner	An ordinal variable that tracks the number of services a participant selected, with lower scores representing a less comprehensive financial planning service and high scores representing a more comprehensive financial planning service.
Ratio of cost to income	A continuous variable calculated as "cost of a selected financial planner" divided by respondent's self-reported income.
Ratio of cost to liquid assets	A continuous variable calculated as "cost of a selected financial planner" divided by respondent's self-reported liquid assets.

The representative significance of the measurements was as follows:

Number of financial planners reviewed. A core metric when examining the question of how much search an individual seeking a financial planner will engage in. As more financial planners were reviewed, participants gained more information about the marketplace for planners and thus were equipped with more information with which to make a decision. Yet, they also incurred higher search costs as the time commitment to review more planners and analyze available offerings increased.

Cost of a selected financial planner. All planners in both control and treatment groups had an assigned cost, though Treatment Group B did not have access to this data point. The cost of the financial planner was at the heart of the economic question of what consumers choose to pay given perfect or imperfect information, and this variable consequently was a continuous variable representing the potentially unlimited spectrum of financial planning services costs.

Services offered by financial planner. This variable was measured categorically and assisted in identifying any significance between the selection of a financial planner and the specific services offered. The services offered by a financial planner were unknown to Treatment Group A.

Sum of services offered by financial planner. To evaluate the significance of a perceived "price to value" ratio between the cost and number of services offered, the total sum of services offered by a participant's selected financial planner was recorded.

Ratio of cost to income. Because cost may have varied significantly based on the randomly assigned pricing model, a ratio of the cost of the financial planning service to the income of each respondent was automatically calculated and reported to provide a better understanding of the relative influence of financial planner cost as it related to the income of the respondent.

Ratio of cost to liquid assets. Because cost may vary significantly based on the randomly assigned pricing model and the respondent's self-reported liquid assets, particularly with regard to the assets under management ("AUM") pricing model, a ratio of the cost of the financial planning services to the liquid assets of the respondent was automatically calculated and reported to provide a better understanding of the relative influence of financial planner cost as it related to the investable assets of the respondent.

Independent Variables

Table 3.2

Measurement of Independent Variables

Variable	Measurement
Age	A continuous variable with low values indicating youth and higher values indicating more advanced age.
Gender	A categorical variable with four possible responses.
Race	A categorical variable with six possible responses and the option to combine responses.
Ethnicity	A binary variable with a yes and no response.
Educational Attainment	An ordinal variable with eight responses, with lower responses representing lower levels of educational attainment and higher responses representing a greater level of educational attainment.
Income	A continuous variable with low values indicating lower levels of income and higher values indicating higher levels of income.
Liquid Assets	A continuous variable with low values indicating lower levels of liquid asset value and higher values indicating higher levels of liquid asset value.
Financial Literacy (Scale)	A composite ordinal variable with lower scores representing lower financial literacy and higher scores representing greater financial literacy.

Number of financial planners reviewed	A continuous variable with lower values indicating less search and higher values indicating more search.

Age. A continuous variable with a minimum value of 18 and a theoretically unlimited ceiling, albeit one limited by human life expectancy. Respondents below the age of 18 were eliminated as a group that not only rarely engages financial planners but also, if so, is likely to do so with the assistance of a guardian or conservator who is more realistically responsible for the selection of a financial planner. Age also has an observed interaction with other independent variables, including educational attainment, income, and liquid assets (Shorrocks, A.F., 1975).

Gender. A categorical variable with available responses including male, female, non-binary, and prefer not to say. Gender is a common consideration in a fixed effects analysis, as there are frequently observed gaps in wealth and income between male and female respondents, while secondary data on differences in wealth between self-reported non-binary individuals are less readily available.

Race. Participants were asked to self-report their racial identity, including White or Caucasian, Black or African American, Asian, American Indian and Alaska Native, Native Hawaiian and Other Pacific Islanders, or some other race. Participants were allowed to check multiple boxes to self-report mixed-race heritage. These racial options were drawn from the U.S. Census questions on racial identity.

Ethnicity. Participants were asked to self-report whether their heritage includes elements of Hispanic, Latino, or Spanish origin, with a binary yes or no response. This, too, aligns with the U.S. Census question on racial identity, though it does not go into the same level of granularity regarding the origin of Hispanic heritage.

Educational Attainment. Participants were asked about their maximum level of educational attainment, including less than a high school diploma, high school diploma, some college, associate's degree, bachelor's degree, master's degree, professional masters or doctorate (MBA, JD, MD), or Doctorate (Ph.D., DBA, DM).

Income. Participants were asked to report their estimated annual income for the current year. This was reported numerically rather than categorically, though range-based categorical composite variables were later established for analysis.

Liquid Assets. Participants were given a definition of liquid assets as "Financial assets such as cash, or investment assets that can be easily converted into cash, such as 401(k) plan balances, mutual funds, and other financial accounts. This does not include tangible or illiquid property such as your home, car, or personal possessions." They were then asked to report their liquid asset balance. It is noteworthy that this might spark an interest in asking about non-liquid assets or liabilities as a whole, but the experimental model does not use this information, and these are less common determinants of fees and pricing by financial planners.

Number of financial planners reviewed. This variable is found in both dependent and independent variables in the assessment of H1, as it can be both a byproduct of the other independent variables and also a determinant of other variables; as such, it is a moderating variable. In the context of being an independent variable, it was expected that the number of planners reviewed would have effects on pricing and services obtained.

Treatments

Control – Service and Pricing Information

Each respondent in the Control Group was presented with a digital list of information representing the profile of a financial planner. Each profile was procedurally generated by the survey software and included information on financial planning services described under knowledge domains from the CFP Board (CFP Board, 2021) and a price for services. Each planner profile was titled "Financial Planner 1, Financial Planner 2" and so on; two respondents seeing a "Financial Planner 1" profile were not necessarily seeing the same profile of information, the title was only generated in order as many times as the respondent deigned to view a planner or more planners.

This group served as the reference point for "perfect information" in the context of the study, given that it was shown all the available pricing and services data for each financial planner it was presented with. The services domains included: retirement, investment, tax planning, tax preparation, life insurance, disability insurance, long term care, insurance, property and casualty insurance, health insurance, cash flow, debt, college planning, student loans, estate planning, stock options planning, and business planning. Each service had a sixty-percent chance of being assigned to a financial planner vignette.

The price for services was also randomly assigned, with one of three pricing models creating the pricing for any particular financial planner vignette. The first pricing model represented a project-based or subscription planning service and assigned a randomized cost of between \$2,125 and \$6,000, representing fees between the 25th and 75th percentile of project and subscription-based financial planning services in a recent study of financial planning services (Kitces et al., 2022). Notably, this is the only pricing model that does not take into account the breadth of services offered or the participant's financial means.

The second pricing model represented an hourly financial planner. In keeping with the percentiles used for projects and subscriptions in the first pricing model, the 25th percentile cost of \$223 per hour and the 75th percentile cost of \$300 per hour were assigned to a randomized cost. To tie this to the number of services offered by a financial planner vignette, each service randomly generated to the financial planner's profile incurred an assumed 2 hours of time commitment. This resulted in a randomly assigned price that is the product of [hourly rate] * [number of services] * 2.

The third pricing model represented an assets under management-based financial planner. While one percent annually is a commonly touted benchmark rate for assets under management services, multiple studies show evidence that the asset balance of the account or accounts under management have a material impact on the actual percentage charged, ranging 1.00% to 1.50% for a $250,000 account and 0.30% to 0.72% on a $25 million dollar account (Charles Schwab, 2023) with all-in costs ranging 1.25% to 1.7% for a $250,000 account to 0.75% to 0.95% for a $10,000,000 account depending on service channel (Kitces et al., 2022). The wider distribution found in the Kitces study was used to create three separate service channels for pricing that participants with a randomly assigned fee model for an assets under management-based financial planner vignette were randomly assigned to. Thus, a participant might have been presented with a financial planner using the third pricing model of assets under management and then also been randomly assigned the Independent Broker-Dealer, Hybrid, or RIA channel rates from the Kitces study in accordance with their self-reported liquid assets. In this case, a fee was assessed that reflects the random pricing model being applied to their liquid assets. The rates are shown on Table 3.3 below.

Table 3.3

Assets Under Management Fees by Channel

Assets Under Management	Independent BD	Hybrid BD/RIA	RIA
<$250,000	1.72%	1.40%	1.25%
$250,000-$500,000	1.57%	1.40%	1.25%
$500,000-$1,000,000	1.47%	1.40%	1.25%
$1,000,000-$2,000,000	1.27%	1.25%	1.10%
$2,000,000-$5,000,000	1.12%	1.10%	0.95%
$5,000,000-$1,000,000	0.97%	0.90%	0.75%

Note. Percentages are given from the Kitces 2022 "How Financial Planners Actually Do Financial Planning" study.

Presented with their first financial planner (titled "Financial Planner 1"), the respondent had a choice: They could elect to "hire" the first financial planner they were presented with, or they could elect to see another financial planner. A second financial planner (titled "Financial Planner 2") would then be procedurally generated, with a potentially identical or different set of financial planning services, a different randomly assigned fee model, and, consequently, a potentially different service fee. Respondents could repeat this process as many times as they liked, seeing a potentially unlimited number of financial planners and accumulating a larger "collection" of financial planners until they ultimately decided to select a financial planner. At that time, the experiment concluded with two questions about what services financial planners should offer and what services the respondent would want from their financial planner, given the choice of choosing.

Treatment A – Absence of Service Information

A respondent for Treatment Group A, which has only information on price but not services, engaged in the same experiment as the Control Group. This group represented consumers encountering a claim of "comprehensive" or "holistic" financial planning, receiving adequate information on the cost of services, but without the requisite full understanding of what comprehensive or holistic actually means between different service providers. However, because their treatment lacked information on services, the only information that each financial planner vignette presented was with “Financial Planner #” as a title and the price point for services. From this treatment group, we expected to see a classic search for the best price, in which respondents were likely to search for only such a time as they expect that more searching might yield a better price, after which they’d make a selection, most likely based solely on the lowest cost available.

Treatment B – Absence of Pricing Information

A respondent for Treatment Group B, which only had information on services but not on price, engaged in the same experiment as the Control Group. This group represented consumers engaging a fee-based or commission-only financial planner, in which they are unable to determine their actual total cost for services rendered, often due to the opaqueness or lack of transparency around the sale of financial products on commission. Because their treatment lacked information on pricing, the only information that each financial planner vignette was presented with was “Financial Planner #” as a title and the randomly generated list of services offered. From this treatment group, we expected to see that the type of services offered and the number of services offered would play a significant role in the final selection of a financial planner. Notably, a price was assigned to financial planners for this treatment group, but this data was hidden from the respondents and recorded for comparison against the Control Group and Treatment Group A.

Statistical Analyses

Given the four hypotheses, a range of statistical techniques were required to examine the results of the gathered data and experiment. These statistical techniques were performed with STATA, which provided both the software for the base statistical tests performed and the necessary tests for robustness in the event that any underlying model assumptions were violated (Verardi & Croux, 2009).

Ordinary Least Squares Regression

Because five of the six dependent variables were continuous rather than categorical, we have forgone the option of an analysis of variance test in favor of an ordinary least squares regression. Ordinary least squares regression has six primary assumptions (Long, 2008):

First, the linear regression model was linear in parameters, meaning that the model did not suffer from a curve in its distribution or that the curve was transformed such that it presented as an observably normal distribution.

Second, there was random sampling of observations, such that there was no undue selection bias or any external influence on the respondent data undergoing analysis. The utilization of a panel provider to provide a representative population was intended to solve this issue, though as discussed under "Sample Reduction," this ran into difficulties in practice. This assumption also required that there was a relationship between the independent and dependent variables that could be described as a parent and child relationship in directed acyclic graph terminology or, at the very least, that the independent variable was an ancestor of a dependent variable (Shrier & Platt, 2008).

Third, the conditional mean or error term of the regression should have been zero. This test ensured that any variation between the independent and dependent variables was explained by unknown variables. If the assumption was violated, then there would have been endogeneity within the relationship between the independent and dependent variables, which indicates that there may be issues with simultaneity, which further violates the exploration of a causal relationship (Ashley & Parmeter, 2020). However, this issue did not occur.

Fourth, there was no multi-collinearity or perfect collinearity within the dataset. As ordinary least squares regression examined the relationship singularly between each independent variable and the dependent variables, this assumption was correct by default, but also indicated that in our next statistical test, multiple linear regression, different assumptions would hold as the potential interaction between the independent variables on the dependent variables came into play.

Five, that the model was homoscedastic and autocorrelation is absent. Homoscedasticity required that variation in dependent variable responses did not vary dramatically along the continuum of independent variables. If variation increased in a non-linear manner, this would indicate heteroscedasticity, which violates this assumption of ordinary least squares regression, as the increasing variance along the continuum of the independent variable would create disproportionate variation in the measured effect of the dependent variable (Long, 2008). The absence of autocorrelation indicated that the responses in the sample weren't affected by prior responses; this assumption is important in the case of a dependent variable such as "cost of a selected financial planner," where the presence of a previous iteration of the same experiment could result in an anchoring bias (Richie & Josephson, 2017).

Sixth, the error terms were normally distributed. In the same sense as the fifth assumption of a homoscedastic distribution of variance, error terms should not have demonstrated a noticeable "trend," or endogeneity was otherwise potentially present.

In application to the study, to examine the individual influence of each hypothesized independent variable of interest and its influence on the dependent variable, an ordinary least squares regression was used to examine the relationship between the control and treatment groups on price, the fee model selected and price, the sub-assets-under-management channel and price, and the control and treatment groups on the sum of planner services received. These aimed to address research questions one and two, “Does having perfect information impact the cost of services?” and “Does having perfect information impact the number of services?”

Multiple Linear Regression

Like ordinary least squares regression, multiple linear regression shares many assumptions that must be in place in order for the statistical model to be valid. First, as with the ordinary least squares regression, a normal non-curvilinear relationship was required. Second, as with the ordinary least squares regression, the errors needed to be normally distributed, devoid of heteroscedastic drifts in the distribution of the error terms. However, the third assumption of multiple linear regression was not shared with ordinary least squares regression and is distinct from the nature of a multiple linear regression analysis. The third assumption is that there was no multicollinearity between the independent variables. While an ordinary least squares does not examine multiple independent variables simultaneously, and thus, this assumption is unnecessary, multiple linear regression naturally invokes the potential for two independent variables’ explanatory power to be highly correlated and as such, to raise the issue of which actually has causal or explanatory power (Uyanik & Guler, 2013). This was tested with a variance inflation factor test, which revealed whether there was a correlation between the independent variables (Liao & Valliant, 2012).

A multiple linear regression was be used to investigate the third research question, “How do consumers select a financial planning professional?” In particular, this method was useful in assessing a variety of responses from the study participants, in looking to tease out whether fixed effects such as race and gender, or other effects such as income and education, had a material impact on planner selection, whether that be by cost or services.

Logistic Regression Model

A logistic regression model was used to assess the odds that a specific financial planning service, such as retirement planning or life insurance planning, was likely to result in the selection of a financial planner and whether that was specifically influenced by the ability to see the service (Control Group and Treatment Group B). A logistic regression model has several key assumptions:

First, the absence of outliers, since these may overweight bias the selection of any particular outcome. This seemed an improbable complication to encounter, since the comparison was only be made between the three assigned groups but was still tested by calculating standardized residuals from the logit output.

Second, independence of observations. Because each participant in the study completed the study independently and selected a single financial planner offering a random set of services, there was no likelihood of an independence of observations issue. Further, selecting one service did not impact the probability that another service was available, as the study design randomly assigned each service with equal probability.

Third, a sufficient sample size. The study aimed for a sample of 1,000 respondents, which should have been enough to produce statistically significant results. However, recruitment and sample quality issues led to a significant reduction in the final sample, which are discussed below in sample reduction.

Fourth, there was no perfect multicollinearity. While correlation between independent variables was possible, perfect correlation between the input variables would cause issues with estimating the model parameters. This did not occur.

Fifth, a linear relationship between the independent variables and the dependent variables. Because the independent variables in question were assignments to the control groups and each respondent answered separately and only once when selecting a financial planner in the experiment, there was no gradual increase or decrease or probability with units of iteration, as might be seen in a model for which a probit analysis would be more appropriate.

Finally, the dependent variable in the logit model was a binary outcome. As this analysis aimed to understand the odds that a service would ("1") or would not ("0") be chosen by the respondents as part of the planner they select, the dependent variable was a binary output.

Missing Data

There was a risk of missing data when gathering information from survey respondents (Chandler et al., 2019). To moderate missing data issues, the software in the study was designed to require an answer to each and every question in the study with the advance consent of the respondents to acknowledge that failure to complete each question would disqualify them from being compensated for the study and would disqualify their responses. Therefore, the study did not have any missing data issues to overcome.

Sample Reduction

The sample was gathered utilizing Amazon's mTurk, which presented its own set of challenges, which are discussed further in Chapter 5 under "Limitations." Prior to participating in the study, respondents were filtered by mTurk based on three criteria:

1) mTurk Masters Qualification: This designation is granted to workers who have completed at least 1,000 tasks and been approved for payment for completion of those tasks, as well as a variety of proprietary algorithmic assessment variables not disclosed by mTurk to the public.

2) A requirement that the mTurk workers had a 95% or greater task completion rate ("HIT Completion").
3) That mTurk workers could only complete the task one time.

Despite utilizing mTurk's screening procedures to require workers in the respondent pool to have completed a large number of tasks successfully prior to being admitted to the study, as well as opting to avoid repetition by the same users of the same task, there was a substantial degree of quality issues in the responses received. There was also an inability to effectively screen respondents via mTurk for criteria such as income or assets that would limit responses to those more akin to probable financial planning clients, as the screening for these factors was based on self-reported data by the mTurk workers. The restriction of the gathered sample to respondents who more aptly resemble financial planning clients is discussed below in sample restriction.

A sample of n=401 under this recruitment method was gathered, reflecting a substantial culling of fraudulent responses from an original sample of 1,008. While 1,008 responses were gathered, 607 responses had to be removed from the original dataset due to fraud. The descriptive table below, Table 3.4 summarizes the causes of removal below, which are then discussed further.

Table 3.4

Original survey responses and proportional fraud

	Results	
	n	%
Answers perfectly matched	*432*	*42.85*
User(s) took survey repeatedly	*135*	*13.39*
Fake responses	*23*	*2.28*
Fake survey code	*8*	*0.79*

Duplicate survey code	*9*	*0.89*
Acceptable / No Fraud	*401*	*39.78*

Note. N = 1,008. 401 acceptable responses.

Answers perfectly matched

Several hundred responses to the survey were identical in all non-random elements. An example would be a respondent profile of male, age 35, Caucasian, Hispanic, master's degree, $50,000 annual income, $3 liquid assets, the same answers to all financial literacy questions, the same answer to the use of a financial professional question, and the same answers to the services planners should offer and the services they want from a planner. These would appear in very obvious clusters when the data was sorted for ratios of income to assets or ordered by age and another variable. Because these responses were identical, and the attempted fraud was obvious, all responses with perfect matching were removed from the dataset, as it seems unlikely that the responses being given were honest and were likely more intended to expeditiously complete the process across dozens or hundreds of profiles by sophisticated scammers using software to mirror activity on multiple profiles at once.

This was further evidenced by multiple automated complaints about non-payment when these responses were rejected, with emails coming from different users using the exact same words and phrases with the exact same typos despite presenting themselves being different people requesting payment for completion of the task.

User(s) took survey repeatedly

Several users took the survey repeatedly; despite mTurk ostensibly having a feature that only allows the task to be reviewed and completed once, this did not seem to prevent mTurk workers from repeatedly completing the task. This issue was detected via the mTurk WorkerID, which was screened via the Excel function for conditional formatting to highlight duplicate values. These responses were removed from the final dataset, as there was no way to ascertain which responses were legitimate and which responses were falsified in an attempt to complete the same task repeatedly, thus inflating worker earnings but also producing redundant and useless data.

Fake responses

A small number of responses were demonstrably fake. These included respondents stating they were under 18 and had doctoral degrees or other respondents with impossible combinations of income and liquid assets, e.g., billion-dollar incomes but zero liquid assets. These were removed from the final dataset.

Fake survey code

Another small number of submissions for the survey were made with fake codes. The software generated a 15-digit completely randomized code at the end of the survey which was related to the record for each completed survey. These were compared to the submitted records, and all requests for completion that did not have a matching software-generated code were removed. Because the submissions to mTurk were fake, these responses did not end up in the gathered dataset.

Duplicate survey code

Several respondents attempted to submit a genuine survey code more than once. This did not appear in the finalized dataset via the software, but was rejected as the same user attempting to use the code to earn credit across multiple mTurk worker profiles without actually completing the task more than once. The original submission in the original dataset was retained, as a duplicate submission of the same code did not necessarily invalidate the responses given.

Acceptable / No Fraud

These responses were utilized in the statistical analyses for the study. These distinguished themselves from fraudulent responses by being absent from the issues noted further previously, such as repeat takes, clearly fake responses, fake codes, or perfectly matching answers.

Sample Restriction

Because mTurk could not effectively screen responses for qualifications such as minimum levels of income or assets for those likely to pursue financial planning services, the full sample of 401 had many respondents who were unlikely to actually engage with a financial planner. To examine the differentiation between the broad sample of 401 gathered and the restricted sample of 156 within the 401 who had a minimum of $50,000 in assets, the statistical models and evaluations of the data were performed on both the “full” 401 sample and the “restricted” sample of 156. This is similar to the methodology used in the CFP Board’s recent longitudinal study of financial planning, which restricted respondents to those with at least $50,000 in annual income and $30,000 in investable assets (CFP Board, 2025).

Chapter 4 - Results

The study addressed three core research questions: Does having perfect information impact the cost of services, does having perfect information impact the number of services, and how do consumers select a financial planning professional? These research questions are discussed in this chapter in that order, bifurcated between a condensed sample of 401 respondents, reflecting the total valid responses received to the mTurk study, and a further restricted sample of 156 respondents, reflecting those respondents in the study with $50,000 or more in liquid assets, who are more likely to represent the typical clients of financial planners. The statistical analyses of the respondents' data are presented in order of the full 401 respondents, followed by the restricted sample of 156 respondents.

In methods, tests for missing data and variation inflation factors were noted as potential issues to address. However, the study does not have any missing data to account for based on the collection method, and all statistical tests conformed to statistical test validity norms unless otherwise noted.

Research Question One: Does Having Perfect Information Impact the Cost of Services?

The core question of the study was whether having unusually accurate information about a financial planner's services and pricing lends itself to obtaining a better price or value of the services rendered; or whether the more common information asymmetry present when planners describe their services as "holistic" or otherwise obscure costs via commissions paid by third parties, have adverse effects on the number of services or cost of services incurred by financial planning clients. The study gave respondents the opportunity to select a financial planner, but had three separate groups, including the control group with perfect information about their potential financial planners, and treatment groups with pricing-only and services-only information about their financial planners.

A regression analysis of the impact on price based on whether respondents were sorted into the control group with both pricing and services information or into a treatment group with either pricing or services information shows almost no explanatory power with an R^2 of 0.0007. While the control group shows a mean price of $3,380 for a financial planner selected by those in the control group, there is no statistically significant difference between those in the pricing treatment group (*P=0.715*) or the services treatment group (*P=0.894*) as compared to the constant of the control group, which had perfect information. The full results of this analysis are shown below in Table 4.1.

Table 4.1

Regression of Control & Treatment Groups on Price

Variables	Coef.	Std. Err.	t	P > | t |	Lower CI	Upper CI	Beta
Pricing Only	121.899	334.115	0.36	0.715	-534.95	778.75	0.02155
Services Only	-45.852	344.454	-0.13	0.894	-723.0278	631.324	-0.00786

Note. N=401

Contrary to the lack of significance between the control and treatment groups, there were statistically significant differences between the costs of the fee models selected by the respondents. With an explanatory power of $R^2=0.3108$, a bivariate analysis found that respondents in the full sample opting for the retainer or hourly models would pay significantly greater costs for financial planning, respectively $2,527.64 more for retainer services (*P>0.001****) or $3,585.10 more for hourly services (*P>0.001****) compared to a constant of

$1,546.89 for assets under management services. The results of this analysis are shown below in Table 4.2.

Table 4.2

Regression of Model and Price

Variables	Coef.	Std. Err.	t	P > | t |	Lower CI	Upper CI	Beta
Retainer/Project	2527.643	269.065	9.39	0.000***	1998.67	3056.61	0.43688
Hourly	3585.105	281.366	12.74	0.000***	3031.96	4138.25	0.59256

Note. N=401

These results are supported by the respondents' modest preference for the assets under management service model compared to retainer or hourly service models, with assets under management being favored by respondents in both the control and treatment groups, despite one of the treatment groups not having pricing information presented to them, which suggests a statistical coincidence on the part of the services-only treatment group's preference. The service models selected by members of the control and treatment groups are shown below in Table 4.3.

Table 4.3

Selection of Model by Control

	Control Group		Pricing Only		Services Only	
	n	*%*	*n*	*%*	*n*	*%*
Model						
AUM	*56*	*45.53*	*51*	*34.46*	*46*	*35.38*
Retainer/Project	*28*	*22.76*	*62*	*41.89*	*44*	*33.85*
Hourly	*39*	*31.71*	*35*	*23.65*	*40*	*30.77*

Note. N=401.

However, the preference for the assets under management service model does not appear to be solely driven by relative cost differences, as the study randomly assigned respondents in the assets under management channel to one of three sub-channels: independent broker-dealers, hybrid broker-dealer RIAs, and RIAs, with asset-based fee levels that differed, with the highest fees to lowest fees calculated in that order. With this framework in mind, there was not any statistically significant difference in costs incurred based on the sub-channel as compared to the Independent Broker Dealer model as the constant, which can be seen below in Table 4.4.

Table 4.4

Regression of AUM channel and price

Variables	Coef.	Std. Err.	t	P > | t |	Lower CI	Upper CI	Beta
Hybrid BD/RIA	189.369	683.570	0.28	0.782	-1161.30	1540.04	0.02726
RIA	-94.285	717.344	-0.13	0.896	-1511.69	1323.12	-0.01293

Note. N=401

This raises further consideration of the distinctions in selection between the sub-channels based on the control group or treatment group assignment. The control group with clear price and service information preferred the RIA channel, which offers the lowest costs when compared to the other assets under management channels. However, the pricing treatment group and services treatment group both favored the hybrid broker-dealer RIA channel, which sits in the middle of the pricing distribution for assets under management, as shown below in Table 4.5.

Table 4.5

Selection of an AUM channel by control or treatment group

	Control Group		Pricing Only		Services Only	
	n	*%*	*n*	*%*	*n*	*%*
AUM Channel						
Independent Broker Dealer	*16*	*28.57*	*14*	*27.45*	*13*	*28.26*
Hybrid Broker Dealer / RIA	*15*	*26.79*	*25*	*49.02*	*21*	*45.65*
RIA	*25*	*44.64*	*12*	*23.53*	*12*	*26.09*

Note. N=153, as a subset of the total sample of 401.

Restricted Sample

The results of the statistical analyses vary between the original sample of 401 and the restricted sample of 156, consisting only of those with $50,000 in liquid assets or greater. The analysis of the restricted sample does show some contrast with the full sample. The analysis of the difference in pricing between the control and treatment groups was hardly more statistically significant, with an R^2 of 0.0180. The mean price of the restricted sample was greater than that of the full sample, at $4,753.08, or $1,372.46 more on average. Neither of the treatment groups showed a statistically significant difference in pricing from the control group (*P=0.327* and *P=0.097* respectively). The results of this analysis are shown below in Table 4.6.

Table 4.6

Restricted Sample Regression of Control & Treatment Groups on Price

Variables	Coef.	Std. Err.	t	P > | t |	Lower CI	Upper CI	Beta
Pricing Only	-602.489	612.473	-0.98	0.327	-1812.49	607.51	-0.09339
Services Only	-1045.84	625.639	-1.67	0.097	-2281.842	190.172	-0.15870

Note. N=156.

In contrast to the full sample, the statistical significance of the difference between the prices paid in the assets under management model and the alternative retainer and hourly models declined significantly, with an $R^2=0.0387$. Further, the statistically significant differences in price between the retainer ($P=0.429$) and hourly ($P=0.15$) models and the assets under management model disappear. This suggests that the statistically significant difference in the full sample between assets under management costs by selected financial planners and the retainer and hourly planners is largely driven by the significant and potentially unrealistic discounted cost of services offered to those with very few assets to manage. The results of this analysis are shown below in Table 4.7.

Table 4.7

Restricted Sample Regression of Model and Price

Variables	Coef.	Std. Err.	t	P > | t |	Lower CI	Upper CI	Beta
Retainer/Project	462.530	583.577	0.79	0.429	-690.38	1615.44	0.06984
Hourly	1496.962	608.334	2.46	0.150	295.14	2698.78	0.21684

Note. N=156.

However, preference for the assets under management model did not change significantly between the full and restricted samples. The ratio of respondents selecting assets under management, retainer, or hourly services remained almost identical between the full and restricted samples, as shown below in Table 4.8.

Table 4.8

Comparison of selected service model between Full and Restricted Samples

	Full Sample		Restricted Sample	
	n	*%*	*n*	*%*
Model				
AUM	*153*	*38.15*	*61*	*39.10*
Retainer/Project	*134*	*33.42*	*51*	*32.69*
Hourly	*114*	*28.43*	*44*	*28.21*

Note. N=401 for Full Sample and N=156 for Restricted Sample.

The respondents' preferences based on control and treatment groups did differ between the full and restricted samples. However, the preferences also differed between the control and treatment groups. While the control group shifted slightly toward a preference for retainer services and showed no material difference in the adoption of hourly services, the pricing-only treatment group showed a slight increase in preference for the assets under management model. The services-only group showed no difference in preferences. The results for the restricted sample are shown below in Table 4.9.

Table 4.9

Restricted Sample Selection of Model by Control or Treatment Group

	Control Group		Pricing Only		Services Only	
	n	*%*	*n*	*%*	*n*	*%*
Model						
AUM	*20*	*42.55*	*22*	*38.60*	*19*	*36.54*
Retainer/Project	*12*	*25.53*	*21*	*36.84*	*18*	*34.62*
Hourly	*15*	*31.91*	*14*	*24.56*	*15*	*28.85*

Note. N=156.

Consistent with the full sample, the selection of the assets under management model did not appear to be completely driven by the potential to pay lower fees by respondents with less assets to manage. As with the full sample, the restricted sample showed no statistically significant difference in pricing between the constant of the independent broker-dealer's pricing, the hybrid broker-dealer RIA (*P=0.842*) pricing, and the RIA (*P=0.478*) pricing; and as shown above in Table 4.9, respondents did not always hold out for an assets under management model with the lowest pricing formula. The restricted sample analysis is shown below in Table 4.10.

Table 4.10

Restricted Sample Regression of AUM channel and price

Variables	Coef.	Std. Err.	t	P > | t |	Lower CI	Upper CI	Beta
Hybrid BD/RIA	-317.557	1590.260	-0.02	0.842	-3500.81	2865.69	-0.03344
RIA	-1162.630	1628.72	-0.71	0.478	4422.86	2097.60	-0.11955

Note. N=156.

Summarily, there was no significant evidence that having perfect information materially improved the cost of services obtained by the respondents when compared to respondents with pricing-only or services-only information about the financial planners available to them.

Research Question Two: Does Having Perfect Information Impact the Number of Services?

The corollary question to research question one was whether having perfect information improved the number of services obtained by respondents. While respondents may not have shown any materially significant difference in price between perfect information or being in one of the treatment groups with pricing-only or services-only information, there was the possibility that by having access to the services, quantity of services, and pricing information, that they were able to obtain more services or a "better selection" of services for their personal needs.

A regression analysis of the impact on the sum of services received by respondents based on whether they were randomly sorted into the control group with both pricing and services information or into a treatment group with either pricing or services information showed almost no explanatory power with an R^2 of 0.0092. While the control group shows that the average respondent with perfect information in the control group received 9.951 services from their selected financial planner (rounding to 9 or 10 services in practice), there was no statistically significant difference between those who only had pricing data (*P=0.058*) or those within the service treatment group (*P=0.431*). The full results of this analysis can be seen below in Table 4.11.

Table 4.11

Regression of Control & Treatment Groups on Sum of Planner Services

Variables	Coef.	Std. Err.	t	P > | t |	Lower CI	Upper CI	Beta
Pricing Only	-0.444	0.233	-1.90	0.058	-0.90	0.01	-0.11203
Services Only	-0.190	0.241	-0.79	0.431	-0.66	0.28	-0.04637

Note. N=401.

These results were further confirmed through a binary logit analysis of the odds that a respondent in the control or a treatment group would select a financial planner based upon the services offered. There were no statistically significant differences in the preference of those in the control group's selection of services compared to either treatment group in any of the binary logit tests run across all sixteen individual services offered by the financial planners. The constant shown for each service is representative of the control group, and is shown to give context to the frequency of selection of the service by the control group, which is then comparable with the selection of the service by the pricing-only treatment group and the services-only treatment group. The results of these tests can be seen below in Table 4.12.

Table 4.12

Binary Logit Model of Financial Planner Service Selection

		Responses			
	Prob > chi2	Coefficient	Std. Err.	P>|z|	Avg. Mar. Eff.
Retirement	0.4351				
Constant		0.48059	0.18557	0.010	
Pricing Only		-0.31807	0.24827	0.200	-0.07735
Services Only		-0.20187	0.25653	0.431	-0.04866
Investment	0.5182				
Constant		0.41224	0.18418	0.025	
Pricing Only		-0.27690	0.24713	0.263	-0.06784
Services Only		-0.10209	0.25581	0.690	-0.02470
Tax planning	0.6360				
Constant		0.65678	0.19015	0.001	
Pricing Only		0.01616	0.25760	0.950	0.00363
Services Only		0.22742	0.27081	0.401	0.04916
Tax preparation	0.2192				
Constant		0.17934	0.18106	0.322	
Pricing Only		0.09259	0.24559	0.706	0.02285
Services Only		0.42283	0.25773	0.101	0.10144
Life insurance planning	0.6047				
Constant		0.27820	0.18208	0.127	
Pricing Only		0.21823	0.24876	0.380	0.05252
Services Only		0.22443	0.25672	0.382	0.05397
Disability insurance planning	0.9301				
Constant		0.24512	0.18169	0.177	
Pricing Only		0.05439	0.24627	0.825	0.01335
Services Only		0.09663	0.25434	0.704	0.02364
Long term care insurance planning	0.5344				
Constant		0.34484	0.18302	0.060	-0.03807
Pricing Only		-0.15508	0.24651	0.529	-0.03807
Services Only		-0.28328	0.25356	0.264	-0.06998
Property casualty insurance planning	0.2416				
Constant		0.62083	0.18909	0.001	

Pricing Only		-0.40376	0.25120	0.108	-0.09635
Services Only		-0.11820	0.26174	0.652	-0.02733
Health insurance planning	0.4106				
Constant		0.80507	0.19514	0.000	
Pricing Only		-0.30863	0.25847	0.232	-0.06944
Services Only		-0.30244	0.26615	0.256	-0.06798
Cash flow planning	0.3620				
Constant		0.76726	0.19377	0.000	
Pricing Only		-0.27082	0.25743	0.293	-0.06131
Services Only		-0.36179	0.26381	0.170	-0.08293
Debt planning	0.77510				
Constant		0.65678	0.19015	0.001	
Pricing Only		-0.10247	0.25556	0.688	-0.02340
Services Only		-0.18678	0.26202	0.476	-0.04315
College planning	0.4722				
Constant		0.44629	0.18484	0.016	
Pricing Only		-0.20183	0.24819	0.416	-0.04895
Services Only		0.08923	0.25922	0.731	0.02101
Student loan planning	0.5386				
Constant		0.44629	0.18484	0.016	
Pricing Only		-0.11907	0.24884	0.632	-0.02868
Services Only		0.15589	0.26040	0.549	0.03640
Estate planning	0.8515				
Constant		0.24512	0.18169	0.177	
Pricing Only		0.13787	0.24707	0.577	0.03362
Services Only		0.09663	0.25434	0.704	0.02364
Stock options planning	0.7629				
Constant		0.65678	0.19015	0.001	
Pricing Only		0.01616	0.25760	0.950	0.00363
Services Only		-0.15415	0.26251	0.557	-0.03546
Business planning	0.25380				
Constant		0.80507	0.19514	0.000	
Pricing Only		-0.27980	0.25887	0.280	-0.06268
Services Only		-0.43155	0.26445	0.103	-0.09875

Note. N=401.

Consequently, it appeared that in the full sample of 401, there was no statistically significant relationship between the type of services offered by financial planners or the sum of services offered by financial planners and whether the assignment to the control group with both pricing and services information, or either treatment group with pricing-only or services-only information available to them.

Restricted Sample

As with research question one, the results of the statistical analyses vary between the original sample of 401 and the restricted sample of 156, consisting only of those with $50,000 in liquid assets or greater. The analysis of the difference in the sum of services offered by selected financial planners between the control and treatment groups was modestly more statistically significant with an R^2 of 0.0426 compared to the full sample's R^2 of 0.0092. Respondents in the control group with perfect information received 10.25 services from their selected financial planner, an average increase of almost one additional service. In addition, a statistically significant difference in the number of services offered by selected financial planners emerged in the pricing only treatment group (*P=0.01**), with respondents in the pricing-only treatment group opting to receive 0.975 services less than the control group on average, which respectively suggests that those in the control group are, on average, opting for ten to eleven services while those in the pricing-only treatment group are opting for ten or fewer services on average. The results of the restricted sample analysis are shown below in Table 4.13.

Table 4.13

Restricted Sample Regression of Control & Treatment Groups on Sum of Planner Services

Variables	Coef.	Std. Err.	t	P > | t |	Lower CI	Upper CI	Beta
Pricing Only	-0.975	0.375	-2.60	0.010*	-1.71	-0.23	-0.24387
Services Only	-0.467	0.383	-1.22	0.224	-1.22	0.29	-0.11436

Note. N=156.

The subsequent binary logit analysis of the selection of financial planners based on specific services offered also differed in the restricted sample. While in the full sample, no specific service showed any statistically significant difference in selection by respondents based on control or treatment group assignment, the odds of selecting a financial planner based on the offering of disability insurance planning differed in the pricing-only treatment group (*P=0.013**). Given that the pricing-only treatment group did not know what services were being offered by the financial planners they selected, and there is no directly established relationship between specifically offering disability insurance planning and the costs of services, excepting that the offering of any given service increased the calculation of hourly price financial planners which is not unique to disability insurance planning, this appeared to be a statistical anomaly and does not offer an explanation as to a particular respondent preference for disability insurance planning. As before, the constant represents selection by the control group and is shared to contextualize selection of the service by the control group in contrast with the treatment groups. The full results of the binary logit analyses are shown below in Table 4.14.

Table 4.14

Restricted Sample Binary Logit Model of Financial Planner Service Selection

		Responses			
	Prob > chi2	Coefficient	Std. Err.	P>|z|	Avg. Mar. Eff.
Retirement	0.1773				
Constant		0.75769	0.31292	0.015	
Pricing Only		-0.65233	0.41023	0.112	-0.15454
Services Only		-0.03555	0.43048	0.934	-0.00777
Investment	0.5523				
Constant		0.38777	0.29723	0.192	
Pricing Only		-0.42286	0.39817	0.288	-0.10452
Services Only		-0.15596	0.40781	0.702	-0.03805
Tax planning	0.7835				
Constant		0.75769	0.31292	0.015	

Pricing Only		-0.14250	0.41826	0.733	-0.03173
Services Only		0.14518	0.43773	0.740	0.03069
Tax preparation	0.5796				
Constant		0.12783	0.29233	0.662	
Pricing Only		0.26303	0.39793	0.509	0.06458
Services Only		0.42424	0.41035	0.301	0.10270
Life insurance planning	0.3487				
Constant		0.38777	0.29723	0.192	
Pricing Only		-0.14091	0.39949	0.724	-0.03434
Services Only		0.42316	0.42264	0.317	0.09656
Disability insurance planning	0.0371				
Constant		1.18562	0.34451	0.001	
Pricing Only		-1.08026	0.43481	0.013*	-0.23964
Services Only		-0.71562	0.44714	0.110	-0.15057
Long term care insurance planning	0.2698				
Constant		0.56798	0.30357	0.061	
Pricing Only		-0.46262	0.40315	0.251	-0.11198
Services Only		-0.64495	0.41133	0.117	-0.15753
Property casualty insurance planning	0.1648				
Constant		0.96141	0.32609	0.003	
Pricing Only		-0.78552	0.42078	0.062	-0.17954
Services Only		-0.49141	0.43311	0.257	-0.10802
Health insurance planning	0.5432				
Constant		0.85745	0.31895	0.007	
Pricing Only		-0.24226	0.42280	0.567	-0.05300
Services Only		-0.46799	0.42616	0.272	-0.10597
Cash flow planning	0.6328				
Constant		0.38777	0.29723	0.192	
Pricing Only		-0.21187	0.39883	0.595	-0.05189
Services Only		0.38777	0.40653	0.340	-0.09574
Debt planning	0.62360				
Constant		0.85745	0.31895	0.007	
Pricing Only		-0.39314	0.41923	0.348	-0.08809
Services Only		-0.30538	0.42973	0.477	-0.06751
College planning	0.7988				
Constant		0.47692	0.30006	0.112	
Pricing Only		-0.23006	0.40161	0.567	-0.05562
Services Only		-0.00692	0.41387	0.987	-0.00164
Student loan planning	0.5954				
Constant		0.47692	0.30006	0.112	

Pricing Only		-0.15847	0.40250	0.694	-0.03807
Services Only		0.24521	0.42123	0.560	0.05606
Estate planning	0.9595				
Constant		0.21357	0.29339	0.467	
Pricing Only		0.10488	0.39756	0.792	0.02576
Services Only		0.09658	0.40604	0.812	0.02373
Stock options planning	0.1408				
Constant		0.56798	0.30357	0.061	
Pricing Only		0.28768	0.41950	0.493	0.06346
Services Only		-0.49102	0.41133	0.233	-0.11907
Business planning	0.69800				
Constant		0.47692	0.30006	0.112	
Pricing Only		0.06207	0.40674	0.879	0.01456
Services Only		0.33401	0.42464	0.432	0.07529

Note. N=156.

Slight differences emerged in the restricted sample of those respondents more likely to resemble common financial planning clients. These differences were summed up by a slight preference for an increased number of financial planning services among those who can compare price and services, and a lack of distinction between those in the full and restricted samples when price was the only filter. While there was a statistically significant relationship between the pricing-only treatment group and the offering of disability insurance planning, this relationship appears to be spurious, and thus, between both the full and restricted sample, it did not appear that the offering of any specific financial planning service increased the odds of a financial planner's selection.

Summarily, it does not appear that the respondents selected their financial planner based on the quantity or type of services offered, even when they had perfect information that allowed them to compare the specific services and quantity of services to the costs incurred. In fact, the only material observation is that those respondents without services information showed a nominal preference for less services, which only suggested that given price as the only mechanism of selection, that respondents merely prefer to pay less when given the choice, regardless of what benefits they may or may not derive as a consequence of the reduced cost.

Research Question Three: How do Consumers Select a Financial Planning Professional?

Given the presumption that perfect information would yield either more optimal price or services dynamics in research questions one and two, the third research question asked what the respondents were actually doing when they selected a financial planner, which may reveal some notion as to what consumers are doing when selecting a financial planning professional.

However, the question of how the respondents selected a financial planning professional is somewhat confounding. A summary analysis of the dependent variables in the study as described in Table 3.1 showed that respondents in the full sample were quick to select a financial planner, with those in the control group with pricing and services information reviewed an average of 1.46 financial planners before making their selection, while those in the pricing-only treatment group selected a financial planner after reviewed an average of 1.8 financial planners, and those in the services-only treatment group selected a financial planner after reviewing only 1.37. In both control and treatment groups, this implied that most respondents were selecting the first or second financial planner they reviewed, with only nominal variation in selection behavior. A summary of the dependent variables is shown in Table 4.15 below.

As assessed in the results of research question two, there was no statistically significant difference in the selection of financial planners between the control group and treatment groups. In evaluating how often a particular service was selected, each service had an equal sixty percent probability of being offered by a financial planner when the random profiles were generated, and no particular service stood out as exceptionally preferred other than the select oddity of disability insurance planning by those in the pricing-only treatment group.

Table 4.15

Dependent Variable Descriptives

Variables	n	Mean	Std. Err.	Std. Dev.
Number of financial planners reviewed	401		0.0671	1.3442
Control Group	123	1.4634		
Pricing Only	148	1.8041		
Services Only	130	1.3769		
Cost of a selected financial planner	401	3410.7500	136.4543	2732.4960
Ratio of cost to income	401	0.0774	0.0096	0.1923
Ratio of cost to liquid assets	401	42.1663	11.2472	225.2246
Sum of services offered by financial planner	401	9.7257	0.0957	1.9169
Services offered by financial planner	401			
Retirement planning	401	0.5736	0.0247	0.4952
Investment planning	401	0.5686	0.0248	0.4959
Tax planning	401	0.6758	0.0234	0.4687
Tax preparation	401	0.5860	0.0246	0.4932
Life insurance planning	401	0.6060	0.0244	0.4892
Disability insurance planning	401	0.5736	0.0247	0.4952
Long term care insurance planning	401	0.5486	0.0249	0.4983
Property & casualty insurance planning	401	0.6060	0.0244	0.4892
Health insurance planning	401	0.6434	0.0239	0.4796
Cash flow planning	401	0.6334	0.0241	0.4825
Debt planning	401	0.6359	0.0241	0.4818
College planning	401	0.5985	0.0245	0.4908
Student loan planning	401	0.6110	0.0244	0.4881
Estate planning	401	0.5810	0.0247	0.4400
Stock options planning	401	0.6484	0.0239	0.4781
Business planning	401	0.6359	0.0241	0.4818
Sum of services planners should offer	401	4.8579	0.1795	3.5948
Sum of services respondents want	401	4.5985	0.1760	3.5243

Note. N=401.

Another question raised by the study design was whether other factors might influence how the respondents went about selecting a financial planner. The study gathered data and calculated the ratios of price-to-income and price-to-liquid-assets of the selected financial planner, along with assessing the impact of independent variables such as demographic data, objective financial literacy, and number of viewed planners. However, this analysis found that, with regard to the impact of price-to-income ratios, the only materially influential variables were age (*P=0.015**) and objective financial literacy (*P=0.015**). Age produced a modestly positive coefficient of 0.003, while financial literacy showed a modestly negative coefficient of -0.017 as financial literacy increased. This analysis also showed the average participant was willing to spend 7.74% of their income on financial planning services. However, the explanatory power of the analysis was low, with an R^2 of 0.0575, and these results are further scrutinized in the restricted sample. The results of the price-to-income ratio are in Table 4.16.

Table 4.16

Multiple Regression of Price-to-Income Ratio

Variables	Coef.	Std. Err.	t	P > | t |	Lower CI	Upper CI	Beta
Age	0.003	0.001	2.45	0.015*	0.00	0.01	0.12600
Gender							
Female	-0.032	0.212	-1.49	0.138	-0.07	0.01	-0.07644
Race							
Asian	0.000	0.044	-0.01	0.991	-0.09	0.09	-0.00056
Other	0.040	0.067	0.86	0.390	-0.05	0.13	0.04356
Ethnicity							
Hispanic, Latino, or Spanish	0.023	0.020	1.12	0.264	-0.02	0.06	0.05945
Education							
Bachelor's degree	0.248	0.037	0.68	0.499	-0.05	0.10	0.06323
More than a Bachelor's degree	-0.027	0.038	-0.72	0.474	-0.10	0.05	-0.06569
Liquid Assets	0.000	0.000	0.54	0.588	0.00	0.00	0.02764
Objective Financial Literacy	-0.017	0.007	-2.45	0.015*	-0.03	-0.03	-0.13098
Number of Viewed Planners	-0.003	0.007	-0.38	0.705	-0.02	-0.02	-0.01971

Note. N=401.

A similar analysis was performed on the ratio of price to liquid assets. This too, had low explanatory power, with a R^2 of 0.0519. However, similar to the price-to-income analysis, the only significant independent variable was that of objective financial literacy (*P=0.029**), which showed a significant decrease in the willingness to pay a significant multiple of their liquid assets for a financial planner. Unrealistically, the analysis suggested that the average respondent was willing to pay up to 42.16 times their liquid assets. This figure was likely biased by a significant number of respondents reporting zero or only nominal assets, for which even something like a one-hundred-dollar financial planning fee might equate to a hundred times the value of their liquid assets. This is explored further below in the restricted sample analysis. The results of the price-to-liquid-assets ratio analysis are shown below in Table 4.17.

Table 4.17

Multiple Regression of Price-to-Liquid-Assets Ratio

Variables	Coef.	Std. Err.	t	P > | t |	Lower CI	Upper CI	Beta
Age	0.116	1.564	0.07	0.941	-2.96	3.19	0.00386
Gender							
Female	5.551	24.906	0.22	0.824	-0.43	54.52	0.01146
Race							
Asian	-39.537	51.828	-0.76	0.446	-141.43	62.36	-0.04087
Other	153.568	55.186	2.78	.006*	45.07	262.07	0.14136
Ethnicity							
Hispanic, Latino, or Spanish	28.146	24.010	1.17	0.242	-19.06	75.35	0.06251
Education							
Bachelor's degree	-8.449	42.240	-0.20	0.842	-91.50	74.60	-0.01835
More than a Bachelor's degree	-29.016	43.879	-0.66	0.509	-115.28	57.25	-0.05975
Income	0.000	0.000	-0.44	0.659	0.00	0.00	-0.02249
Objective Financial Literacy	-17.547	8.031	-0.22	0.029*	-33.34	-1.75	-0.11713
Number of Viewed Planners	-5.075	8.737	-0.58	0.562	-22.25	12.10	-0.03029

Note. N=401.

With respect to a preference for specific financial planning services and the impact on cost, respondents in the study showed a nominal preference for a financial planner offering health insurance planning (*P=0.01**), though the explanatory power of the analysis was low with a R^2 of 0.0493. While this might hint that respondents were selecting financial planners offering health insurance planning and were willing to pay a premium for it, there was no statistical significance in selecting financial planners based on the offering of health insurance planning itself. The results of this analysis are shown below in Table 4.18.

Table 4.18

Regression of Services Offered and Price

Variables	Coef.	Std. Err.	t	P > | t |	Lower CI	Upper CI	Beta
Retirement	428.229	276.415	1.55	0.122	-115.25	971.71	0.07760
Investment	379.170	279.899	1.35	0.176	-171.16	929.50	0.06881
Tax planning	-136.472	295.223	-0.46	0.644	-716.93	443.98	-0.02340
Tax preparation	276.402	279.818	0.99	0.324	-273.76	826.57	-0.04988
Life insurance planning	460.023	282.281	1.63	0.104	-94.99	1015.03	0.08236
Disability insurance planning	-23.145	283.458	-0.08	0.935	-580.47	534.18	-0.00719
Long term care insurance planning	111.776	277.646	0.40	0.687	-434.12	657.67	0.02038
Property casualty insurance planning	109.873	284.581	0.39	0.700	-449.66	669.41	0.01967
Health insurance planning	741.608	287.539	2.58	0.010*	176.26	1306.96	0.13164
Cash flow planning	-147.729	288.740	-0.51	0.609	-715.44	419.98	-0.02608
Debt planning	436.873	287.775	1.52	0.130	-128.94	1002.68	0.07702
College planning	336.608	280.640	1.20	0.231	-215.18	888.39	0.06046
Student loan planning	104.035	286.077	0.36	0.716	-458.44	666.51	0.01858
Estate planning	-45.920	282.431	-0.16	0.871	-601.23	509.39	-0.00830
Stock options planning	-191.431	290.710	-0.66	0.511	-763.01	380.15	-0.03349
Business planning	80.332	291.086	0.28	0.783	-491.99	652.65	0.01416

Note. N=401.

Health insurance planning was also not a heavily favored service offering when respondents were asked to indicate what services a financial planner should offer, with only 35.41% of respondents indicating that financial planners should offer and want financial planners to offer health insurance planning. The results of each question can be seen below in Tables 4.19 and 4.20.

Table 4.19

Respondent preferences for what financial planners should offer

	Shouldn't Offer		Should Offer	
	n	*%*	*n*	*%*
Retirement	*203*	*50.62*	*198*	*49.38*
Investment	*235*	*58.60*	*166*	*41.40*
Tax planning	*190*	*47.38*	*211*	*52.62*
Tax preparation	*252*	*62.84*	*149*	*37.16*
Life insurance planning	*200*	*49.88*	*201*	*50.12*
Disability insurance planning	*299*	*74.56*	*102*	*25.44*
Long term care insurance planning	*287*	*71.57*	*114*	*28.43*
Property casualty insurance planning	*297*	*74.06*	*104*	*25.94*
Health insurance planning	*259*	*64.59*	*142*	*35.41*
Cash flow planning	*306*	*76.31*	*95*	*23.69*
Debt planning	*319*	*79.55*	*82*	*20.45*
College planning	*316*	*78.80*	*85*	*21.20*
Student loan planning	*324*	*80.80*	*77*	*19.20*
Estate planning	*321*	*80.05*	*80*	*19.95*
Stock options planning	*336*	*83.79*	*65*	*16.21*
Business planning	*324*	*80.80*	*77*	*19.20*

Note. N=401.

Table 4.20

Services respondents want their financial planner to offer

	Don't Want		Want	
	n	%	*n*	%
Retirement	*254*	*63.34*	*147*	*36.66*
Investment	*227*	*56.61*	*174*	*43.39*
Tax planning	*232*	*57.86*	*169*	*42.14*
Tax preparation	*272*	*67.83*	*129*	*32.17*
Life insurance planning	*234*	*58.35*	*167*	*41.65*
Disability insurance planning	*306*	*76.31*	*95*	*23.69*
Long term care insurance planning	*276*	*68.83*	*125*	*31.17*
Property casualty insurance planning	*293*	*73.07*	*108*	*26.93*
Health insurance planning	*259*	*64.59*	*142*	*35.41*
Cash flow planning	*300*	*74.81*	*101*	*25.19*
Debt planning	*298*	*74.31*	*103*	*25.69*
College planning	*314*	*78.30*	*87*	*21.70*
Student loan planning	*324*	*80.80*	*77*	*19.20*
Estate planning	*325*	*81.05*	*76*	*18.95*
Stock options planning	*336*	*83.79*	*65*	*16.21*
Business planning	*322*	*80.30*	*79*	*19.70*

Note. N=401.

Restricted Sample

In condensing the respondents to a restricted sample of those with $50,000 or more in liquid assets, the observed statistical significance in many of the previously identified factors magnify or disappear, respectively. The respondents in the restricted sample evaluated even fewer financial planners, with the average respondent in the control group reviewing 1.36 financial planners, while those in the pricing-only treatment group decreased to 1.68. Only those in the services-only treatment group maintained a degree of consistency, reviewing an average of 1.38, whereas the larger sample had previously reviewed 1.37. Notably, however, the average cost of a financial planner increased significantly in the restricted sample, rising from $3,410.75

to $4,184.33. A simple explanation for this is that removing the low-asset respondents from the sample increased the average price of those respondents under the assets under management model, but this is reviewed below in greater detail. A summary analysis of the dependent variables as described in Table 3.1 for the restricted sample is shown below in Table 4.21.

Table 4.21

Restricted Sample Dependent Variable Descriptives

Variables	n	Mean	Std. Err.	Std. Dev.
Number of financial planners reviewed	156		0.1800	0.1039
Control Group	47	1.3617		
Pricing Only	57	1.6842		
Services Only	52	1.3846		
Cost of a selected financial planner	156	4184.3330	249.5280	3116.6040
Ratio of cost to income	156	0.0851	0.0224	0.2795
Ratio of cost to liquid assets	156	0.0239	0.0018	0.0221
Sum of services offered by financial planner	156	9.7436	0.1546	1.9306
Services offered by financial planner	156			
Retirement planning	156	0.6218	0.0390	0.4865
Investment planning	156	0.5449	0.0400	0.4996
Tax planning	156	0.6795	0.0375	0.4682
Tax preparation	156	0.5897	0.0395	0.4935
Life insurance planning	156	0.6154	0.0391	0.4881
Disability insurance planning	156	0.6282	0.0388	0.4848
Long term care insurance planning	156	0.5449	0.0400	0.4996
Property & casualty insurance planning	156	0.6218	0.0390	0.4865
Health insurance planning	156	0.6474	0.0384	0.4793
Cash flow planning	156	0.5449	0.0400	0.4996
Debt planning	156	0.6474	0.0384	0.4793
College planning	156	0.5962	0.0394	0.4922
Student loan planning	156	0.6218	0.0390	0.4865
Estate planning	156	0.5705	0.0398	0.4966
Stock options planning	156	0.6218	0.0390	0.4865
Business planning	156	0.6474	0.0384	0.4793
Sum of services planners should offer	156	5.5449	0.2821	3.5747
Sum of services respondents want	156	5.1667	0.2880	3.5972

Note. N=156.

Evaluating the impact of restricting the sample on the price-to-income ratio, the respondent's ratio of price to income increased to 8.51% from 7.74%, and the statistical significance of the same independent variables increased. Age (*P<0.001****) increased in significance with the coefficient rising from 0.003 in the full sample to 0.12 in the restricted sample, while objective financial literacy (*P=0.001***) also increased in significance, with its coefficient decreasing from -0.017 to -0.068. The explanatory power of the model also increased, with R^2 rising to 0.1791. The results of this analysis are shown below in Table 4.22.

Table 4.22

Restricted Sample Multiple Regression of Price-to-Income Ratio

Variables	Coef.	Std. Err.	t	P > | t |	Lower CI	Upper CI	Beta
Age	0.012	0.003	3.80	0.000***	0.01	0.02	0.29147
Gender							
Female	-0.042	0.049	-0.87	0.387	-0.14	0.05	-0.07055
Ethnicity							
Hispanic, Latino, or Spanish	0.048	0.047	1.01	0.312	-0.05	0.14	0.08350
Education							
Bachelor's degree	0.132	0.088	1.50	0.135	-0.04	0.31	0.22251
More than a Bachelor's degree	0.077	0.094	0.83	0.41	-0.11	0.26	0.11915
Liquid Assets	0.000	0.000	-0.84	0.401	0.00	0.00	-0.07132
Objective Financial Literacy	-0.068	0.019	-3.55	0.001**	-0.11	-0.03	-0.29265
Number of Viewed Planners	-0.010	0.022	-0.05	0.638	-0.05	0.03	-0.03726

Note. N=156.

In contrast to the analysis of the price-to-income ratio, the ratio of price-to-liquid-assets ratio decreased dramatically from 42.16 times their liquid assets to only 2.39% of their liquid assets. Further, the analysis of the price-to-liquid-assets ratio found that as assets increased in the restricted sample, the statistical significance of objective financial literacy disappeared, with no particular independent variable providing a statistically significant explanation as to why a respondent might select any given financial planner. The results of this analysis can be seen below in Table 4.23.

Table 4.23

Restricted Sample Multiple Regression of Price-to-Liquid-Assets Ratio

Variables	Coef.	Std. Err.	t	P > | t |	Lower CI	Upper CI	Beta
Age	0.00	0.00	-0.16	0.11	0.00	0.00	-0.13
Gender							
Female	0.00	0.00	-0.29	0.77	-0.01	0.01	-0.02
Ethnicity							
Hispanic, Latino, or Spanish	0.00	0.00	0.19	0.85	-0.01	0.01	0.02
Education							
Bachelor's degree	0.12	0.01	1.71	0.09	0.00	0.03	0.26
More than a Bachelor's degree	0.01	0.01	1.31	0.19	-0.01	0.02	0.19
Income	0.00	0.00	-1.22	0.22	0.00	0.00	-0.10
Objective Financial Literacy	0.00	0.00	0.91	0.37	0.00	0.00	-0.08
Number of Viewed Planners	0.00	0.00	-1.56	0.12	-0.01	0.07	-0.13

Note. N=156.

Similarly, respondents in the restricted sample's preference for any given financial planning service disappeared. While health insurance planning was the sole service with any statistically significant impact on price in the full sample, it became statistically insignificant in the restricted sample, and as with the prior reference noted for the selection of disability insurance planning among the pricing-only treatment group, there was no obvious influence in the selection of a financial planner based on the price or services made available by the financial planners. In turn, the respondent's preference to pay a premium retirement planning services did become statistically significant (*P=0.013**). The results of this analysis can be seen below in Table 4.24.

Table 4.24

Multiple Regression of Services Offered and Price

Variables	Coef.	Std. Err.	t	P > | t |	Lower CI	Upper CI	Beta
Retirement	1337.519	529.153	2.53	0.013*	291.290	2383.748	0.20879
Investment	857.603	523.067	1.64	0.103	-176.593	1891.800	0.13747
Tax planning	-372.043	549.684	-0.68	0.500	-1458.866	714.781	-0.05589
Tax preparation	-38.747	517.453	-0.07	0.940	-1061.844	984.351	-0.00613
Life insurance planning	307.481	542.582	0.57	0.572	-765.301	1380.263	0.04815
Disability insurance planning	-793.934	559.512	-1.42	0.158	-1900.189	312.321	-0.12351
Long term care insurance planning	-28.968	510.633	-0.06	0.955	-1038.581	980.644	-0.00464
Property casualty insurance planning	403.236	550.905	0.73	0.465	-686.001	1492.473	0.06295
Health insurance planning	796.151	531.277	1.50	0.136	-254.277	1846.579	0.12244
Cash flow planning	-97.809	507.005	-0.19	0.847	-1100.247	904.630	-0.01568
Debt planning	342.551	562.485	0.61	0.544	-769.582	1454.684	0.05268
College planning	228.992	523.661	0.44	0.663	-806.378	1264.364	0.03617
Student loan planning	-421.876	534.753	-0.79	0.432	-1479.178	635.425	-0.06585
Estate planning	-112.689	530.330	-0.21	0.832	-1161.245	935.867	-0.01796
Stock options planning	-335.039	554.261	-0.60	0.547	-1430.912	760.835	-0.05230
Business planning	-166.993	537.445	-0.31	0.756	-1229.617	895.631	-0.02568

Note. N=156.

The restricted sample showed an increased preference for financial planning services in general, with fourteen of sixteen services increasing in the prevalence of respondents' emphasis that services should be offered. The only two services that showed a decreased preference for what a financial planner should offer by the restricted sample were college planning and student loan planning. This comparison can be seen below in Table 4.25.

Table 4.25

Restricted Sample Respondent preferences for what financial planners should offer

	Shouldn't Offer		Should Offer	
	n	%	*n*	%
Retirement	*59*	*37.82*	*97*	*62.18*
Investment	*75*	*48.08*	*81*	*51.92*
Tax planning	*66*	*42.31*	*90*	*57.69*
Tax preparation	*82*	*52.56*	*74*	*47.44*
Life insurance planning	*71*	*45.51*	*85*	*54.49*
Disability insurance planning	*107*	*68.59*	*49*	*31.41*
Long term care insurance planning	*104*	*66.67*	*52*	*33.33*
Property casualty insurance planning	*112*	*71.79*	*44*	*28.21*
Health insurance planning	*98*	*62.82*	*58*	*37.18*
Cash flow planning	*117*	*75.00*	*39*	*25.00*
Debt planning	*124*	*79.49*	*32*	*20.51*
College planning	*123*	*78.85*	*33*	*21.15*
Student loan planning	*131*	*83.97*	*25*	*16.03*
Estate planning	*116*	*74.36*	*40*	*25.64*
Stock options planning	*125*	*80.13*	*31*	*19.87*
Business planning	*121*	*77.56*	*35*	*22.44*

Note. N=156.

Rather curiously, however, when respondents in the restricted sample answered the question of what they wanted their financial planner to offer, each respondent indicated less of a preference for all sixteen services to be offered by a financial planner for themselves. The results of the restricted sample's response to the question of what they want their financial planner to offer is shown below in Table 4.26.

Table 4.26

Restricted Sample Services Respondents want their financial planner to offer

	Don't Want		Want	
	n	*%*	*n*	*%*
Retirement	*87*	*55.77*	*69*	*44.23*
Investment	*82*	*52.56*	*74*	*47.44*
Tax planning	*84*	*53.85*	*72*	*46.15*
Tax preparation	*96*	*61.54*	*60*	*38.46*
Life insurance planning	*78*	*50.00*	*78*	*50.00*
Disability insurance planning	*115*	*73.72*	*41*	*26.28*
Long term care insurance planning	*95*	*60.90*	*61*	*39.10*
Property casualty insurance planning	*107*	*68.59*	*49*	*31.41*
Health insurance planning	*96*	*61.54*	*60*	*38.46*
Cash flow planning	*115*	*73.72*	*41*	*26.28*
Debt planning	*116*	*74.36*	*40*	*25.64*
College planning	*126*	*80.77*	*30*	*19.23*
Student loan planning	*131*	*83.97*	*25*	*16.03*
Estate planning	*124*	*79.49*	*32*	*20.51*
Stock options planning	*122*	*78.21*	*34*	*21.79*
Business planning	*116*	*74.36*	*40*	*25.64*

Note. N=156.

Descriptive Statistics

Descriptive statistics for both the full and restricted samples are shown below on Tables 2.27 and 2.28.

Table 4.27

Full Sample Descriptives

	Responses			
	n	*%*	*Mean*	*Std. Err.*
Age				
18-29	*76*	*18.95*	-	-
30-39	*256*	*63.84*	-	-
40-49	*55*	*13.72*	-	-
50-59	*14*	*3.49*	-	-
Gender				
Male	*275*	*68.58*	-	-
Female	*126*	*31.42*	-	-
Race				
White or Caucasian	*360*	*89.78*	-	-
Asian	*23*	*5.74*	-	-
Some other race	*18*	*4.49*	-	-
Ethnicity				
Non-Hispanic, Latino, or Spanish	*192*	*47.88*	-	-
Hispanic, Latino, or Spanish	*209*	*52.12*	-	-
Education				
Less than a bachelor's degree	*33*	*8.23*	-	-
Bachelor's degree	*243*	*60.60*	-	-
More than a bachelor's degree	*125*	*31.17*	-	-
Income				
<$15,000	*22*	*5.49*	-	-
$15,001-$25,000	*25*	*6.23*	-	-
$25,001-$35,000	*23*	*5.74*	-	-
$35,000-$50,000	*129*	*32.17*	-	-
$50,001-$75,000	*80*	*19.95*	-	-
$75,001-$100,000	*63*	*15.71*	-	-
$100,001-$150,000	*26*	*6.48*	-	-
$150,000+	*33*	*8.23*	-	-
Liquid Assets				
<$15,000	*190*	*47.38*	-	-
$15,001-$25,000	*21*	*5.24*	-	-
$25,001-$35,000	*11*	*2.74*	-	-
$35,000-$50,000	*23*	*5.74*	-	-
$50,001-$75,000	*14*	*3.49*	-	-
$75,001-$100,000	*34*	*8.48*	-	-

$100,001-$150,000	*33*	*8.23*	-	-
$150,000+	*75*	*18.70*	-	-
Objective Financial Literacy	-	-	*3.42643*	*0.07508*

Note. N = 401.

Table 4.28 Restricted Sample Descriptives

Restricted Sample Descriptives

	Responses			
	n	*%*	*Mean*	*Std. Err.*
Age				
18-29	*37*	*23.72*	-	-
30-39	*108*	*69.23*	-	-
40+	*11*	*7.05*	-	-
Gender				
Male	*106*	*67.95*	-	-
Female	*50*	*32.05*	-	-
Ethnicity				
Non-Hispanic, Latino, or Spanish	*96*	*61.54*	-	-
Hispanic, Latino, or Spanish	*60*	*38.46*	-	-
Education				
Less than a Bachelor's Degree	*13*	*8.33*	-	-
Bachelor's degree	*105*	*67.31*	-	-
More than a Bachelor's degree	*38*	*24.36*	-	-
Income				
<$15,000	*12*	*7.69*	-	-
$15,001-$25,000	*57*	*36.54*	-	-
$25,001-$35,000	*29*	*18.59*	-	-
$35,000-$50,000	*26*	*16.67*	-	-
$50,001-$75,000	*19*	*12.18*	-	-
$75,001-$100,000	*13*	*8.33*	-	-
Liquid Assets				
$50,001-$75,000	*14*	*8.97*	-	-
$75,001-$100,000	*34*	*21.79*	-	-
$100,001-$150,000	*33*	*21.15*	-	-
$150,000+	*75*	*48.08*	-	-
Objective Financial Literacy	-	-	*4.10897*	*0.09607*

Note. N = 156.

Chapter 5 - Discussion

This study was conducted with the aim of building a better understanding of how consumers select financial planners, and the role information asymmetry plays in influencing their decisions to engage one financial planner over another, or how that information asymmetry might lead a consumer to seek more data from the marketplace to better clarify their understanding of the options available to them. In a general sense, despite clear theoretical frameworks and prior research indicating the negatives of information asymmetry for consumers (Akerlof, 1970; Government Accountability Office, 2011; Lantzy et al, 2021; Securities and Exchange Commission, 2023; Winchester, 2017; Zweig, 2019), the study found that there was little evidence for the impact of information asymmetry on the price, quantity, or type of services received by consumers. This did not materially differ regardless of the amount of search they engaged in, and there was limited differentiation in results and searching behavior explained by independent variables.

Research Question One: Does Having Perfect Information Impact the Cost of Services?

Presumably, consumers with the best information should, logically, have the best resources necessary to make the most utilitarian consumption decisions, e.g., having the best price for services received from a financial planner. It follows that, because in the financial advisory industry, consumers often struggle with fee obscurity and the information asymmetry produced by general marketing terms such as "comprehensive financial planning," consumers may have difficulty ascertaining the total cost of services and which services they are actually likely to receive.

The research question of whether consumers with perfect information would obtain better pricing was explored by providing the control group with perfect information in the context of the study, e.g., the presence of both transparent price and service information. In turn, two treatment groups were given only pricing information or services information, depriving them of the other datapoint to force a decision based either solely on cost, or solely on the type or sum of services to be provided by their hypothetical financial planner. This vignette structure of information gathering provided the respondents with a plausible proxy for the challenges associated with information asymmetry concerning commission structures or generic "comprehensive financial planning" terminology often used in marketing financial planning services.

Hypothesis 4

The H4 hypothesis posited: "Participants with perfect information will obtain a lower cost than those in either treatment group." In examining the costs of services in the full sample and restricted sample populations, the evidence for this is inconsistent. In the case of the full sample, the control group paid an average of $3,380 for financial planning services, while the pricing-only treatment group paid a higher average of $3,501.89, and the services-only treatment group paid a lower average of $3,334.15. This would have suggested that there was mixed evidence for the hypothesis, but recall that, as shown in Tables 4.1 and 4.11, there was no statistically significant difference in the prices paid by members of the control and treatment groups, nor was there a statistically significant difference in the number of services received.

In turn, within the restricted sample, the control group paid an average of $4,753.08, while the pricing-only treatment group paid an average of $4,150.60, and the services-only treatment group paid an average of $3,607.24. Another difference between the restricted and full samples was that, while there was no statistically significant difference in price or quantity of services for the full sample, there was a statistically significant decrease in the number of services obtained by the pricing-only treatment group within the restricted sample (*P=0.01**). Thus, while there was contradictory evidence for the H4 hypothesis in the full sample, the restricted sample contradicts the expectations of the H4 hypothesis. The control group did not receive consistently better pricing than the treatment groups, and in the restricted sample, obtained the worst pricing, albeit this may have been because they were informed as to what they were paying for and were willing to pay for the services.

In consideration of that element, comparing the average costs with the average number of services received, the results did not materially differ. In the case of the full sample, the control group paid an average of $339.72 per service, while the pricing-only treatment group paid an average of $368.41 per service, and the services-only treatment group paid an average of $341.64. This could have suggested that there is evidence for the hypothesis, but again, recall that there was no statistically significant difference in the prices paid by members of the control and treatment groups, nor was there a statistically significant difference in the number of services received.

In turn, within the restricted sample, the control group paid an average of $463.48 per service, while the pricing-only treatment group paid an average of $447.26 per service, and the services-only treatment group paid an average of $378.75 per service. Another difference between the restricted and full samples was that, while there was no statistically significant difference in price or quantity of services for the full sample, there was a statistically significant decrease in the number of services obtained by the pricing-only treatment group within the restricted sample (*P=0.01**).

Thus, in both consideration of the full and restricted samples, and comparing just cost and also the cost per service, it does not appear there is sufficient evidence to support hypothesis 4.

Research Question One Summary

While the study found there were some nominal differences in cost between the control groups and treatment groups, none of these results bore statistical significance. While a basic analysis of the means reported would have suggested that having perfect information does not positively impact the cost of services or the ratio of cost to number of services obtained, there is a more curious observation here.

The economics of information theory would suggest that respondents should engage in more information searching as long as they expect to obtain a better price by doing so. In the study, members of the control group and treatment groups would review an average of one to two planners before making their selection. In keeping with the theory, we would then have anticipated that pricing-only respondents might have obtained the best pricing over the control group as a byproduct of having a lower time cost of search than those respondents who were presented with more complete information via the listing of services or price and services, perhaps demonstrated by a proclivity to review more financial planners than the control and services-only treatment group. However, in the full sample, the pricing-only Treatment Group appears to have arrived at the highest average cost of services, above both the Control Group with perfect information and the alternative treatment group that received only service information. In turn, within the restricted sample, pricing-only respondents received lower average prices than the control group, but the services-only respondents received even lower average prices, despite having no information on the cost of the planner they selected.

This contradicts the expectations of economics of information theory, but may be better addressed by bounded rationality, which posits that consumers satisfice by making effort-optimized decisions with limited information rather than exerting additional effort to gain more information (Gigerenzer & Goldstein, 1996). This might further explain why most respondents in the study only observed one or two planners before making their selection, with over three-quarters of respondents in the full sample (76.81%) selecting the first financial planner they were presented.

Research Question Two: Does Having Perfect Information Impact the Number of Services?

The second research question looks at the inverse element of research question one. Whether or not having perfect information improves the costs associated with engaging a financial planner, does having perfect information improve the number of services received by a consumer of financial planning services and, ostensibly, the value received by the consumer of financial planning services? While consumers may value different individual services differently, as noted in Tables 4.12 and 4.14 in chapter 4, there was no statistically significant favoritism of one type of financial planning service over another.

It stands to reason that under a simple rationale, consumers might look to use the quantity of services offered as a measure of value in addition to the specific services offered. However, we see only a nominal difference in the number of services offered by the hypothetical planners selected by the respondents and lack any statistical significance to argue that the nature of the array of services offered had a material impact on the number of services selected. In the case of the sum of services, only in the restricted sample was there a statistically significant reduction in the number of services received by those in the pricing-only treatment group, which would receive 0.975 fewer services on average than those in the control group.

Research Question Two Summary

While the restricted sample does better resemble the population of those searching for financial planning services, it is not conclusively differentiated. It could be argued that as consumers gain liquid assets, they are more prone to overpay when presented with perfect information. Further, this contradicts the assumptions of the economics of information theory. While the economics of information posits that those with perfect information can make better consumption decisions, it also suggests that consumers may overpay for services to avoid making a poor decision, using price as a proxy for quality (Stigler, 1961; Akerlof, 1970).

Because of the contradictory results as shown in the evidence pertaining to H4 previously discussed under research question one, it is entirely possible that while the full sample does engage in the traditional assessment of price-to-value analysis suggested in Stigler's seminal paper on the economics of information, and that those with more financial means are beginning to engage in a satisficing behavior (Gigerenzer & Goldstein, 1996) to cut short their cost of search and are using price as a proxy for quality to expedite their selection as suggested by Akerlof (1970). It is also possible that, because of the additional information available to those in the control group, they are being forced to assess more information, thus costing them more in the form of time spent on analysis, which is leading them to expedite their selection of a financial planner, given the parameters of the experiment.

Regardless of the exact cause for the deviation from the expectations set by the theoretical framework of the economics of information, it appears that there is little to no relationship between having perfect information or having information restricted to solely pricing or services information that materially affects the amount of search a respondent will engage in, and consequently, little material impact on the number of services they will receive from the financial planner they select.

Research Question Three: How do Consumers Select a Financial Planning Professional?

Perhaps the most salient question, research question three also asks the most open-ended question: How do consumers pick their financial planner? The results are the most confounding. Given that there is no statistical significance found in the analysis of the control or treatment groups concerning price, there is no evidence that the information asymmetry present in the sale of financial planning services to consumers materially impacts the costs they pay for a financial planner. In the case of the quantity of services, there was only one example of a statistically significant relationship, that of the information asymmetry between financial planners and those with only pricing data, which only hints at a general consumer preference to pay less when given the opportunity, despite the potential loss of additional planning benefits by doing so.

This then led to the examination of other variables, such as the specific services offered by the financial planner vignettes when known to the control group and services-only treatment group, and the impact of independent variables' impact on the financial planner selection. Yet, in these contexts, the research question became only more puzzling.

When reviewing the selection of a financial planner and the role that services offered play, in the full sample, no particular service was statistically significant in the odds that a financial planner would be selected. Further, no specific service had a statistically significant impact on the price that a respondent was willing to pay, and the restricted sample concured with these results. Within the restricted sample, no service was uniquely selected for by the respondents, and within the domain of price, the only service with a statistically significant relationship to price was retirement planning, while all fifteen other financial planning services had no statistically significant impact on pricing.

In consideration of demographic independent variables such as age, gender, race, and education, only a few variables bore any statistical significance. In the full sample, age was statistically significant in increasing the price-to-income ratio of the respondents (*P=0.015**), and this observation was magnified in the restricted sample of those with greater financial means (*P>0.001****). Otherwise, no immutable characteristics such as gender, ethnicity, or education played a statistically significant role in the selection of a financial planner.

Further, the respondents in the control and services-only treatment group in both the full and restricted samples showed a general indifference toward many of the financial planning services. No financial planning service was selected to a statistically significant degree above the others, and when asked how many services a financial planner should offer, responses approximated around one-fourth of the total variety available. When asked about their personal preferences for any given service, there was even less preference among respondents regarding the services they would want their personal financial planner to offer rather than those a financial planner should offer. In other words, while the respondents recognize that financial planners may offer more services than they personally want, they do not ask for much.

Hypothesis 1

The H1 hypothesis posited: "Participants who engage in more information search will obtain a lower cost than those who do not engage in more information searching." From this, there is an expectation that those in the control group would not need to perform as many searches to obtain an optimal outcome since they had both the pricing and service information. In turn, it was anticipated that those in the pricing-only treatment group would search until they believed they would not obtain a better price via additional search, and those in the services group would do the same but for the optimal combination or number of services they were seeking.

These assumptions rooted in the H1 hypothesis are born from the economics of information theory (Stigler, 1961), which argued that consumers will engage in a search for better pricing or price-to-value in the case of non-identical goods and services, until the marginal utility of doing so reaches an equilibrium with the cost of search, e.g. the real or opportunity costs of spending time on the information gathering process and concurrent expenditures to obtain additional information. In the case of research question three, it was anticipated that those in the control group would reach this equilibrium more quickly since they had more information to use, but also because the more information the control group had, the more time it would take to evaluate each individual option. In turn, it was anticipated that those in the treatment groups would engage in more iterations of planner search since they had less information to evaluate.

However, as shown in Table 4.15, members of the control group were in the "middle" of the distribution between the two treatment groups in the mean number of financial planners reviewed, with the average member of the control group reviewing 1.4634 financial planners, while members of the pricing-only group evaluated 1.8041 and members of the services-only treatment group evaluated 1.3769. Even when the sample was restricted to people with financial assets more resembling those of typical financial planning clients and, therefore, whose cost of search would be greater than those with lesser financial means, these observations did not change significantly. Members of the control group reviewed 1.3617 financial planners on average, while the pricing-only treatment group remained the most search-heavy with 1.6842 planners reviewed on average, and those in the services-only treatment group reviewed an average of 1.3846 financial planners. The shift in comparative “least search” and “middle search” between the larger sample and the restricted sample only modestly hints at the notion that those in the control group with more financial resources may spend a bit less time on their planner search, whereas those in the services-only treatment group were likely to search ever-so-slightly more.

With these observations in mind, the study found no statistically significant difference in the prices obtained by those in the control or treatment groups, despite their nominal differences in the amount of search performed. Even when the sample was restricted to those with more financial resources, no statistically significant difference emerged between any of the treatment groups, regardless of the number of services offered, type of services offered, or the fee models and consequent prices set by the financial planner vignettes. Even those with access to pricing information, whether the control or treatment group, did not show a clear preference for service models with differing pricing such as the RIA versus the Wirehouse pricing models which, given the same input of financial assets, would show materially different price points that favored lower cost models for respondents whose decision was based upon financial data. This all suggests that while a lower cost might be attainable by additional research, it was not treated as beneficial enough by the respondents to engage in a significant degree of additional research to obtain better pricing, and in some cases, respondents obtained better pricing without perfect information.

Hypothesis 2

The second hypothesis posited: “Participants with higher incomes will engage in less information search.” This hypothesis draws directly from the economics of information theory (Stigler, 1961), which highlights that an increased value of the consumer’s time from having a higher income, presents a higher opportunity cost for that consumer, where time spent on searching for more information might be better spent performing more lucrative activities. As such, the study examined the relationship between income and the price paid by the respondents, or more specifically, the ratio of income to price paid. However, the results from the regression analysis of this ratio, when contrasted with independent variables, suggested that there was no statistically significant role that income played in the search for additional financial planners. As observed earlier, the average respondent only evaluated one to two financial planners before making their selection of a financial planner. In examining the role that the quantity of evaluated financial planners reviewed before making a selection played, there is no statistically significant relationship between the number of financial planners reviewed and the ratio of income-to-price paid in either the full sample or the restricted sample.

While it is reasonable to assume that a high-income individual could afford to pay higher fees than a low-income individual, the alternative explanation that those with more liquid assets could afford to pay more in fees than those with less liquid assets also does not bear weight. As with the analysis of price-to-income, there was no statistically significant relationship between a respondent's ratio of price-to-liquid-assets they would pay for a financial planner in either the full or restricted sample.

Hypothesis 3

The third hypothesis posited: "Participants with higher objective financial literacy will engage in more information search." This logically follows from the notion that those who are better able to assess the value of financial planning, or at the very least, who are more comfortable with financial topics, should be more capable of assessing the value of the services they are offered, and may perform additional due diligence with their understanding in mind.

This contrasted with those who are not financially literate and may find an array of services more difficult to choose from and instead engage in satisficing behavior to reduce the cognitive friction they experience as part of searching for something they are not familiar with (Gigerenzer & Goldstein, 1996).

Financial literacy was only statistically significant in the observation of the ratio of price-to-income paid (*P=0.015**), with those in the full sample showing a nominal decrease of 0.017 in the ratio of price-to-income they were willing to pay, and a decrease of 17.547 in the ratio of price-to-liquid-assets (*P=0.029**). However, these observations deviated in the restricted sample, as objective financial literacy became significantly more statistically significant (*P>0.001****) and showed a 0.068 decrease in the ratio of price-to-income respondents were willing to pay, while the statistically significant relationship between price-and-liquid-asset ratio disappeared.

While financial literacy was measurably higher in the restricted sample than the full sample, showing an average score of 4.10897 out of 5 for the restricted sample compared to 3.42643 out of 5 for the full sample, there was very little difference in the amount of search engaged in between the full versus restricted sample. The full sample viewed an average of 1.37-1.80 financial planners depending on whether they belonged to the control or treatment groups, and the restricted sample viewed even less, with an average of 1.36-1.68 financial planners viewed based on control or treatment group. Even with these differences in mind, there was no statistically significant relationship shown between financial literacy and the number of financial planners evaluated before making a selection.

Research Question Three Summary

The study finds very little to suggest what might compel a respondent to select a financial planner in either the full or restricted sample. Given the rapid selection made on average by members of both samples and even across the control and treatment groups, the evidence suggests that rather than selecting specific traits, respondents are more prone to simply select quickly or to compare a minimal number of options and then make a decision. Despite the hypothesis that those with higher incomes would engage in less information search, income did not play a particularly significant role. While this indicates that income and its concurrent opportunity costs are not as important a factor in the search for a financial planner as the economics of information might suggest, an alternative explanation might be that people select their financial planner quickly regardless of their income and the difference in opportunity costs.

This alternative explanation is echoed in the distinction of financial literacy. While one might expect a more financially literate individual to decide to engage in more search, there was no evidence to support this expectation, and once again, whether highly financially literate or less financially literate, respondents made their selection of a financial planner rapidly.

Limitations

The limitations of this study are numerous and warrant thorough discussion. Because of the nature of the experimental design, it was necessary to produce an original software program to conduct the experiment and gather data. This meant that conventional and well-tested platforms such as Qualtrics or SurveyMonkey could not be used to conduct the study, which left open a greater possibility of error in the software design. The use of original software further compounded the difficulty with obtaining a valid sample, which likely would have been less difficult if the parameters of the experiment had fit on a conventional data gathering provider's platform.

While the study was proposed with the goal of obtaining 1,000 respondents who could represent a broad sample of the United States population, the engagement with panel providers, though initially promising, proved to have disappointing results. Despite numerous initial quotes and acceptances from multiple panel providers, they became reluctant to complete the project as originally requested when it came time for implementation, proposing complete manual rebuilds of the software in their proprietary platforms (which could not accommodate the specifications of the study around the random generation of planners and the variables thereof) or otherwise turning down the contracts when finding that the study could not be completed directly on their platform. This led to the use of mTurk, which was rife with fraudulent responses and worker activity.

There was an attempt before the experiment was conducted to utilize mTurk's own screening procedures to improve the quality of the sample, specifically the use of the mTurk Masters Qualification, which is only granted to workers who have completed at least 1,000 tasks and been approved for payment for completion of those tasks, as well as a variety of proprietary algorithmic assessment variables not disclosed by mTurk to the public. A requirement that the mTurk workers had a 95% or greater task completion rate was another criterion, but as was discovered, these screening procedures were not adequate in screening out fraud in the gross sample. This reduced the sample to a much less representative group than originally desired, which was not only smaller than originally intended but overweighted relative to the United States population in several variables, including gender, age, race, and educational attainment. Thus, while the results of this study are interesting in their overall lack of significance and explanatory power, the results cannot be generalized to the broader United States population.

There is also a specific demographic issue in the full sample that the restricted sample attempted to address, which was the improbability of people with little to no income or essentially no assets to engage a professional financial planner. While financial planners could anecdotally point to pro-bono services or otherwise share some limited number of occasions in which they've provided services to a "sub-optimal client," the study's inclusion of many respondents who would otherwise not be typical of the profile of a financial planning client raises the issue of whether the full sample results are particularly useful in evaluating the general population's financial planner selection process, since they themselves are unlikely to engage a financial planner given the limitations to their income and assets. This could have caused a degree of drag on the statistical significance of results pertaining to price variation in the full sample, with many respondents being randomly placed with a financial planner offering services with the AUM model at an unrealistically low price point, e.g., less than a dollar for a large suite of services.

Benefitting from the power of hindsight, a few steps could be taken to improve this study's replication and generate more generalizable and potentially more valid observations. First, an alternative recruitment channel might address the aforementioned recruitment and sample quality issues. While adjusting the experiment to conform to the exact same approach of financial planner selection as used in this example would be difficult, an alternative form of financial planner selection experiment might be a paired comparison experiment in which respondents are asked to select between pre-generated financial planner profiles to identify preferred traits. However, this runs the risk of introducing bias based on the order of presentation, which would need to be addressed by some degree of randomization.

Another limitation of this study is that respondents were required to select a financial planner, rather than being given the option to decide that the financial planners were potentially unaffordable or otherwise that they would not engage with a financial planner. It is entirely possible that many respondents would not have selected any financial planner from the study, given a lack of affordability, whether due to income and liquid asset limitations or a genuine preference to take a “do it yourself” approach to their finances rather than engaging a financial professional. A valuable future screening question might ask participants whether they would ever hire a financial planner or not.

A further issue with the study was the lack of alignment in incentives. In a natural study of financial planner selection, factors such as paying real costs with an anticipated benefit, and relative considerations such as affordability or matching of needed services versus preferred services might have played a greater role. By the nature of a questionnaire-based study and the incentive of mTurk workers to complete the task rapidly rather than complete the task thoroughly, the incentives of the study did not perfectly align with a real-world search for a financial planner. An alternative experiment design for a future replication study could create incentives based on obtaining the lowest possible price, the most services, or an optimized combination of price and services, while simultaneously reducing the reward for an extended search in order to simulate the increasing costs of search and the diminishing marginal return for engaging in a prolonged search process. However, this would require an even more complex form of software or in-person experimentation, both of which could continue the complications related to recruitment and sample validity. A simpler alternative might be offering a bonus payment for picking an optimal financial planner for the respondent, albeit this would also rely on an experimental design in which there were pre-generated financial planner profiles that could then be identified as optimal given certain conditions.

Given all of these limitations, a lack of statistical significance in so many dimensions of the study, and the absence of substantial evidence in support of the hypotheses and the theoretical assumptions made, there are a few potential explanations as to why so little evidence was found in support of the hypotheses or otherwise why so many results were statistically insignificant.

First, as already described, the study's methodology could have been flawed with respect to recruitment procedures, such that despite best efforts at screening fraudulent responses, some fraudulent responses may have made their way into the dataset and nullified more statistically significant results. Second, it could be the case that because the search for a financial planner is so complex in the real world, it does not map easily onto a vignette methodology, and consequently, the behavior demonstrated within the sample population in the context of the study does not realistically map onto the real-world behavior of consumers seeking a financial planner.

However, the third potential answer is that neither the first nor second explanation has a real-world impact. That, despite the lack of statistical significance, there really is little variation in how consumers search for a financial planner, regardless of their financial literacy, income, liquid assets, or other potentially explanatory variables. That the actual evidence provided by this study is not that any particular factor weighs heavily on the decision-making process of consumers of financial planning services, or otherwise that there is a material difference between those with perfect information and imperfect information, but that consumers simply select a financial planner very quickly with little influence from their own qualities or the qualities of the financial planner they are selecting.

In other words, for all the discussion in the professional space regarding fee and service transparency, consumers might just be inclined to pick the first professional, if not the second professional, they evaluate and move on to other priorities after having done so. In this regard, satisficing behavior presents an interesting lens through which to evaluate the research questions more thoroughly in the future, as such behavior very much mirrors the assumptions outlined by Gigerenzer and Goldstein (1996).

General Discussion

The overall results of the study are surprising insofar as they are insignificant. There was very little in the way of statistical significance to suggest explanations as to how consumers go about selecting a financial planner. Worse still, not only were the respondents not clearly influenced by any particular variable or another, but they regularly displayed behavior contradictory to expectations. For example, the preference for more expensive AUM models than lower cost AUM models, the observation that those with pricing-only data were often paying more than those with less purely economic utility-driven information to make their decision from, and so on.

If there is to be any particular observation to be made from the results of the study, it is that the arguments over whether financial planners need to be fully transparent with their pricing or that they need to be clearer about their scope of services may be very much overstated. The respondents in all three control and treatment groups did not show substantial or statistically significant variations in almost any regard, and those variations that were statistically significant were so nominal as to otherwise be meaningless in determining what normative best practices by financial planners should be.

If there is any salient evidence in the study whatsoever, it might be not that there is any material difference in how consumers go about selecting financial planners based on either information related to the planners (cost, services, or quantity thereof) but that consumers make the selection of a financial planner very quickly, and often do so without comparing the first financial planner presented to them to any other financial planner. As discussed in limitations, however, this may just reflect the preference of the respondents to get the task done quickly. While the study did not explore the impact of trust or first impressions in an interpersonal sense, it appears that consumers might just accept the first option they're presented with at face value and move on.

Still, there is some discussion warranted of the many theories that influenced the design of the study, and how they did and did not come into play in examining the research questions and hypotheses presented.

Economics of Information

As previously discussed, the economics of information provided the core theoretical framework for the study. Stigler's seminal 1961 paper established the presupposition that additional search would be engaged in until the marginal costs of search reached an equilibrium and that by engaging in additional search, costs would be diminished. This was further supported by Akerlof (1970) in the development of the theory that the premium for certain goods and services was not a reflection of the inherent value of those goods, but that of a contrasting greater value than those similar goods of dubious quality. From those baseline theoretical frameworks, two of the four hypotheses were developed and tested.

The H1 hypothesis leaned heavily on Stigler's (1961) assumptions and presupposed that the respondents in the study would engage in search until they obtained an optimal price or otherwise discerned that continuing the search was unlikely to yield better results. However, we saw little evidence of this in practice, as 76.81% of respondents did not engage in any additional search and selected the first financial planner they were presented with. This could suggest that the marginal utility of additional search was not found valuable by the respondents or otherwise that the incentives in the study did not align perfectly with the incentives in the real world. In the study, respondents were incentivized to complete the study; conversely, in the real world, individuals seeking a financial planner would be incentivized to find a more optimal mix of cost and benefit for engaging a financial planner's services (Asebedo, 2019.) Regardless, the study did not find evidence in support of H1.

Economics of information emphasizes the cost of search as a material factor in whether someone will engage in search, specifically with regard to their opportunity costs were their time spent engaged in a different activity. This can often be short-handed by an assumption that the cost of search is equivalent to an individual's hourly wage, thus providing a reasonable assumption that as wages increase, the cost of search is commensurately increased. From this, H2 indicated that those who had higher incomes would engage in less search. Yet, there was no statistically significant relationship between income and the number of financial planners reviewed by the respondents; thus, we find no evidence in support of H2.

Signaling Theory

In tandem with economics of information theory, signaling theory (Spence, 1973) provided a theoretical framework for the study to consider the possibility that respondents would respond to particular price or service signals as indicators of value, and thus influence the selection of a financial planner. In traditional economics and economics of information theory, price signals provide a common measure of high or low quality (Akerlof, 1970; Rao, 2005; Vikalpa & Gupta, 2004). However, in this instance where many respondents selected their first financial planner, it is difficult to ascertain whether any particular signal warranted selection. In the various statistical analyses, all models pertaining to the specific signals of price, service quantity, or specific services, failed to yield a significant explanatory power as measured by *R2*. Thus, whatever signals may be relevant in the search for a financial planner, they do not seem to be measured by price, the quantity of services offered, or the nature of the services on offer, and may be more readily identified as something absent from this study, such as human connection or trust.

Credence Claims and Ambiguity

Credence claims played a significant role in the development of the original core research question of whether information asymmetry had a significant influence on the selection of a financial planner, particularly research questions one and two, which regarded whether perfect information would impact the price or number of services received by the respondents. While it's easy to imagine how the absence of important information could have an impact on whether a consumer selects a financial planner, such as hidden high commissions or using the phrase "comprehensive financial planning" when services are relatively limited in scope, it does not seem that this element of ambiguity plays a role in financial planner selection; or at least, not a statistically significant role.

As explored in H4, the study presented the Control Group with perfect information in the context of the study, which was anticipated to lead to them obtaining services at a more optimal cost-to-benefit ratio. This aligns with an enhancement to the assumptions of economics of information, in which consumers would seek additional information until the utility of doing so declined. However, evidence for this hypothesis did not emerge, as those presented with less perfect information (services-only) obtained only a nominally lower price, and without any statistical significance to suggest that the key difference was not being aware of prices. The only material difference noted between those with perfect information and those with price-only and services-only information is that those with price-only information engaged in slightly more search than those with perfect information, and there was no statistically significant difference between the price-to-services ratio of those in any of the control or treatment groups. Thus, despite a solid theoretical and plausible model for H4, there is no evidence to support it in the results of this study.

Bounded Rationality

While there were no formal hypotheses built around bounded rationality, there might be more evidence for the notion of satisficing behavior in this study than any other theoretical element. Bounded rationality posits that people will make effort-optimized decisions, described as satisficing, in which they will make decisions without full information because they believe the marginal utility of gathering more information is less than the potential issues caused by making a less well-informed decision (Gigerenzer & Goldstein, 1996.)

In this study, an overwhelming preponderance of respondents made their selection of a financial planner without ever engaging in an additional information search, suggesting that they may have found the task overwhelming or otherwise determined very quickly that they did not desire to engage in additional information search despite the hypothetical potential for a better outcome. As mentioned previously, there are potentially other explanations for this, such as a lack of alignment between the real-world trigger for compensation, completion of the study, and the incentives under analysis in the study, that of obtaining an optimal combination of price and services.

Implications

This study created a number of takeaways, albeit ones that are perhaps less normatively prescriptive than desirable. Because the study found no substantial difference in the control and treatment groups across any of the models and the full and restricted samples, it appears there is little evidence for the claim that information asymmetry causes clients of financial planners to pay higher costs or otherwise receive fewer services for the price they pay. Further, within the experimental outcomes, it appeared that the majority of respondents may be indifferent to the exact cost or services offered by a financial planner, choosing instead to be satisfied with the first financial planner they come across, perhaps assuming that there is likely little to no difference between them and that the marginal utility of continuing to interview other financial planners is not greater than the costs of doing so.

There is a great deal of discourse in the financial planning profession and adjacent marketing professionals about the importance of showing prices on websites and sharing lists of services or comparisons of services (FMG, 2022; Kitces, 2013; Russell, 2023). Despite the supposed value of transparency, the study found that those decisions may not bear a direct impact on the costs incurred or services received by consumers of financial planning services. However, though not explored in this study, it may stand to reason that these are still valuable signals that improve factors not measured by this study, such as whether a potential client makes initial contact with a financial planning firm or develops a greater sense of trust in the financial planner or their firm before meeting with them or engaging in their services.

For the time being, it appears there is no material economic difference between financial planners who clearly disclose their compensation or detail their services more specifically than popular terms such as "holistic" and "comprehensive." As with the distinctions noted above, the willingness to share these specifics could signal to ideal clients or help eliminate potential clients who might otherwise be a bad fit for firms, but it does not appear that there is strong evidence of a significant relationship between these disclosures and the costs incurred or services received. For now, such arguments are relegated to the domain of opinions or potentially must be addressed on the basis of alternative rationales.

Future Research

To better understand the way in which consumers evaluate and select potential financial planners, a few specific improvements should be made to the recruitment for and the design of the study itself, in addition to addressing theoretical observations highlighted by the results of this iteration of the study.

First, the quality of recruitment should be addressed through the use of a panel provider. This means establishing a stronger partnership with a panel provider or research institution early in the study development process and either building out a version of the study on their native platform (i.e., Qualtrics, SurveyMonkey, or other panel provider) so that the issue raised by panel providers in this study does not recur. This improvement to the recruitment process could substantially improve both the generalizability of the study and the quality and variety of the responses provided by the respondents. However, this potentially contradicts another practice that may improve future iterations, which is to adjust the style of the study to an in-person or otherwise more robust experimental design.

The experiment in this study provided an environment in which respondents were incentivized to complete the study, not necessarily to participate in the study thoroughly. This effect was likely magnified by the anonymous and remote nature of the study. Though it would significantly increase the cost and complexity of the study, having either an in-person version of the study or following real market participants in a more natural experiment format may yield a different set of results than this study, which heavily suggested that the participants were engaging in satisficing or even simply rushing behavior.

With that in mind, a separate format of study to more closely examine and assess whether a bounded rationality satisficing behavior was being engaged in would be helpful in providing some contrast to this study. Because the study did not monitor or gather information from the respondents about how or why they were making their selections as rapidly as they did, it is unclear whether their responses were indicative of satisficing, rushing to complete the study, or simply being overwhelmed by the size and complexity of the questions leading to the experiment and within the experiment itself. A study could be conducted to better ascertain whether respondents are thoroughly examining and comparing their choices or are simply making a quick selection to avoid the cognitive burden, which could be illuminating as to the distinctions about the economics of information's marginal utility assumption and bounded rationality's satisficing assumption.

Conclusion

Financial planning is becoming a steadily more competitive professional field, for which consumer demand is anticipated to be underserved, as 109,093 financial advisors are expected to retire by 2033 (Cerulli, 2024). With a gradual tightening of financial planners to serve the demand for financial advice, consumers may face rising costs or reduced services as financial planners' total client service capacity declines relative to the growth of the population. Consequently, consumers may face increasing costs, and financial planners' need to differentiate themselves or otherwise provide the marketplace with cost and service signals may decline in a skewed supply and demand environment that favors financial planners in the already-present information asymmetry for financial planning services.

However, in the present marketplace for financial planning, despite consistent calls for greater pricing transparency through less opaque compensation models and persistent demand that financial planners provide more holistic services despite the ambiguity of the term, this study found little evidence for the necessity of doing so when considering the impact on consumers' wallets or willingness to pay for any number of services.

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Appendix A - Codebook

Page 1:

Text:

Economics of Information in the Search for Financial Planners Dissertation Research

Project Approval Date: 03/29/2024

Project Expiration Date: 09/30/2024

Length of Study: 7 Days

Principal Investigator: Dr. Martin Seay

Contact Details for Problems/Questions: dyerger@ksu.edu

IRB Chair Contact Information: Lisa Rubin - 785-532-3224 – rubin@ksu.edu

Project Sponsor: Dr. Martin Seay

Purpose of the Research: To explore the relationships between respondent's independent demographics, education, and financial variables, and their selection of a financial planner based on either full or limited information in an asynchronous environment.

Procedures to be used: Multiple Choice and Open Response Survey.

Risks or Discomforts Anticipated: That survey may take longer than anticipated based on how thoroughly a participant engages in the experimental portion of the study. Those who do not complete the study may not be eligible for compensation.

Benefits Anticipated: We will gain a better understanding of how consumers price and select financial planning services, as well as a better understanding regarding variables that influence planner selection. The extent of Confidentiality: Answers will be kept confidential on the individual level, but will be contained in aggregate data summaries for purposes of publication. Individual participant responses will not be used or cited. Personal data will be reported in the study, and though anonymous, may be shared in the aggregate with other researchers for future study replication or modification.

Terms of participation: I understand this project is research, and that my participation is voluntary. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or academic standing to which I may otherwise be entitled. However, I will not be eligible for compensation. To participate in the study I acknowledge I must be an adult resident or citizen of the United States of America.

I verify that my acknowledgment below indicates that I have read and understand this consent form, and willingly agree to participate in this study under the terms described.

Buttons:

- Accept
- Do Not Accept / Exit

Coding: Table Header P1

- Accept: 1
- Do Not Accept / Exit: 0

Routing: If respondent answers "Do Not Accept / Exit", take them to "ineligible to participate" page.

Page 2:

Text: Are you a citizen of the United States of America or a permanent resident of the United States of America?

Buttons:

- Yes
- No

Coding: Table Header P2

- Yes: 1
- No: 0

Routing: If respondent answers “no”, take them to “ineligible to participate” page.

Page 3:

Text: What is your age?

Response Box: Numeric responses only, between 0-123.

Coding: Table Header P3

Store as numeral.

Routing: If responses are <18, take them to “ineligible to participate” page.

Page 4:

Text: What is your gender?

Buttons:

- Male
- Female
- Non-Binary
- Prefer not to say

Coding: Table Header P4

- Male: 1
- Female: 2
- Non-Binary: 3
- Prefer not to say: 4

Page 5:

Text: What is your race?

- White or Caucasian
- Black or African American
- Asian
- American Indian or Alaskan Native
- Native Hawaiian or Other Pacific Islander
- Some other race

Coding: Table Header P5

- White or Caucasian: 1
- Black or African American: 2
- Asian: 3
- American Indian or Alaskan Native: 4
- Native Hawaiian or Other Pacific Islander: 5
- Some other race: 6

Page 6:

Text: Is your ethnicity Hispanic, Latino, or Spanish in origin?

Buttons:

- Yes
- No

Coding: Table Header P6

- Yes: 1
- No: 0

Page 7:

Text: What is your highest level of completed education?

Buttons:

- Less than high school diploma or GED
- High School Diploma or GED
- Some College
- Associate's Degree
- Bachelor's Degree
- Master's Degree
- Professional Masters or Doctorate (MBA, JD, MD)
- Doctorate (Ph.D., DBA, DM)

Coding: Table Header P7

- Less than high school diploma or GED: 1
- High School Diploma or GED: 2
- Some College: 3
- Associate's Degree: 4
- Bachelor's Degree: 5

- Master’s Degree: 6
- Professional Masters or Doctorate (MBA, JD, MD): 7
- Doctorate (Ph.D., DBA, DM): 8

Page 8:

Text: What is your estimate of your total annual income this year?

Response Box: Numeric responses only, between 0-1,000,000,000.

Coding: Table Header P8

Store as numeral.

Routing: If responses are equal to 0, take them to “ineligible to participate” page.

Page 9:

Text: Liquid assets include financial assets such as cash, or investment assets that can be easily converted into cash, such as 401(k) plan balances, mutual funds, and other financial accounts. This does not include tangible or illiquid property such as your home, car, or personal possessions. What is your total liquid asset balance?

Response Box: Numeric responses only, between 0-1,000,000,000.

Coding: Table Header P9

Store as numeral.

Routing: If responses are equal to 0, take them to “ineligible to participate” page.

Page 10:

Text: Do you or have you used a financial planner, such as a CFP® Professional or other financial advice-giving professional paid either a fee or on commission for the advice they provide?

Buttons:

- Yes
- No

Coding: Table Header P10

- Yes: 1
- No: 0

Page 11:

Text: The next five questions are a financial literacy questionnaire. Please provide your best answer to these questions.

Button:

- Understood

Page 12:

Text: Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?

Buttons:

a) More than $102
b) Exactly $102
c) Less than $102
d) Don't know
e) Prefer not to say

Coding: Table Header P12

a) More than $102: 1
b) Exactly $102: 0
c) Less than $102: 0
d) Don't know: 0
e) Prefer not to say: 0

Page 13:

Text: "Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?"

Buttons:

a) More than today
b) Exactly the same

c) Less than today
d) Don’t know
e) Prefer not to say

Coding: Table Header P13

a) More than today: 0
b) Exactly the same: 0
c) Less than today: 1
d) Don’t know: 0
e) Prefer not to say: 0

Page 14:

Text: If interest rates rise, what will typically happen to bond prices?

Buttons:

a) They will rise
b) They will fall
c) They stay the same
d) There is no relationship between bond prices and the interest rate
e) Don’t know
f) Prefer not to say

Coding: Table Header P14

a) They will rise: 0
b) They will fall: 1
c) They stay the same: 0
d) There is no relationship between bond prices and the interest rate: 0
e) Don’t know: 0
f) Prefer not to say: 0

Page 15:

Text: A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage, but the total interest paid over the life of the loan will be less.

Buttons:

a) True
b) False
c) Don’t know
d) Prefer not to say

Coding: Table Header P15

a) True: 1
b) False: 0
c) Don’t know: 0
d) Prefer not to say: 0

Page 16:

Text: Buying a single company’s stock usually provides a safer return than a stock mutual fund.

Buttons:

e) True
f) False
g) Don’t know
h) Prefer not to say

Coding: Table Header P16

e) True: 0
f) False: 1
g) Don’t know: 0
h) Prefer not to say: 0.

Coding Note: At this time, P12-P16 should be recorded with separate coding responses, and another coding variable table header “literacyscore” should be reported as the sum of P12-P16.

Page 17:

Text: A financial planner is a professional who specializes in looking at a client’s financial picture and advises them on how to achieve their short- and long-term financial goals. In the next module, you will be presented with a financial planner profile and information regarding their service. You may elect to “hire” the financial planner or review other financial planners, with the option to return to the other financial planners you’ve already seen. You can review as many financial planners as you like. Your task is to select a financial planner you feel would be the best fit for your personal financial planning needs.

Buttons:

- Understood

STUDY EXPERIMENT

Upon clicking understood on Page 17, participants should be routed into one of three groups.

Refer to Software Visual Mockup for respondent experience.

Coding: Table Header T

- Control Group: 1
- Treatment Group A: 2
- Treatment Group B: 3

Control Group Receives Pricing & Services information.

Treatment Group A receives pricing information.

Treatment Group B receives services information.

Generating a financial planner randomly/order of operations:

1. Randomly assign to a Model Type: Coding Table Header G
    a. Assets Under Management (Code: 1)
    b. Retainer or Project (Code: 2)
    c. Hourly (Code: 3)
2. Randomly assign services to the planner, each service should have a 60% chance of being assigned. When coding S1-S16, record offer of services as 1 and absence of services as 0; see below.
    a. Retirement Planning (Coding: S1)
    b. Investment Advice (Coding: S2)
    c. Tax Planning (Coding: S3)
    d. Tax Preparation (Coding: S4)
    e. Life Insurance Planning (Coding: S5)
    f. Disability Insurance Planning (Coding: S6)
    g. Long Term Care Insurance Planning (Coding: S7)
    h. Property and Casualty Insurance Planning (Coding: S8)
    i. Health Insurance Planning (Coding: S9)
    j. Cash Flow and Budget Planning (Coding: S10)
    k. Debt Management Planning (Coding: S11)
    l. College Savings Planning (Coding: S12)
    m. Student Loan Planning (Coding: S13)
    n. Estate Planning (Coding: S14)
    o. Stock Options Planning (Coding: S15)
    p. Business Planning (Coding: S16)

3. Assign pricing based on the model in step 1, and record pricing as a numerical value. Coding Header M.
    a. Assets Under Management: Randomly assign to a sub-channel and multiply P9 by the relevant breakpoint thresholds as shown in table 3 below. Code model as 1. Report sub-channel with table header N as:
        i. Independent BD: 1
        ii. Hybrid BD/RIA: 2
        iii. RIA: 3
    b. Retainer or Project: Assign a random value between 2,125 and 6,000. Code model as 2.
    c. Hourly: Assign a random value between 223 and 300 and multiply that value by 2 and the sum of randomly assigned services in step 2. Code model as 3.

Table 3.3 *Measurement of Dependent Variables*

Assets Under Management	Independent BD	Hybrid BD/RIA	RIA
<$250,000	1.72%	1.40%	1.25%
$250,000-$500,000	1.57%	1.40%	1.25%
$500,000-$1,000,000	1.47%	1.40%	1.25%
$1,000,000-$2,000,000	1.27%	1.25%	1.10%
$2,000,000-$5,000,000	1.12%	1.10%	0.95%
$5,000,000-$1,000,000	0.97%	0.90%	0.75%

Note. Percentages are given from the Kitces 2023 "How Financial Planners Actually Do Financial Planning" study.

Code the following datapoints as responses:

- Table Header as R1: Sum of financial planners reviewed recorded numerically (e.g. 3 planners, 9 planners, etc.; report numerically).
- Table Header as R2: Cost of the final selected financial planner. (Report numerically.)
- Table Header as S1-S15: Services offered by final selected financial planner (S1-S16 as 0 “no” or 1 “yes”)
- Table Header R3: Sum of “1” results from S1-S15.
- Table Header R4: Variable R2 divided by P8.
- Table Header R5: Variable R2 divided by P9.

POST-STUDY EXPERIMENT

Page 19:

Text: Having reviewed a financial planner or several financial planners, what services do you think a financial planner offers?

Check all that apply (Code as a binary "no" as 0 and "yes" as 1):

a. Retirement Planning (Coding: O1)
b. Investment Advice (Coding: O2)
c. Tax Planning (Coding: O3)
d. Tax Preparation (Coding: O4)
e. Life Insurance Planning (Coding: O5)
f. Disability Insurance Planning (Coding: O6)
g. Long Term Care Insurance Planning (Coding: O7)
h. Property and Casualty Insurance Planning (Coding: O8)
i. Health Insurance Planning (Coding: O9)
j. Cash Flow and Budget Planning (Coding: O10)
k. Debt Management Planning (Coding: O11)
l. College Savings Planning (Coding: O12)
m. Student Loan Planning (Coding: O13)
n. Estate Planning (Coding: O14)
o. Stock Options Planning (Coding: O15)
p. Business Planning (Coding: O16)

Code an additional variable, O17, as the sum of O1-O16.

Page 20:

Text: What services would you want from a financial planner?

Check all that apply (Code as a binary "no" as 0 and "yes" as 1):

a. Retirement Planning (Coding: W1)
b. Investment Advice (Coding: W2)
c. Tax Planning (Coding: W3)
d. Tax Preparation (Coding: W4)
e. Life Insurance Planning (Coding: W5)
f. Disability Insurance Planning (Coding: W6)
g. Long Term Care Insurance Planning (Coding: W7)
h. Property and Casualty Insurance Planning (Coding: W8)
i. Health Insurance Planning (Coding: W9)
j. Cash Flow and Budget Planning (Coding: W10)

k. Debt Management Planning (Coding: W11)
l. College Savings Planning (Coding: W12)
m. Student Loan Planning (Coding: W13)
n. Estate Planning (Coding: W14)
o. Stock Options Planning (Coding: W15)
p. Business Planning (Coding: W16)

Code an additional variable, W17, as the sum of W1-W16.

Page 21:

Text: Thank you for your participation. Your confirmation code is:

Output: Randomly generate a 15-digit letter/number combination.

Coding: Table Header as Z.

Record the 15-digit letter/number combination.

Appendix B - Software Code

This appendix includes the code used to create the software that was used to gather the primary data in this study. It consists of four separate files: KSUStudy.php, InsertAnswers.php, KSUStudy.css, and KSUStudy.javascript. They have been combined and are reported below in plain text. References to specific websites or databases have been removed and annotated with the appropriate code notes, which can be identified by markers /* note */.

KSUStudy.php

```
<style> <?php include 'KSUStudy.css'; ?> </style>

<script type="text/javascript" src="./ksustudy.js"></script>
<div id="head"></div>
<div id = "container">
<div id="KSUResearch">
<h1>Informed Consent</h1>
<p>Economics of Information in the Search for Financial Planners Dissertation Research<br>
Project Approval Date: 03/29/2024<br>
Project Expiration Date: 09/30/2024<br>
Length of Study: 7 Days<br>
Principal Investigator: Dr. Martin Seay<br>
Contact Details for Problems/Questions: <a
href="mailto:dyerger@ksu.edu">dyerger@ksu.edu</a><br>
IRB Chair Contact Information: Lisa Rubin - 785-532-3224 – <a
href="mailto:rubin@ksu.edu">rubin@ksu.edu</a><br>
Project Sponsor: Dr. Martin Seay</p>

<p>Purpose of the Research: To explore the relationships between respondent’s independent
demographics,
education, and financial variables, and their selection of a financial planner based on either full
or limited
information in an asynchronous environment.</p>

<p>Procedures to be used: Multiple Choice and Open Response Survey.</p>

<p>Risks or Discomforts Anticipated: That survey may take longer than anticipated based on
how thoroughly
a participant engages in the experimental portion of the study. Those who do not complete the
study may
not be eligible for compensation.</p>
```

```
<p>Benefits Anticipated: We will gain a better understanding of how consumers price and select
financial
planning services, as well as a better understanding regarding variables that influence planner
selection.
The extent of Confidentiality: Answers will be kept confidential on the individual level, but will
be
contained in aggregate data summaries for purposes of publication. Individual participant
responses will
not be used or cited. Personal data will be reported in the study, and though anonymous, may be
shared
in the aggregate with other researchers for future study replication or modification.</p>

<p>Terms of participation: I understand this project is research, and that my participation is
voluntary.
I also understand that if I decide to participate in this study, I may withdraw my consent at any
time, and stop participating at any time without explanation, penalty, or
academic standing to which I may otherwise be entitled. However, I will not be eligible for
compensation. To participate in the study I acknowledge I must be an adult resident or citizen of
the United States of America.</p>

<p>I verify that my acknowledgment below indicates that I have read and understand this
consent
form, and willingly agree to participate in this study under the terms described.</p>

<button id="accept" onclick="accept()">Accept</button>
<button id="doNotAccept" onclick="inelligible('KSUResearch')">Do Not Accept</button>
</div>

<div id="inelligible" style="display:none;">
<p>Inelligible to participate</p>
</div>

<div id="P2" style="display:none;">
<p>Are you a citizen of the United States of America or a permanent resident of the United
States of America?</p>
<button id="citizen" onclick="citizen()">Yes</button>
<button id="notCitizen" onclick="inelligible('P2')">No</button>
</div>

<div id="P3" style="display:none;">
<p>What is your age?</p>
<input type="number" id="age" min="0" max="123" />
<button id="ageSubmit" onclick="submitAge()">Submit</button>
</div>
```

```html
<div id="P4" style="display:none;">
<p>What is your gender?</p>
<button id="male" onclick="submitGender('male')">Male</button><br>
<button id="female" onclick="submitGender('female')">Female</button><br>
<button id="nonBinary" onclick="submitGender('nonBinary')">Non-binary</button><br>
<button id="notSay" onclick="submitGender('notSay')">Prefer not to say.</button><br>
<span id="genderAnswer" style="display:none;"></span>
</div>

<div id="P5" style="display:none;">
<p>What is your race?</p>
   <input type="checkbox" name="race" value="1" />
   <label for="1">White or Caucasian</label><br>

   <input type="checkbox" name="race" value="2" />
   <label for="2">Black or African American</label><br>

   <input type="checkbox" name="race" value="3" />
   <label for="3">Asian</label><br>

   <input type="checkbox" name="race" value="4" />
   <label for="4">American Indian or Alaskan Native</label><br>

   <input type="checkbox" name="race" value="5" />
   <label for="5">Native Hawaiian or Other Pacific Islander</label><br>

   <input type="checkbox" name="race" value="6" />
   <label for="6">Some other Race</label><br><br>
   <span id="raceAnswer" style="display:none;"></span>

   <button id="raceSubmit" onclick="submitRace()">Submit</button>
</div>

<div id="P6" style="display:none;">
<p>Is your ethnicity Hispanic, Latino, or Spanish in origin?</p>
<button id="latino" onclick="latino(1)">Yes</button>
<button id="notLatino" onclick="latino(0)">No</button>
</div>

<div id="P7" style="display:none;">
<p>What is your highest level of completed education?</p>
<button id="lessThan" onclick="education(1)">Less than high school diploma or
GED.</button><br>
<button id="hs" onclick="education(2)">High School Diploma or GED</button><br>
<button id="college" onclick="education(3)">Some College</button><br>
<button id="associates" onclick="education(4)">Associate's Degree</button><br>
```

```
<button id="bachelors" onclick="education(5)">Bachelor's Degree</button><br>
<button id="masters" onclick="education(6)">Master's Degree</button><br>
<button id="professional" onclick="education(7)">Professional Master's or Doctorate (MBA,
JD, MD)</button><br>
<button id="doctorate" onclick="education(8)">Doctorate (Ph.D., DABA, DM)</button><br>
</div>

<div id="P8" style="display:none;">
<p>What is your estimate of your total annual income this year?</p>
<input type="number" id="income" min="0" max="1000000000" />
<button id="incomeSubmit" onclick="submitIncome()">Submit</button>
</div>

<div id="P9" style="display:none;">
<p>Liquid assets include financial assets such as cash, or investment assets that can be easily
converted into cash, such as 401(k) plan balances, mutual funds, and other financial accounts.
This does not include tangible or illiquid property such as your home, car, or personal
possessions. What is your total liquid asset balance?</p>
<input type="number" id="assets" min="0" max="1000000000" />
<button id="assetsSubmit" onclick="submitAssets()">Submit</button>
</div>

<div id="P10" style="display:none;">
<p>Do you or have you used a financial planner, such as a CFP® Professional or other financial
advice-giving professional paid either a fee or on commission for the advice they provide?</p>
<button id="financialPlannerYes" onclick="financialPlanner(1)">Yes</button>
<button id="financialPlannerNo" onclick="financialPlanner(0)">No</button>
</div>

<div id="P11" style="display:none;">
<p>The next five questions are a financial literacy questionnaire. Please provide your best
answer to these questions.</p>
<button id="understood" onclick="understood()">Understood</button>
</div>

<div id="P12" style="display:none;">
<p>Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5
years, how much do you think you would have in the account if you left the money to grow?</p>
  <div>
    <input type="radio" name="12" id="12a" value="1" /><label for="12a">More than
$102</label><br>
    <input type="radio" name="12" id="12b" value="0" /><label for="12b">Exactly
$102</label><br>
    <input type="radio" name="12" id="12c" value="0" /><label for="12c">Less than
$102</label><br>
```

```
      <input type="radio" name="12" id="12d" value="0" /><label for="12d">Don’t
know</label><br>
      <input type="radio" name="12" id="12e" value="0" /><label for="12e">Prefer not to
say</label><br>
    </div>
    <div>
      <button id="question12" onclick="question12()">Submit</button>
    </div>
</div>

<div id="P13" style="display:none;">
<p>Imagine that the interest rate on your savings account was 1% per year and inflation was 2%
per year. After 1 year, how much would you be able to buy with the money in this account?</p>
    <div>
      <input type="radio" name="13" id="13a" value="0" /><label for="13a">More than
today</label><br>
      <input type="radio" name="13" id="13b" value="0" /><label for="13b">Exactly the
same</label><br>
      <input type="radio" name="13" id="13c" value="1" /><label for="13c">Less than
today</label><br>
      <input type="radio" name="13" id="13d" value="0" /><label for="13d">Don’t
know</label><br>
      <input type="radio" name="13" id="13e" value="0" /><label for="13e">Prefer not to
say</label><br>
    </div>
    <div>
      <button id="question13" onclick="question13()">Submit</button>
    </div>
</div>

<div id="P14" style="display:none;">
<p>If interest rates rise, what will typically happen to bond prices?</p>
    <div>
      <input type="radio" name="14" id="14a" value="0" /><label for="14a">They will
rise</label><br>
      <input type="radio" name="14" id="14b" value="1" /><label for="14b">They will
fall</label><br>
      <input type="radio" name="14" id="14c" value="0" /><label for="14c">They stay the
same</label><br>
      <input type="radio" name="14" id="14d" value="0" /><label for="14c">There is no
relationship between bond prices and the interest rate</label><br>
      <input type="radio" name="14" id="14e" value="0" /><label for="14d">Don’t
know</label><br>
      <input type="radio" name="14" id="14f" value="0" /><label for="14e">Prefer not to
say</label><br>
    </div>
```

```
   <div>
     <button id="question14" onclick="question14()">Submit</button>
   </div>
</div>

<div id="P15" style="display:none;">
<p>A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage,
but the total interest paid over the life of the loan will be less.</p>
   <div>
     <input type="radio" name="15" id="15a" value="1" /><label for="15a">True</label><br>
     <input type="radio" name="15" id="15b" value="0" /><label for="15b">False</label><br>
     <input type="radio" name="15" id="15c" value="0" /><label for="15c">Don’t
know</label><br>
     <input type="radio" name="15" id="15e" value="0" /><label for="15c">Prefer not to
say</label><br>
   </div>
   <div>
     <button id="question15" onclick="question15()">Submit</button>
   </div>
</div>

<div id="P16" style="display:none;">
<p>Buying a single company’s stock usually provides a safer return than a stock mutual
fund.</p>
   <div>
     <input type="radio" name="16" id="16a" value="0" /><label for="16a">True</label><br>
     <input type="radio" name="16" id="16b" value="1" /><label for="16b">False</label><br>
     <input type="radio" name="16" id="16c" value="0" /><label for="16c">Don’t
know</label><br>
     <input type="radio" name="16" id="16d" value="0" /><label for="16c">Prefer not to
say</label><br>
   </div>
   <div>
     <button id="question16" onclick="question16()">Submit</button>
   </div>
</div>

<div id="P17" style="display:none;">
<p>A financial planner is a professional who specializes in looking at a client’s financial picture
and advises them on how to achieve their short- and long-term financial goals. In the next
module, you will be presented with a financial planner profile and information regarding their
service. You may elect to “hire” the financial planner or review other financial planners, with the
option to return to the other financial planners you’ve already seen. You can review as many
financial planners as you like. Your task is to select a financial planner you feel would be the
best fit for your personal financial planning needs.</p>
<button id="understood2" onclick="understood2()">Understood</button>
```

```
</div>

<div style="display:none;" id="groupType"></div>
<div id="planners" style="display:none;"></div>

<button id="newPlanner" onclick="assignModelType()" style="display:none;">See Another
Planner</button>

<div id="P19" " style="display:none;">
<p>Having reviewed a financial planner or several financial planners, what services do you think
a financial planner offers? Check all that apply</p>
   <input type="checkbox" name="offer" id="O1"/>
   <label for="O1">Retirement Planning</label><br>

   <input type="checkbox" name="offer" id="O2" />
   <label for="O2">Investment Advice</label><br>

   <input type="checkbox" name="offer" id="O3" />
   <label for="O3">Tax Planning</label><br>

   <input type="checkbox" name="offer" id="O4" />
   <label for="O4">Tax Preparation</label><br>

   <input type="checkbox" name="offer" id="O5" />
   <label for="O5">Life Insurance Planning</label><br>

   <input type="checkbox" name="offer" id="O6" />
   <label for="O6">Disability Insurance Planning</label><br>

   <input type="checkbox" name="offer" id="O7" />
   <label for="O7">Long Term Care Insurance Planning</label><br>

   <input type="checkbox" name="offer" id="O8" />
   <label for="O8">Property and Casualty Insurance Planning</label><br>

   <input type="checkbox" name="offer" id="O9" />
   <label for="O9">Health Insurance Planning</label><br>

   <input type="checkbox" name="offer" id="O10" />
   <label for="O10">Cash Flow and Budget Planning</label><br>

   <input type="checkbox" name="offer" id="O11" />
   <label for="O11">Debt Management Planning</label><br>

   <input type="checkbox" name="offer" id="O12" />
   <label for="O12">College Savings Planning</label><br>
```

```
    <input type="checkbox" name="offer" id="O13" />
    <label for="O13">Student Loan Planning</label><br>

    <input type="checkbox" name="offer" id="O14" />
    <label for="O14">Estate Planning</label><br>

    <input type="checkbox" name="offer" id="O15" />
    <label for="O15">Stock Options Planning</label><br>

    <input type="checkbox" name="offer" id="O16" />
    <label for="O16">Business Planning</label><br>

    <button id="servicesProvided" onclick="submitServicesProvided()">Submit</button>
</div>

<div id="P20" " style="display:none;">
<p>Having reviewed a financial planner or several financial planners, what services would you
want a financial planner to offer? Check all that apply</p>
    <input type="checkbox" name="desired" id="W1"/>
    <label for="W1">Retirement Planning</label><br>

    <input type="checkbox" name="desired" id="W2" />
    <label for="W2">Investment Advice</label><br>

    <input type="checkbox" name="desired" id="W3" />
    <label for="W3">Tax Planning</label><br>

    <input type="checkbox" name="desired" id="W4" />
    <label for="W4">Tax Preparation</label><br>

    <input type="checkbox" name="desired" id="W5" />
    <label for="W5">Life Insurance Planning</label><br>

    <input type="checkbox" name="desired" id="W6" />
    <label for="W6">Disability Insurance Planning</label><br>

    <input type="checkbox" name="desired" id="W7" />
    <label for="W7">Long Term Care Insurance Planning</label><br>

    <input type="checkbox" name="desired" id="W8" />
    <label for="W8">Property and Casualty Insurance Planning</label><br>

    <input type="checkbox" name="desired" id="W9" />
    <label for="W9">Health Insurance Planning</label><br>
```

```
    <input type="checkbox" name="desired" id="W10" />
    <label for="W10">Cash Flow and Budget Planning</label><br>

    <input type="checkbox" name="desired" id="W11" />
    <label for="W11">Debt Management Planning</label><br>

    <input type="checkbox" name="desired" id="W12" />
    <label for="W12">College Savings Planning</label><br>

    <input type="checkbox" name="desired" id="W13" />
    <label for="W13">Student Loan Planning</label><br>

    <input type="checkbox" name="desired" id="W14" />
    <label for="W14">Estate Planning</label><br>

    <input type="checkbox" name="desired" id="W15" />
    <label for="W15">Stock Options Planning</label><br>

    <input type="checkbox" name="desired" id="W16" />
    <label for="W16">Business Planning</label><br>

    <button id="servicesDesired" onclick="submitServicesDesired()">Submit</button>
</div>

<div id="P21" style="display:none;">
<p>Thank you for your participation. Your confirmation code is:</p>
<p id="confirmationCode"></p>
</div>

<div id="lastInsertId" style="display:none;"></div>
<div id="ajaxDump" style="display:none;"></div>

</div>

<script type="text/javascript">
document.getElementById("accept").disabled = false;
document.getElementById("doNotAccept").disabled = false;
    setTimeout(function(){document.getElementById("accept").disabled = false;},2000);
    setTimeout(function(){document.getElementById("doNotAccept").disabled = false;},2000);
</script>
```

InsertAnswers.php

```
<?php
require_once(/*Reference to Database*/);


$servername = "/*Server URL*/
$username = "/*Username*/
$password = /*Password*/

// Create connection
$conn = new mysqli($servername, $username, $password);

// Check connection
if ($conn->connect_error) {
  die("Connection failed: " . $conn->connect_error);
}
$data = json_decode(file_get_contents('php://input'), true);
if($_GET['planners']) {
$sql = "INSERT INTO /*Website URL for hosting*/_com.planner_info (user_id, G, M, N, S1,
S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12, S13, S14, S15, S16) VALUES ('$data[lastId]',
'$data[G]','$data[M]','$data[N]','$data[S1]','$data[S2]','$data[S3]','$data[S4]','$data[S5]','$data[S6
]','$data[S7]','$data[S8]','$data[S9]','$data[S10]','$data[S11]','$data[S12]','$data[S13]','$data[S14]'
,'$data[S15]','$data[S16]')";

if ($conn->query($sql))
{
    $conn->commit();
}
else {
  echo "Error: " . $sql . "<br>" . $conn->error;
}
$conn->close();
} else {
$sql = "INSERT INTO /*Website URL for hosting*/_com.user_info (P1, P2, P3, P4, P5, P6, P7,
P8, P9, P10, P12, P13, P14, P15, P16, literacy_score, T, G, M, N, R1, R2, R3, R4, R5, S1, S2,
S3, S4, S5, S6, S7, S8, S9, S10, S11, S12, S13, S14, S15, S16, O1, O2, O3, O4, O5, O6, O7, O8,
O9, O10, O11, O12, O13, O14, O15, O16, O17, W1, W2, W3, W4, W5, W6, W7, W8, W9,
W10, W11, W12, W13, W14, W15, W16, W17, Z) VALUES ('$data[P1]', '$data[P2]',
'$data[P3]', '$data[P4]', '$data[P5]', '$data[P6]', '$data[P7]', '$data[P8]', '$data[P9]', '$data[P10]',
'$data[P12]', '$data[P13]', '$data[P14]', '$data[P15]', '$data[P16]', '$data[literacy_score]',
'$data[T]',
'$data[G]','$data[M]','$data[N]','$data[R1]','$data[R2]','$data[R3]','$data[R4]','$data[R5]','$data[S
1]','$data[S2]','$data[S3]','$data[S4]','$data[S5]','$data[S6]','$data[S7]','$data[S8]','$data[S9]','$da
ta[S10]','$data[S11]','$data[S12]','$data[S13]','$data[S14]','$data[S15]','$data[S16]','$data[O1]','$
data[O2]','$data[O3]','$data[O4]','$data[O5]','$data[O6]','$data[O7]','$data[O8]','$data[O9]','$data
[O10]','$data[O11]','$data[O12]','$data[O13]','$data[O14]','$data[O15]', '$data[O16]',
```

```
'$data[O17]', '$data[W1]', '$data[W2]', '$data[W3]', '$data[W4]', '$data[W5]', '$data[W6]',
'$data[W7]', '$data[W8]', '$data[W9]', '$data[W10]', '$data[W11]', '$data[W12]', '$data[W13]',
'$data[W14]', '$data[W15]', '$data[W16]', '$data[W17]', '$data[Z]')";

if ($conn->query($sql))
{
   $id = $conn->insert_id;
   $conn->commit();
   echo $id;
}
else {
  echo "Error: " . $sql . "<br>" . $conn->error;
}
$conn->close();


}

?>
```

KSUStudy.css

```
let i = 1;
let showServices;
let showPrices;
let groupTypeNum = Math.floor(Math.random() * (3 - 1 + 1) + 1);
   if(groupTypeNum === 1) {
      showServices = true;
      showPrices = true;
   } else if(groupTypeNum === 2) {
      showServices = false;
      showPrices = true;
   } else if (groupTypeNum === 3) {
      showServices = true;
      showPrices = false;

   }
let answers = {};


function accept() {
   document.getElementById("KSUResearch").style.display = "none";
   document.getElementById("P2").style.display = "block";
}

function citizen() {
   document.getElementById("P2").style.display = "none";
   document.getElementById("P3").style.display = "block";
}

function submitAge() {

   if (document.getElementById("age").value < 18) {
      inelligible('P3');
   } else if(document.getElementById("age").value > 123 ||
document.getElementById("age").value === '') {
      alert('Invalid Response.')
   } else {
         document.getElementById("P3").style.display = "none";
         document.getElementById("P4").style.display = "block";
   }
}

function submitGender(which) {
   let number;
   if(which === 'male') {
      number = 1;
```

```
    } else if(which === 'female') {
        number = 2;
    } else if (which === 'nonBinary') {
        number = 3;
    } else if (which === 'notSay') {
        number = 4;
    }
    document.getElementById('genderAnswer').setAttribute('value', number);
    document.getElementById("P4").style.display = "none";
    document.getElementById("P5").style.display = "block";

}

function submitRace() {
    let raceChecked = '';
    let elems = document.getElementsByName("race");
        let checked = false;
        try{
        for (let i = 0; i < elems.length; i++) {
            if (elems[i].checked) {
                raceChecked = raceChecked + (i+1) + ',';
            }
        }
        }finally {
            if(raceChecked === '') {
            alert('Invalid Response.')
            } else {
            document.getElementById("P5").style.display = "none";
            document.getElementById("P6").style.display = "block";
            document.getElementById("raceAnswer").setAttribute('value', raceChecked);
            }
        }

}

function latino(answer) {
    answers.latino = answer;
    document.getElementById("P6").style.display = "none";
    document.getElementById("P7").style.display = "block";

}

function education(education) {
    answers.education = education;
    document.getElementById("P7").style.display = "none";
    document.getElementById("P8").style.display = "block";
```

```
}

function submitIncome() {
   if(document.getElementById("income").value < 0 ||
document.getElementById("income").value === '') {
       alert('Invalid Response.')
   } else {
   document.getElementById("P8").style.display = "none";
   document.getElementById("P9").style.display = "block";
   }


}

function submitAssets() {
   if(document.getElementById('assets').value < 0 || document.getElementById("assets").value
=== '') {
       alert('Invalid Response.')
   } else {
   document.getElementById("P9").style.display = "none";
   document.getElementById("P10").style.display = "block";
   }

}

function financialPlanner(answer) {
   answers.financialPlanner = answer;
   document.getElementById("P10").style.display = "none";
   document.getElementById("P11").style.display = "block";

}

function understood() {
   document.getElementById("P11").style.display = "none";
   document.getElementById("P12").style.display = "block";
}

function question12() {
   var checkRadio = document.querySelector(
            'input[name="12"]:checked');
   answers.p12 = checkRadio.value;
   document.getElementById("P12").style.display = "none";
   document.getElementById("P13").style.display = "block";

}
```

```
function question13() {
   var checkRadio = document.querySelector(
            'input[name="13"]:checked');
   answers.p13 = checkRadio.value;
   document.getElementById("P13").style.display = "none";
   document.getElementById("P14").style.display = "block";

}

function question14() {
   var checkRadio = document.querySelector(
            'input[name="14"]:checked');
   answers.p14 = checkRadio.value;
   document.getElementById("P14").style.display = "none";
   document.getElementById("P15").style.display = "block";

}

function question15() {
   var checkRadio = document.querySelector(
            'input[name="15"]:checked');
   answers.p15 = checkRadio.value;
   document.getElementById("P15").style.display = "none";
   document.getElementById("P16").style.display = "block";

}

function question16() {
   var checkRadio = document.querySelector(
            'input[name="16"]:checked');
   answers.p16 = checkRadio.value;
   document.getElementById("P16").style.display = "none";
   document.getElementById("P17").style.display = "block";

}

function understood2() {
   document.getElementById("P17").style.display = "none";
   assignModelType();
}

function assignModelType() {
   document.getElementById("groupType").setAttribute('value', groupTypeNum);

   let modelTypeDiv = document.createElement('div');
   let modelTypeVal = Math.floor(Math.random() * (3 - 1 + 1) + 1)
```

```
    modelTypeDiv.setAttribute('value', modelTypeVal);
    modelTypeDiv.setAttribute('id', 'modelType' + i);

    let subChannelDiv = document.createElement('div');
    subChannelDiv.setAttribute('id', 'subChannel' + i);

    if(modelTypeVal === 1) {
    let subChannelVal = Math.floor(Math.random() * (3 - 1 + 1) + 1);
    subChannelDiv.setAttribute('value', subChannelVal);
    }

    getPlanner(showServices, showPrices, modelTypeDiv, subChannelDiv)
}

function getPlanner(showServices, showPrices, modelTypeDiv, subChannelDiv) {
let subChannelVal = subChannelDiv.getAttribute('value');

let groupType = document.getElementById("groupType").getAttribute('value');
document.getElementById("planners").style.display = "block";
document.getElementById("newPlanner").style.display = "block";


let plannerDiv = document.createElement('div');
plannerDiv.setAttribute('id', 'planner' + i);
plannerDiv.setAttribute('class', 'plannerBox');
let plannerTitle = document.createElement('div');
plannerTitle.innerHTML = "Planner " + i;
plannerTitle.setAttribute('class', 'plannerTitle');


let a = document.createElement('div');
a.innerHTML = "Retirement Planning";
a.setAttribute('id', 'a'+i);

let b = document.createElement('div');
b.innerHTML = "Investment Advice";
b.setAttribute('id', 'b'+i);

let c = document.createElement('div');
c.innerHTML = "Tax Planning";
c.setAttribute('id', 'c'+i);

let d = document.createElement('div');
d.innerHTML = "Tax Preparation";
d.setAttribute('id', 'd'+i);

let e = document.createElement('div');
```

```
e.innerHTML = "Life Insurance Planning";
e.setAttribute('id', 'e'+i);

let f = document.createElement('div');
f.innerHTML = "Disability Insurance Planning";
f.setAttribute('id', 'f'+i);

let serviceG = document.createElement('div');
serviceG.innerHTML = "Long Term Care Insurance Planning";
serviceG.setAttribute('id', 'g'+i);

let h = document.createElement('div');
h.innerHTML = "Property and Casualty Insurance Planning";
h.setAttribute('id', 'h'+i);

let serviceI = document.createElement('div');
serviceI.innerHTML = "Health Insurance Planning";
serviceI.setAttribute('id', 'i'+i);

let j = document.createElement('div');
j.innerHTML = "Cash Flow and Budget Planning";
j.setAttribute('id', 'j'+i);

let k = document.createElement('div');
k.innerHTML = "Debt Management Planning";
k.setAttribute('id', 'k'+i);

let l = document.createElement('div');
l.innerHTML = "College Savings Planning";
l.setAttribute('id', 'l'+i);

let m = document.createElement('div');
m.innerHTML = "Student Loan Planning";
m.setAttribute('id', 'm'+i);

let n = document.createElement('div');
n.innerHTML = "Estate Planning";
n.setAttribute('id', 'n'+i);

let o = document.createElement('div');
o.innerHTML = "Stock Options Planning";
o.setAttribute('id', 'o'+i);

let p = document.createElement('div');
p.innerHTML = "Business Planning";
p.setAttribute('id', 'p'+i);
```

```
plannerDiv.appendChild(plannerTitle);
plannerDiv.appendChild(a);
plannerDiv.appendChild(b);
plannerDiv.appendChild(c);
plannerDiv.appendChild(d);
plannerDiv.appendChild(e);
plannerDiv.appendChild(f);
plannerDiv.appendChild(serviceG);
plannerDiv.appendChild(h);
plannerDiv.appendChild(serviceI);
plannerDiv.appendChild(j);
plannerDiv.appendChild(k);
plannerDiv.appendChild(l);
plannerDiv.appendChild(m);
plannerDiv.appendChild(n);
plannerDiv.appendChild(o);
plannerDiv.appendChild(p);

const parent = document.querySelector("#planners");
parent.appendChild(plannerDiv);

const parent2 = document.querySelector("#planner"+i);
parent2.appendChild(modelTypeDiv);
parent2.appendChild(subChannelDiv);

document.getElementById("a"+i).style.display = 'none';
document.getElementById("b"+i).style.display = 'none';
document.getElementById("c"+i).style.display = 'none';
document.getElementById("d"+i).style.display = 'none';
document.getElementById("e"+i).style.display = 'none';
document.getElementById("f"+i).style.display = 'none';
document.getElementById("g"+i).style.display = 'none';
document.getElementById("h"+i).style.display = 'none';
document.getElementById("i"+i).style.display = 'none';
document.getElementById("j"+i).style.display = 'none';
document.getElementById("k"+i).style.display = 'none';
document.getElementById("l"+i).style.display = 'none';
document.getElementById("m"+i).style.display = 'none';
document.getElementById("n"+i).style.display = 'none';
document.getElementById("o"+i).style.display = 'none';
document.getElementById("p"+i).style.display = 'none';
```

```
let options = ["a"+i, "b"+i, "c"+i, "d"+i, "e"+i, "f"+i, "g"+i, "h"+i, "i"+i, "j"+i, "k"+i, "l"+i,
"m"+i, "n"+i, "o"+i, "p"+i];
let total = 0;
options.forEach((option) => {
let percentage = Math.floor(Math.random() * (100 - 1 + 1) + 1)
if(percentage <= 60) {
     document.getElementById(option).setAttribute('value', 1);
    if(showServices === true) {
        document.getElementById(option).style.display = "block";
    }
    total++;
} else {
    document.getElementById(option).setAttribute('value', 0);
}
})

let price;
let modelTypeVal = document.getElementById("modelType"+i).getAttribute('value');

    if(modelTypeVal == 1) {
        let assetsNum = document.getElementById("assets").value;
        if(subChannelVal == 1) {
            if(assetsNum < 250000) {
                price = assetsNum * .0172;
            } else if (250000 < assetsNum && assetsNum <= 500000) {
                price = assetsNum * .0157;
            } else if (500000 < assetsNum && assetsNum <= 1000000) {
                price = assetsNum * .0147;
            } else if (1000000 < assetsNum && assetsNum <= 2000000) {
                price = assetsNum * .0127;
            } else if (2000000 < assetsNum && assetsNum <= 5000000) {
                price = assetsNum * .0112;
            } else if (5000000 < assetsNum) {
                price = assetsNum * .0097;
            }
        } else if(subChannelVal == 2) {
            if(assetsNum <= 1000000) {
                price = assetsNum * .014;
            } else if (1000000 < assetsNum && assetsNum <= 2000000) {
                price = assetsNum * .0125;
            } else if (2000000 < assetsNum && assetsNum <= 5000000) {
                price = assetsNum * .011;
            } else if (5000000 < assetsNum) {
                price = assetsNum * .009;
            }
        } else if(subChannelVal == 3) {
```

```
        if(assetsNum <= 1000000) {
          price = assetsNum * .0125;
        } else if (1000000 < assetsNum && assetsNum <= 2000000) {
          price = assetsNum * .011;
        } else if (2000000 < assetsNum && assetsNum <= 5000000) {
          price = assetsNum * .0095;
        } else if (5000000 < assetsNum) {
          price = assetsNum * .0075;
        }
      }

    }   else if(modelTypeVal == 2) {
      price = Math.floor(Math.random() * (6000 - 2125 + 1) + 2125)
    }   else if (modelTypeVal == 3) {
      price = ((Math.floor(Math.random() * (300 - 223 + 1) + 223)) * 2) * total

    }

    let priceBox = document.createElement('div');
    priceBox.innerHTML = 'Price: $' + price + '/annually';
    priceBox.setAttribute('id', 'price'+i);
    priceBox.setAttribute('value', price);
    plannerDiv.appendChild(priceBox);

  let submit = document.createElement('button');
  submit.innerHTML = "Select Planner " + i;
  submit.setAttribute('id', 'submit'+i);
  submit.setAttribute('onclick', 'choosePlanner('+i+')');
  plannerDiv.appendChild(submit);

    if(showPrices === true) {
      document.getElementById("price"+i).style.display = 'block';
    } else {
      document.getElementById("price"+i).style.display = 'none';
    }
    document.getElementById("submit"+i).style.display = 'block';
    answers.r1 = i;
  i++;
  }

  function choosePlanner(i) {
    answers.chosen = i;
    answers.r2 = document.getElementById('price'+i).getAttribute('value');
    let options = ["a"+i, "b"+i, "c"+i, "d"+i, "e"+i, "f"+i, "g"+i, "h"+i, "i"+i, "j"+i, "k"+i, "l"+i,
  "m"+i, "n"+i, "o"+i, "p"+i];
    let x = 0;
```

```
    options.forEach((option) => {
        answers.option = document.getElementById(option).getAttribute('value');
    if(document.getElementById(option).getAttribute('value') == 1) {
        x++;
    }
    answers.r3 = x;
    })



    document.getElementById("planners").style.display = "none";
    document.getElementById("newPlanner").style.display = "none";

    document.getElementById("P19").style.display = "block";
}

function submitServicesProvided() {
    let options = ["O1", "O2", "O3", "O4", "O5", "O6", "O7", "O8", "O9", "O10", "O11", "O12",
"O13", "O14", "O15", "O16"];
    var serviceChecked = 0;
    let elems = document.getElementsByName("offer");
        let checked = false;
        for (let i = 0; i < elems.length; i++) {
            if (elems[i].checked) {
                elems[i].setAttribute('value', 1)
                serviceChecked++;
            } else {
                elems[i].setAttribute('value', 0)
            }
        }
    answers.o17 = serviceChecked;

    document.getElementById("P19").style.display = "none";
    document.getElementById("P20").style.display = "block";

}

function submitServicesDesired() {
    let options = ["W1", "W2", "W3", "W4", "W5", "W6", "W7", "W8", "W9", "W10", "W11",
"W12", "W13", "W14", "W15", "W16"];
    var serviceChecked = 0;
    let elems = document.getElementsByName("desired");
        let checked = false;
        for (let i = 0; i < elems.length; i++) {
            if (elems[i].checked) {
                elems[i].setAttribute('value', 1)
                serviceChecked++;
```

```
        } else {
          elems[i].setAttribute('value', 0)
        }
      }
  answers.w17 = serviceChecked;


  document.getElementById("P20").style.display = "none";
  document.getElementById("P21").style.display = "block";
  submit();
}

function inelligible(id) {
  document.getElementById(id).style.display = "none";
  document.getElementById("inelligible").style.display = "block";
}

function submit() {
let chosen = answers.chosen;

let p1 = 1;
let p2 = 1;
let p3 = Number(document.getElementById('age').value);
let p4 = Number(document.getElementById('genderAnswer').getAttribute('value'));
let p5 = document.getElementById('raceAnswer').getAttribute('value');
let p6 = Number(answers.latino);
let p7 = Number(answers.education);
let p8 = Number(document.getElementById('income').value);
let p9 = Number(document.getElementById('assets').value);
let p10 = Number(answers.financialPlanner);
let p12 = Number(answers.p12)
let p13 = Number(answers.p13)
let p14 = Number(answers.p14)
let p15 = Number(answers.p15)
let p16 = Number(answers.p16)
let literacyscore =
Number(Number(answers.p12)+Number(answers.p13)+Number(answers.p14)+Number(answers
.p15)+Number(answers.p16))
let t = Number(document.getElementById('groupType').getAttribute('value'));
let g2 = Number(document.getElementById('modelType'+chosen).getAttribute('value'));
let m = Number(answers.r2);
let n;
if(g2 === 1) {
  n = Number(document.getElementById('subChannel'+chosen).getAttribute('value'));
} else {
  n = null;
}
```

```
let r1 = Number(answers.r1);
let r2 = Number(answers.r2);
let r3 = Number(answers.r3);
let s1 = Number(document.getElementById('a'+chosen).getAttribute('value'));
let s2 = Number(document.getElementById('b'+chosen).getAttribute('value'));
let s3 = Number(document.getElementById('c'+chosen).getAttribute('value'));
let s4 = Number(document.getElementById('d'+chosen).getAttribute('value'));
let s5 = Number(document.getElementById('e'+chosen).getAttribute('value'));
let s6 = Number(document.getElementById('f'+chosen).getAttribute('value'));
let s7 = Number(document.getElementById('g'+chosen).getAttribute('value'));
let s8 = Number(document.getElementById('h'+chosen).getAttribute('value'));
let s9 = Number(document.getElementById('i'+chosen).getAttribute('value'));
let s10 = Number(document.getElementById('j'+chosen).getAttribute('value'));
let s11 = Number(document.getElementById('k'+chosen).getAttribute('value'));
let s12 = Number(document.getElementById('l'+chosen).getAttribute('value'));
let s13 = Number(document.getElementById('m'+chosen).getAttribute('value'));
let s14 = Number(document.getElementById('n'+chosen).getAttribute('value'));
let s15 = Number(document.getElementById('o'+chosen).getAttribute('value'));
let s16 = Number(document.getElementById('p'+chosen).getAttribute('value'));
let r4 = r2/p8;
let r5 = r2/p9;
let o1 = Number(document.getElementById('O1').getAttribute('value'));
let o2 = Number(document.getElementById('O2').getAttribute('value'));
let o3 = Number(document.getElementById('O3').getAttribute('value'));
let o4 = Number(document.getElementById('O4').getAttribute('value'));
let o5 = Number(document.getElementById('O5').getAttribute('value'));
let o6 = Number(document.getElementById('O6').getAttribute('value'));
let o7 = Number(document.getElementById('O7').getAttribute('value'));
let o8 = Number(document.getElementById('O8').getAttribute('value'));
let o9 = Number(document.getElementById('O9').getAttribute('value'));
let o10 = Number(document.getElementById('O10').getAttribute('value'));
let o11 = Number(document.getElementById('O11').getAttribute('value'));
let o12 = Number(document.getElementById('O12').getAttribute('value'));
let o13 = Number(document.getElementById('O13').getAttribute('value'));
let o14 = Number(document.getElementById('O14').getAttribute('value'));
let o15 = Number(document.getElementById('O15').getAttribute('value'));
let o16 = Number(document.getElementById('O16').getAttribute('value'));
let o17 = answers.o17;
let w1 = Number(document.getElementById('W1').getAttribute('value'));
let w2 = Number(document.getElementById('W2').getAttribute('value'));
let w3 = Number(document.getElementById('W3').getAttribute('value'));
let w4 = Number(document.getElementById('W4').getAttribute('value'));
let w5 = Number(document.getElementById('W5').getAttribute('value'));
let w6 = Number(document.getElementById('W6').getAttribute('value'));
let w7 = Number(document.getElementById('W7').getAttribute('value'));
let w8 = Number(document.getElementById('W8').getAttribute('value'));
```

```
let w9 = Number(document.getElementById('W9').getAttribute('value'));
let w10 = Number(document.getElementById('W10').getAttribute('value'));
let w11 = Number(document.getElementById('W11').getAttribute('value'));
let w12 = Number(document.getElementById('W12').getAttribute('value'));
let w13 = Number(document.getElementById('W13').getAttribute('value'));
let w14 = Number(document.getElementById('W14').getAttribute('value'));
let w15 = Number(document.getElementById('W15').getAttribute('value'));
let w16 = Number(document.getElementById('W16').getAttribute('value'));
let w17 = answers.w17;

function randomString(length, chars) {
   var result = '';
   for (var i = length; i > 0; --i) result += chars[Math.round(Math.random() * (chars.length - 1))];
   return result;
}

let z = randomString(15,
'0123456789abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ')
document.getElementById('confirmationCode').innerHTML = z;

let data = JSON.stringify(
   {'P1':p1,
   'P2':p2,
'P3': p3,
'P4': p4,
'P5':  p5,
'P6':  p6,
'P7':  p7,
'P8':  p8,
'P9':  p9,
'P10':  p10,
'P12':  p12,
'P13':  p13,
'P14':  p14,
'P15':  p15,
'P16':  p16,
'literacy_score':  literacyscore,
'T':  t,
'G':  g2,
'M':  m,
'N':  n,
'R1':  r1,
'R2':  r2,
'R3':  r3,
'S1':  s1,
'S2':  s2,
```

```
'S3':  s3,
'S4':  s4,
'S5':  s5,
'S6':  s6,
'S7':  s7,
'S8':  s8,
'S9':  s9,
'S10':  s10,
'S11':  s11,
'S12':  s12,
'S13':  s13,
'S14':  s14,
'S15':  s15,
'S16':  s16,
'R4':  r4,
'R5':  r5,
'O1':  o1,
'O2':  o2,
'O3':  o3,
'O4':  o4,
'O5':  o5,
'O6':  o6,
'O7':  o7,
'O8':  o8,
'O9':  o9,
'O10':  o10,
'O11':  o11,
'O12':  o12,
'O13':  o13,
'O14':  o14,
'O15':  o15,
'O16':  o16,
'O17':  o17,
'W1':  w1,
'W2':  w2,
'W3':  w3,
'W4':  w4,
'W5':  w5,
'W6':  w6,
'W7':  w7,
'W8':  w8,
'W9':  w9,
'W10':  w10,
'W11':  w11,
'W12':  w12,
'W13':  w13,
```

```
'W14':  w14,
'W15':  w15,
'W16':  w16,
'W17':  w17,
'Z': z
   })

let myPromise = new Promise(function(resolve, reject) {
   let url = "insertAnswers.php";

   let xmlHttp = new XMLHttpRequest();
   xmlHttp.onreadystatechange = function () {
      if (xmlHttp.readyState == 4 && xmlHttp.status == 200) {
         document.getElementById('lastInsertId').setAttribute('value',
Number(xmlHttp.responseText));
         let success = true;
         if (success) {
         resolve("The data has loaded successfully!");
            } else {
         reject("There was an error loading the data.");
         }
      }
   }
   xmlHttp.open("POST", url, true);
   xmlHttp.setRequestHeader("Content-type", "application/json");
   xmlHttp.send(data)

});

myPromise.then(function(message) {
let plannersArray = [];

for (i = 1;  i < answers.r1+1; i++) {
   plannersArray.push('planners'+i);
}

i = 1;
plannersArray.forEach((item)=> {
let g2 = Number(document.getElementById('modelType'+i).getAttribute('value'));
let n;
if(g2 === 1) {
   n = Number(document.getElementById('subChannel'+i).getAttribute('value'));
} else {
   n = null;
}
let data = {
```

```
   'G':  g2,
   'M':  Number(document.getElementById('price'+i).getAttribute('value')),
   'N':  n,
   'S1':  Number(document.getElementById('a'+i).getAttribute('value')),
   'S2':  Number(document.getElementById('b'+i).getAttribute('value')),
   'S3':  Number(document.getElementById('c'+i).getAttribute('value')),
   'S4':  Number(document.getElementById('d'+i).getAttribute('value')),
   'S5':  Number(document.getElementById('e'+i).getAttribute('value')),
   'S6':  Number(document.getElementById('f'+i).getAttribute('value')),
   'S7':  Number(document.getElementById('g'+i).getAttribute('value')),
   'S8':  Number(document.getElementById('h'+i).getAttribute('value')),
   'S9':  Number(document.getElementById('i'+i).getAttribute('value')),
   'S10':  Number(document.getElementById('j'+i).getAttribute('value')),
   'S11':  Number(document.getElementById('k'+i).getAttribute('value')),
   'S12':  Number(document.getElementById('l'+i).getAttribute('value')),
   'S13':  Number(document.getElementById('m'+i).getAttribute('value')),
   'S14':  Number(document.getElementById('n'+i).getAttribute('value')),
   'S15':  Number(document.getElementById('o'+i).getAttribute('value')),
   'S16':  Number(document.getElementById('p'+i).getAttribute('value')),
}
insertToDatabasePlannerInfo(data);
i++;
})
}).catch(function(error) {
  console.log(error);
});
}

function insertToDatabasePlannerInfo(data) {
   data['lastId'] = Number(document.getElementById('lastInsertId').getAttribute('value'));
   data = JSON.stringify(data);
   let url = "insertAnswers.php?planners=true";

   let xmlHttp = new XMLHttpRequest();
   xmlHttp.onreadystatechange = function () {
       if (xmlHttp.readyState == 4 && xmlHttp.status == 200) {
           document.getElementById('ajaxDump').innerHTML += xmlHttp.responseText + "<br
/>";
       }
   }

   xmlHttp.open("POST", url, true);
   xmlHttp.setRequestHeader("Content-type", "application/json");
   xmlHttp.send(data)
}
```

KSUStudy.javascript

```
let i = 1;
let showServices;
let showPrices;
let groupTypeNum = Math.floor(Math.random() * (3 - 1 + 1) + 1);
   if(groupTypeNum === 1) {
      showServices = true;
      showPrices = true;
   } else if(groupTypeNum === 2) {
      showServices = false;
      showPrices = true;
   } else if (groupTypeNum === 3) {
      showServices = true;
      showPrices = false;

   }
let answers = {};


function accept() {
   document.getElementById("KSUResearch").style.display = "none";
   document.getElementById("P2").style.display = "block";
}

function citizen() {
   document.getElementById("P2").style.display = "none";
   document.getElementById("P3").style.display = "block";
}

function submitAge() {

   if (document.getElementById("age").value < 18) {
      inelligible('P3');
   } else if(document.getElementById("age").value > 123 ||
document.getElementById("age").value === '') {
      alert('Invalid Response.')
   } else {
         document.getElementById("P3").style.display = "none";
         document.getElementById("P4").style.display = "block";
   }
}

function submitGender(which) {
   let number;
   if(which === 'male') {
      number = 1;
```

```
    } else if(which === 'female') {
        number = 2;
    } else if (which === 'nonBinary') {
        number = 3;
    } else if (which === 'notSay') {
        number = 4;
    }
    document.getElementById('genderAnswer').setAttribute('value', number);
    document.getElementById("P4").style.display = "none";
    document.getElementById("P5").style.display = "block";

}

function submitRace() {
    let raceChecked = '';
    let elems = document.getElementsByName("race");
        let checked = false;
        try{
        for (let i = 0; i < elems.length; i++) {
            if (elems[i].checked) {
                raceChecked = raceChecked + (i+1) + ',';
            }
        }
        }finally {
            if(raceChecked === '') {
            alert('Invalid Response.')
            } else {
            document.getElementById("P5").style.display = "none";
            document.getElementById("P6").style.display = "block";
            document.getElementById("raceAnswer").setAttribute('value', raceChecked);
            }
        }

}

function latino(answer) {
    answers.latino = answer;
    document.getElementById("P6").style.display = "none";
    document.getElementById("P7").style.display = "block";

}

function education(education) {
    answers.education = education;
    document.getElementById("P7").style.display = "none";
    document.getElementById("P8").style.display = "block";
```

```
}

function submitIncome() {
   if(document.getElementById("income").value < 0 ||
document.getElementById("income").value === '') {
       alert('Invalid Response.')
   } else {
   document.getElementById("P8").style.display = "none";
   document.getElementById("P9").style.display = "block";
   }


}

function submitAssets() {
   if(document.getElementById('assets').value < 0 || document.getElementById("assets").value
=== '') {
       alert('Invalid Response.')
   } else {
   document.getElementById("P9").style.display = "none";
   document.getElementById("P10").style.display = "block";
   }

}

function financialPlanner(answer) {
   answers.financialPlanner = answer;
   document.getElementById("P10").style.display = "none";
   document.getElementById("P11").style.display = "block";

}

function understood() {
   document.getElementById("P11").style.display = "none";
   document.getElementById("P12").style.display = "block";
}

function question12() {
   var checkRadio = document.querySelector(
             'input[name="12"]:checked');
   answers.p12 = checkRadio.value;
   document.getElementById("P12").style.display = "none";
   document.getElementById("P13").style.display = "block";

}
```

```
function question13() {
   var checkRadio = document.querySelector(
            'input[name="13"]:checked');
   answers.p13 = checkRadio.value;
   document.getElementById("P13").style.display = "none";
   document.getElementById("P14").style.display = "block";

}

function question14() {
   var checkRadio = document.querySelector(
            'input[name="14"]:checked');
   answers.p14 = checkRadio.value;
   document.getElementById("P14").style.display = "none";
   document.getElementById("P15").style.display = "block";

}

function question15() {
   var checkRadio = document.querySelector(
            'input[name="15"]:checked');
   answers.p15 = checkRadio.value;
   document.getElementById("P15").style.display = "none";
   document.getElementById("P16").style.display = "block";

}

function question16() {
   var checkRadio = document.querySelector(
            'input[name="16"]:checked');
   answers.p16 = checkRadio.value;
   document.getElementById("P16").style.display = "none";
   document.getElementById("P17").style.display = "block";

}

function understood2() {
   document.getElementById("P17").style.display = "none";
   assignModelType();
}

function assignModelType() {
   document.getElementById("groupType").setAttribute('value', groupTypeNum);

   let modelTypeDiv = document.createElement('div');
   let modelTypeVal = Math.floor(Math.random() * (3 - 1 + 1) + 1)
```

```
    modelTypeDiv.setAttribute('value', modelTypeVal);
    modelTypeDiv.setAttribute('id', 'modelType' + i);

    let subChannelDiv = document.createElement('div');
    subChannelDiv.setAttribute('id', 'subChannel' + i);

    if(modelTypeVal === 1) {
    let subChannelVal = Math.floor(Math.random() * (3 - 1 + 1) + 1);
    subChannelDiv.setAttribute('value', subChannelVal);
    }

    getPlanner(showServices, showPrices, modelTypeDiv, subChannelDiv)
}

function getPlanner(showServices, showPrices, modelTypeDiv, subChannelDiv) {
let subChannelVal = subChannelDiv.getAttribute('value');

let groupType = document.getElementById("groupType").getAttribute('value');
document.getElementById("planners").style.display = "block";
document.getElementById("newPlanner").style.display = "block";


let plannerDiv = document.createElement('div');
plannerDiv.setAttribute('id', 'planner' + i);
plannerDiv.setAttribute('class', 'plannerBox');
let plannerTitle = document.createElement('div');
plannerTitle.innerHTML = "Planner " + i;
plannerTitle.setAttribute('class', 'plannerTitle');


let a = document.createElement('div');
a.innerHTML = "Retirement Planning";
a.setAttribute('id', 'a'+i);

let b = document.createElement('div');
b.innerHTML = "Investment Advice";
b.setAttribute('id', 'b'+i);

let c = document.createElement('div');
c.innerHTML = "Tax Planning";
c.setAttribute('id', 'c'+i);

let d = document.createElement('div');
d.innerHTML = "Tax Preparation";
d.setAttribute('id', 'd'+i);

let e = document.createElement('div');
```

```
e.innerHTML = "Life Insurance Planning";
e.setAttribute('id', 'e'+i);

let f = document.createElement('div');
f.innerHTML = "Disability Insurance Planning";
f.setAttribute('id', 'f'+i);

let serviceG = document.createElement('div');
serviceG.innerHTML = "Long Term Care Insurance Planning";
serviceG.setAttribute('id', 'g'+i);

let h = document.createElement('div');
h.innerHTML = "Property and Casualty Insurance Planning";
h.setAttribute('id', 'h'+i);

let serviceI = document.createElement('div');
serviceI.innerHTML = "Health Insurance Planning";
serviceI.setAttribute('id', 'i'+i);

let j = document.createElement('div');
j.innerHTML = "Cash Flow and Budget Planning";
j.setAttribute('id', 'j'+i);

let k = document.createElement('div');
k.innerHTML = "Debt Management Planning";
k.setAttribute('id', 'k'+i);

let l = document.createElement('div');
l.innerHTML = "College Savings Planning";
l.setAttribute('id', 'l'+i);

let m = document.createElement('div');
m.innerHTML = "Student Loan Planning";
m.setAttribute('id', 'm'+i);

let n = document.createElement('div');
n.innerHTML = "Estate Planning";
n.setAttribute('id', 'n'+i);

let o = document.createElement('div');
o.innerHTML = "Stock Options Planning";
o.setAttribute('id', 'o'+i);

let p = document.createElement('div');
p.innerHTML = "Business Planning";
p.setAttribute('id', 'p'+i);
```

```
plannerDiv.appendChild(plannerTitle);
plannerDiv.appendChild(a);
plannerDiv.appendChild(b);
plannerDiv.appendChild(c);
plannerDiv.appendChild(d);
plannerDiv.appendChild(e);
plannerDiv.appendChild(f);
plannerDiv.appendChild(serviceG);
plannerDiv.appendChild(h);
plannerDiv.appendChild(serviceI);
plannerDiv.appendChild(j);
plannerDiv.appendChild(k);
plannerDiv.appendChild(l);
plannerDiv.appendChild(m);
plannerDiv.appendChild(n);
plannerDiv.appendChild(o);
plannerDiv.appendChild(p);

const parent = document.querySelector("#planners");
parent.appendChild(plannerDiv);

const parent2 = document.querySelector("#planner"+i);
parent2.appendChild(modelTypeDiv);
parent2.appendChild(subChannelDiv);

document.getElementById("a"+i).style.display = 'none';
document.getElementById("b"+i).style.display = 'none';
document.getElementById("c"+i).style.display = 'none';
document.getElementById("d"+i).style.display = 'none';
document.getElementById("e"+i).style.display = 'none';
document.getElementById("f"+i).style.display = 'none';
document.getElementById("g"+i).style.display = 'none';
document.getElementById("h"+i).style.display = 'none';
document.getElementById("i"+i).style.display = 'none';
document.getElementById("j"+i).style.display = 'none';
document.getElementById("k"+i).style.display = 'none';
document.getElementById("l"+i).style.display = 'none';
document.getElementById("m"+i).style.display = 'none';
document.getElementById("n"+i).style.display = 'none';
document.getElementById("o"+i).style.display = 'none';
document.getElementById("p"+i).style.display = 'none';
```

```
let options = ["a"+i, "b"+i, "c"+i, "d"+i, "e"+i, "f"+i, "g"+i, "h"+i, "i"+i, "j"+i, "k"+i, "l"+i,
"m"+i, "n"+i, "o"+i, "p"+i];
let total = 0;
options.forEach((option) => {
let percentage = Math.floor(Math.random() * (100 - 1 + 1) + 1)
if(percentage <= 60) {
     document.getElementById(option).setAttribute('value', 1);
    if(showServices === true) {
        document.getElementById(option).style.display = "block";
    }
    total++;
} else {
    document.getElementById(option).setAttribute('value', 0);
}
})

let price;
let modelTypeVal = document.getElementById("modelType"+i).getAttribute('value');

    if(modelTypeVal == 1) {
        let assetsNum = document.getElementById("assets").value;
        if(subChannelVal == 1) {
            if(assetsNum < 250000) {
                price = assetsNum * .0172;
            } else if (250000 < assetsNum && assetsNum <= 500000) {
                price = assetsNum * .0157;
            } else if (500000 < assetsNum && assetsNum <= 1000000) {
                price = assetsNum * .0147;
            } else if (1000000 < assetsNum && assetsNum <= 2000000) {
                price = assetsNum * .0127;
            } else if (2000000 < assetsNum && assetsNum <= 5000000) {
                price = assetsNum * .0112;
            } else if (5000000 < assetsNum) {
                price = assetsNum * .0097;
            }
        } else if(subChannelVal == 2) {
            if(assetsNum <= 1000000) {
                price = assetsNum * .014;
            } else if (1000000 < assetsNum && assetsNum <= 2000000) {
                price = assetsNum * .0125;
            } else if (2000000 < assetsNum && assetsNum <= 5000000) {
                price = assetsNum * .011;
            } else if (5000000 < assetsNum) {
                price = assetsNum * .009;
            }
        } else if(subChannelVal == 3) {
```

```
        if(assetsNum <= 1000000) {
            price = assetsNum * .0125;
        } else if (1000000 < assetsNum && assetsNum <= 2000000) {
            price = assetsNum * .011;
        } else if (2000000 < assetsNum && assetsNum <= 5000000) {
            price = assetsNum * .0095;
        } else if (5000000 < assetsNum) {
            price = assetsNum * .0075;
        }
    }

  }   else if(modelTypeVal == 2) {
    price = Math.floor(Math.random() * (6000 - 2125 + 1) + 2125)
  }   else if (modelTypeVal == 3) {
    price = ((Math.floor(Math.random() * (300 - 223 + 1) + 223)) * 2) * total

  }

  let priceBox = document.createElement('div');
  priceBox.innerHTML = 'Price: $' + price + '/annually';
  priceBox.setAttribute('id', 'price'+i);
  priceBox.setAttribute('value', price);
  plannerDiv.appendChild(priceBox);

let submit = document.createElement('button');
submit.innerHTML = "Select Planner " + i;
submit.setAttribute('id', 'submit'+i);
submit.setAttribute('onclick', 'choosePlanner('+i+')');
plannerDiv.appendChild(submit);

  if(showPrices === true) {
    document.getElementById("price"+i).style.display = 'block';
  } else {
    document.getElementById("price"+i).style.display = 'none';
  }
  document.getElementById("submit"+i).style.display = 'block';
  answers.r1 = i;
i++;
}

function choosePlanner(i) {
  answers.chosen = i;
  answers.r2 = document.getElementById('price'+i).getAttribute('value');
  let options = ["a"+i, "b"+i, "c"+i, "d"+i, "e"+i, "f"+i, "g"+i, "h"+i, "i"+i, "j"+i, "k"+i, "l"+i,
"m"+i, "n"+i, "o"+i, "p"+i];
  let x = 0;
```

```
    options.forEach((option) => {
        answers.option = document.getElementById(option).getAttribute('value');
    if(document.getElementById(option).getAttribute('value') == 1) {
        x++;
    }
    answers.r3 = x;
    })



    document.getElementById("planners").style.display = "none";
    document.getElementById("newPlanner").style.display = "none";

    document.getElementById("P19").style.display = "block";
}

function submitServicesProvided() {
    let options = ["O1", "O2", "O3", "O4", "O5", "O6", "O7", "O8", "O9", "O10", "O11", "O12",
"O13", "O14", "O15", "O16"];
    var serviceChecked = 0;
    let elems = document.getElementsByName("offer");
        let checked = false;
        for (let i = 0; i < elems.length; i++) {
            if (elems[i].checked) {
                elems[i].setAttribute('value', 1)
                serviceChecked++;
            } else {
                elems[i].setAttribute('value', 0)
            }
        }
    answers.o17 = serviceChecked;

    document.getElementById("P19").style.display = "none";
    document.getElementById("P20").style.display = "block";

}

function submitServicesDesired() {
    let options = ["W1", "W2", "W3", "W4", "W5", "W6", "W7", "W8", "W9", "W10", "W11",
"W12", "W13", "W14", "W15", "W16"];
    var serviceChecked = 0;
    let elems = document.getElementsByName("desired");
        let checked = false;
        for (let i = 0; i < elems.length; i++) {
            if (elems[i].checked) {
                elems[i].setAttribute('value', 1)
                serviceChecked++;
```

```
            } else {
                elems[i].setAttribute('value', 0)
            }
        }
    answers.w17 = serviceChecked;


    document.getElementById("P20").style.display = "none";
    document.getElementById("P21").style.display = "block";
    submit();
}

function inelligible(id) {
    document.getElementById(id).style.display = "none";
    document.getElementById("inelligible").style.display = "block";
}

function submit() {
let chosen = answers.chosen;

let p1 = 1;
let p2 = 1;
let p3 = Number(document.getElementById('age').value);
let p4 = Number(document.getElementById('genderAnswer').getAttribute('value'));
let p5 = document.getElementById('raceAnswer').getAttribute('value');
let p6 = Number(answers.latino);
let p7 = Number(answers.education);
let p8 = Number(document.getElementById('income').value);
let p9 = Number(document.getElementById('assets').value);
let p10 = Number(answers.financialPlanner);
let p12 = Number(answers.p12)
let p13 = Number(answers.p13)
let p14 = Number(answers.p14)
let p15 = Number(answers.p15)
let p16 = Number(answers.p16)
let literacyscore =
Number(Number(answers.p12)+Number(answers.p13)+Number(answers.p14)+Number(answers
.p15)+Number(answers.p16))
let t = Number(document.getElementById('groupType').getAttribute('value'));
let g2 = Number(document.getElementById('modelType'+chosen).getAttribute('value'));
let m = Number(answers.r2);
let n;
if(g2 === 1) {
    n = Number(document.getElementById('subChannel'+chosen).getAttribute('value'));
} else {
    n = null;
}
```

```
let r1 = Number(answers.r1);
let r2 = Number(answers.r2);
let r3 = Number(answers.r3);
let s1 = Number(document.getElementById('a'+chosen).getAttribute('value'));
let s2 = Number(document.getElementById('b'+chosen).getAttribute('value'));
let s3 = Number(document.getElementById('c'+chosen).getAttribute('value'));
let s4 = Number(document.getElementById('d'+chosen).getAttribute('value'));
let s5 = Number(document.getElementById('e'+chosen).getAttribute('value'));
let s6 = Number(document.getElementById('f'+chosen).getAttribute('value'));
let s7 = Number(document.getElementById('g'+chosen).getAttribute('value'));
let s8 = Number(document.getElementById('h'+chosen).getAttribute('value'));
let s9 = Number(document.getElementById('i'+chosen).getAttribute('value'));
let s10 = Number(document.getElementById('j'+chosen).getAttribute('value'));
let s11 = Number(document.getElementById('k'+chosen).getAttribute('value'));
let s12 = Number(document.getElementById('l'+chosen).getAttribute('value'));
let s13 = Number(document.getElementById('m'+chosen).getAttribute('value'));
let s14 = Number(document.getElementById('n'+chosen).getAttribute('value'));
let s15 = Number(document.getElementById('o'+chosen).getAttribute('value'));
let s16 = Number(document.getElementById('p'+chosen).getAttribute('value'));
let r4 = r2/p8;
let r5 = r2/p9;
let o1 = Number(document.getElementById('O1').getAttribute('value'));
let o2 = Number(document.getElementById('O2').getAttribute('value'));
let o3 = Number(document.getElementById('O3').getAttribute('value'));
let o4 = Number(document.getElementById('O4').getAttribute('value'));
let o5 = Number(document.getElementById('O5').getAttribute('value'));
let o6 = Number(document.getElementById('O6').getAttribute('value'));
let o7 = Number(document.getElementById('O7').getAttribute('value'));
let o8 = Number(document.getElementById('O8').getAttribute('value'));
let o9 = Number(document.getElementById('O9').getAttribute('value'));
let o10 = Number(document.getElementById('O10').getAttribute('value'));
let o11 = Number(document.getElementById('O11').getAttribute('value'));
let o12 = Number(document.getElementById('O12').getAttribute('value'));
let o13 = Number(document.getElementById('O13').getAttribute('value'));
let o14 = Number(document.getElementById('O14').getAttribute('value'));
let o15 = Number(document.getElementById('O15').getAttribute('value'));
let o16 = Number(document.getElementById('O16').getAttribute('value'));
let o17 = answers.o17;
let w1 = Number(document.getElementById('W1').getAttribute('value'));
let w2 = Number(document.getElementById('W2').getAttribute('value'));
let w3 = Number(document.getElementById('W3').getAttribute('value'));
let w4 = Number(document.getElementById('W4').getAttribute('value'));
let w5 = Number(document.getElementById('W5').getAttribute('value'));
let w6 = Number(document.getElementById('W6').getAttribute('value'));
let w7 = Number(document.getElementById('W7').getAttribute('value'));
let w8 = Number(document.getElementById('W8').getAttribute('value'));
```

```
let w9 = Number(document.getElementById('W9').getAttribute('value'));
let w10 = Number(document.getElementById('W10').getAttribute('value'));
let w11 = Number(document.getElementById('W11').getAttribute('value'));
let w12 = Number(document.getElementById('W12').getAttribute('value'));
let w13 = Number(document.getElementById('W13').getAttribute('value'));
let w14 = Number(document.getElementById('W14').getAttribute('value'));
let w15 = Number(document.getElementById('W15').getAttribute('value'));
let w16 = Number(document.getElementById('W16').getAttribute('value'));
let w17 = answers.w17;

function randomString(length, chars) {
   var result = '';
   for (var i = length; i > 0; --i) result += chars[Math.round(Math.random() * (chars.length - 1))];
   return result;
}

let z = randomString(15,
'0123456789abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ')
document.getElementById('confirmationCode').innerHTML = z;

let data = JSON.stringify(
   {'P1':p1,
   'P2':p2,
'P3': p3,
'P4': p4,
'P5':  p5,
'P6':  p6,
'P7':  p7,
'P8':  p8,
'P9':  p9,
'P10':  p10,
'P12':  p12,
'P13':  p13,
'P14':  p14,
'P15':  p15,
'P16':  p16,
'literacy_score':  literacyscore,
'T':  t,
'G':  g2,
'M':  m,
'N':  n,
'R1':  r1,
'R2':  r2,
'R3':  r3,
'S1':  s1,
'S2':  s2,
```

```
'S3':  s3,
'S4':  s4,
'S5':  s5,
'S6':  s6,
'S7':  s7,
'S8':  s8,
'S9':  s9,
'S10':  s10,
'S11':  s11,
'S12':  s12,
'S13':  s13,
'S14':  s14,
'S15':  s15,
'S16':  s16,
'R4':  r4,
'R5':  r5,
'O1':  o1,
'O2':  o2,
'O3':  o3,
'O4':  o4,
'O5':  o5,
'O6':  o6,
'O7':  o7,
'O8':  o8,
'O9':  o9,
'O10':  o10,
'O11':  o11,
'O12':  o12,
'O13':  o13,
'O14':  o14,
'O15':  o15,
'O16':  o16,
'O17':  o17,
'W1':  w1,
'W2':  w2,
'W3':  w3,
'W4':  w4,
'W5':  w5,
'W6':  w6,
'W7':  w7,
'W8':  w8,
'W9':  w9,
'W10':  w10,
'W11':  w11,
'W12':  w12,
'W13':  w13,
```

```
'W14':  w14,
'W15':  w15,
'W16':  w16,
'W17':  w17,
'Z': z
   })

let myPromise = new Promise(function(resolve, reject) {
   let url = "insertAnswers.php";

   let xmlHttp = new XMLHttpRequest();
   xmlHttp.onreadystatechange = function () {
      if (xmlHttp.readyState == 4 && xmlHttp.status == 200) {
         document.getElementById('lastInsertId').setAttribute('value',
Number(xmlHttp.responseText));
         let success = true;
         if (success) {
         resolve("The data has loaded successfully!");
            } else {
         reject("There was an error loading the data.");
         }
      }
   }
   xmlHttp.open("POST", url, true);
   xmlHttp.setRequestHeader("Content-type", "application/json");
   xmlHttp.send(data)

});

myPromise.then(function(message) {
let plannersArray = [];

for (i = 1;  i < answers.r1+1; i++) {
   plannersArray.push('planners'+i);
}

i = 1;
plannersArray.forEach((item)=> {
let g2 = Number(document.getElementById('modelType'+i).getAttribute('value'));
let n;
if(g2 === 1) {
   n = Number(document.getElementById('subChannel'+i).getAttribute('value'));
} else {
   n = null;
}
let data = {
```

```
    'G':  g2,
    'M':  Number(document.getElementById('price'+i).getAttribute('value')),
    'N':  n,
    'S1':  Number(document.getElementById('a'+i).getAttribute('value')),
    'S2':  Number(document.getElementById('b'+i).getAttribute('value')),
    'S3':  Number(document.getElementById('c'+i).getAttribute('value')),
    'S4':  Number(document.getElementById('d'+i).getAttribute('value')),
    'S5':  Number(document.getElementById('e'+i).getAttribute('value')),
    'S6':  Number(document.getElementById('f'+i).getAttribute('value')),
    'S7':  Number(document.getElementById('g'+i).getAttribute('value')),
    'S8':  Number(document.getElementById('h'+i).getAttribute('value')),
    'S9':  Number(document.getElementById('i'+i).getAttribute('value')),
    'S10':  Number(document.getElementById('j'+i).getAttribute('value')),
    'S11':  Number(document.getElementById('k'+i).getAttribute('value')),
    'S12':  Number(document.getElementById('l'+i).getAttribute('value')),
    'S13':  Number(document.getElementById('m'+i).getAttribute('value')),
    'S14':  Number(document.getElementById('n'+i).getAttribute('value')),
    'S15':  Number(document.getElementById('o'+i).getAttribute('value')),
    'S16':  Number(document.getElementById('p'+i).getAttribute('value')),
}
insertToDatabasePlannerInfo(data);
i++;
})
}).catch(function(error) {
  console.log(error);
});
}

function insertToDatabasePlannerInfo(data) {
    data['lastId'] = Number(document.getElementById('lastInsertId').getAttribute('value'));
    data = JSON.stringify(data);
    let url = "insertAnswers.php?planners=true";

    let xmlHttp = new XMLHttpRequest();
    xmlHttp.onreadystatechange = function () {
        if (xmlHttp.readyState == 4 && xmlHttp.status == 200) {
            document.getElementById('ajaxDump').innerHTML += xmlHttp.responseText + "<br
/>";
        }
    }

    xmlHttp.open("POST", url, true);
    xmlHttp.setRequestHeader("Content-type", "application/json");
    xmlHttp.send(data)
}
```

Appendix C - Vignette Examples

Control Group Example

Planner 1
Retirement Planning
Tax Preparation
Life Insurance Planning
Disability Insurance Planning
Long Term Care Insurance Planning
Property and Casualty Insurance Planning
Health Insurance Planning
Cash Flow and Budget Planning
Debt Management Planning
College Savings Planning
Estate Planning
Stock Options Planning
Price: $6504/annually

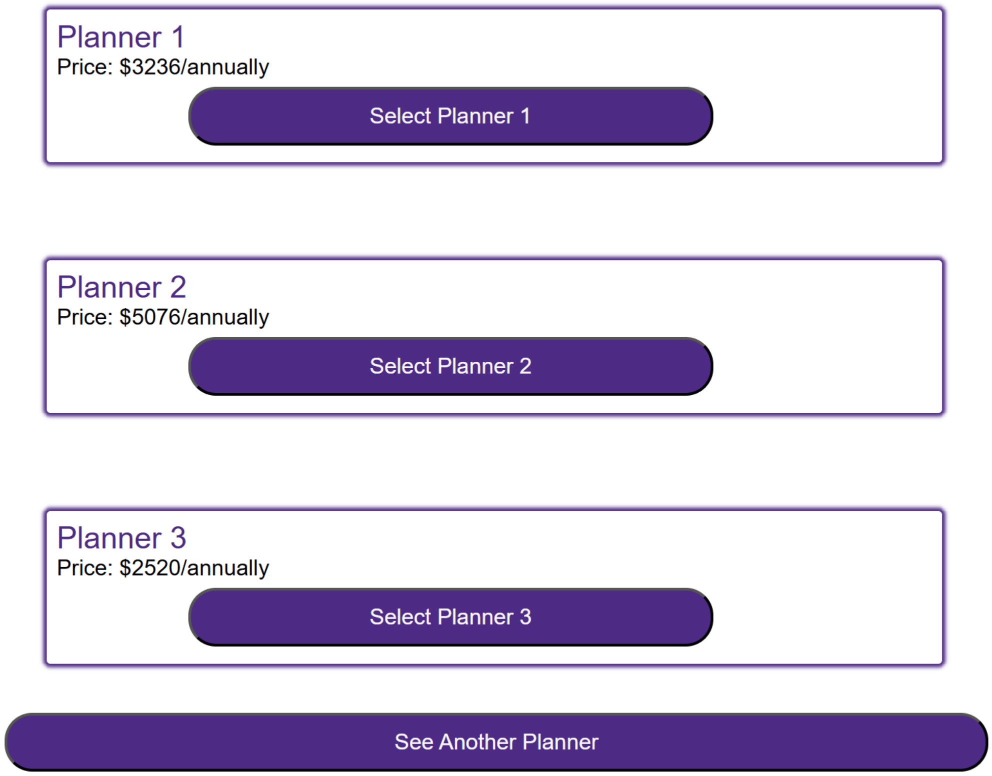
Select Planner 1

Planner 2
Retirement Planning
Investment Advice
Tax Planning
Tax Preparation
Disability Insurance Planning
Property and Casualty Insurance Planning
Health Insurance Planning
College Savings Planning
Stock Options Planning
Business Planning
Price: $3096/annually

Select Planner 2

See Another Planner

Treatment Group A – Pricing Only Example



Treatment Group B – Services Only Example

Planner 1

Retirement Planning
Investment Advice
Tax Planning
Tax Preparation
Life Insurance Planning
Disability Insurance Planning
Long Term Care Insurance Planning
Property and Casualty Insurance Planning
Health Insurance Planning
Cash Flow and Budget Planning
Debt Management Planning
College Savings Planning
Estate Planning
Business Planning

Select Planner 1

Planner 2

Investment Advice
Life Insurance Planning
Disability Insurance Planning
Cash Flow and Budget Planning
Student Loan Planning

Select Planner 2

See Another Planner