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ARTHAYANTRA
Ushering in a Digital Revolution in Personal Financial Advisory Services

V. RAVI ANSHUMAN AND SRIJITH MOHANAN

V. Ravi Anshuman, Professor of Finance & Accounting, and Srijith Mohan prepared this case for class discussion. This case is not intended to serve as an endorsement, source of primary data, or to show effective or inefficient handling of decision or business processes.

Nitin Vyakaranam came out of the meeting room after a marathon strategy discussion with his core team. The team was considering a strategic pivot in the value proposition offered by Arthayantra (or "the Company") – a shift from a moderate growth-high margin model to a high growth-tight margin model. As the founder-CEO of Arthayantra, Nitin knew that this decision would determine the fortunes of Arthayantra in the coming years. As he mulled over it, the various ups and downs that defined Arthayantra's journey over the past six years flashed across his mind.

The journey began in 2008. Nitin had purchased an investment product from a distribution agent who was also a personal acquaintance. Nitin soon found out that the product was both inferior to its peers and ill-suited to his financial requirements. He realized that his acquaintance had taken advantage of their relationship to sell him a bad product. As he discussed his experience with his friends, he understood that his situation was not unique – many of them had had similar experiences in the management of their personal finances. Delving a bit deeper, he realized that access to quality financial planning and advisory ("FP&A") services in India was largely limited to the ultra-rich. This experience had been the catalyst that led him to found Arthayantra later that year.

Globally, this period saw the emergence of a new set of firms that leveraged technology-backed platforms to deliver a range of FP&A services. Their service offerings spanned from facilitating execution of financial trades at a fraction of the prevailing cost to providing customized advice on managing one's finances. Given their reliance on advanced technology and complex computations, these financial advisory platforms came to be popularly referred to as "robo-advisors". "Robo-advisors" are typically defined as firms that offer automated, low-cost, investment advisory services through web-based and/or mobile platforms.[1] Starting with a niche value proposition, these robo-advisors had started posing a serious challenge to the incumbent FP&A firms in most of the developed markets. In India, Arthayantra was at the vanguard of the robo-advisory wave.

The initial six years had been a roller coaster ride for the Company. There were quite a few highs as they belied sceptics in achieving new growth benchmarks. The Company was able to develop a comprehensive FP&A service model that delivered consistent, data-backed advice, customized to its clients' needs at a much lower cost than those of traditional FP&A advisory firms. Its unique value proposition had managed to get several industry experts to sit up and take notice. However, scale and profitability remained elusive. In parallel, competition in this space had also increased manifold.

Few members of the Company's management team believed that its present model of charging an annual fee of ₹10,000 for comprehensive advisory services and depending on third parties for execution of this advice was sub-optimal. They felt that reducing the annual fee to a fraction of the current level and leveraging additional revenue streams by assisting customers with execution would significantly expand their target market and help the Company scale up at a rapid pace. However, this accelerated growth came at the cost of tighter (negative in the initial years) operating margins until the revenues from the execution services picked up. In addition, rapid growth brought along with it a host of organizational challenges.

[1] AT Kearney 2015 Robo Advisory Studies

Nevertheless, the Company felt the need to consider a shift in gears and was therefore deliberating this strategic pivot.

Nitin knew, instinctively, that getting this call right would be the difference between success and failure.

INDUSTRY BACKGROUND

Formal access to FP&A services had traditionally been limited to high net worth ("HNI") and ultra-high net worth ("UHNI") segment of the Indian populace.[2] This segment was actively served by wealth management divisions of Indian/foreign banks as well as a large number of boutique advisory firms. **Exhibit 1** presents the market share of India's top private wealth management ("PWM") houses by assets under management ("AUM"). However, an Ernst & Young report estimated that only about 3% of the investible surplus of UHNIs was managed by professional advisors.[3] These advisors typically sought to build long-term relationships with their clients. They provided customized solutions for each client, geared towards generating superior returns on their investments and optimizing their tax outlays. Periodic review sessions were conducted with the clients (typically at the client's location) to communicate the results of the previous period as well as to discuss any refinements in strategy for the upcoming period. The fees for these services typically ranged upwards of ₹15,000 per year or 1-2% of the assets under management.[4,5]

On the other hand, a vast majority of Indians relied largely on informal sources for FP&A services. This included (a) a mix of distribution agents for financial products (insurance agents, mutual fund distributors, stock brokers, etc.) who doubled up as financial advisors, (b) investment advice from experts on media (television, radio, newspapers, magazines, blogs, etc.) and (c) ad hoc advice from friends and family members. Additionally, those engaged in business activities typically sought assistance from their tax consultants as part of an annual tax planning exercise. In most instances, the advice was usually an adjunct to the advisor's primary focus on the core product (e.g. insurance, mutual funds, brokerage services, tax planning, etc.). A survey by National Council of Economic Research (NCAER) in 2011 found that majority of Indian households relied on informal sources of advice while making investment decisions (see **Exhibit 2**). The focus of this advice was usually specific to solving standalone problems like ensuring investment security, achieving adequate insurance cover, or optimizing tax liabilities.

At the same time, income levels had grown strongly across India since the initiation of economic reforms in 1991. Real GDP grew at a CAGR of 6.5% (FY 1991 – FY 2014) while financial assets held by households grew at a CAGR of 6.9% over the same period.[6,7] However, currency and banking deposits accounted for a majority of this increase in assets as its share grew from 42% in FY 1991 to 53% in FY 2014. On the other hand, the share of mutual funds and equity market holdings reduced significantly from 14% in FY 1991 to 3% in FY 2014.[7]

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[2] HNIs are individuals with an investible surplus of over US$1m while UHNIs are individuals with an investible surplus of over US$30m; ~200,000 Indians could be categorized as HNIs / UHNIs in 2016 – Asia Pacific Wealth Report 2016, Capgemini.
[3] Winds of Change: Wealth Management Reimagined – CafeMutual and EY.
[4] Can a Robot Handle Your Money?, Sanket Dhanorkar, *Economic Times*, July 13, 2015.
[5] ₹15,000 is equivalent to US$ 243 at the US$/₹ exchange rate of 61.85 as on December 31, 2013.
[6] CAGR stands for Compound Annual Growth Rate.
[7] Handbook of Statistics on the Indian Economy (2015-2016), Reserve Bank of India.

Robo-Advisory Wave

As of 2014, robo-advisory firms were estimated to have a total of US$14 billion (bn) of assets under management ("AUM") compared to US$72 trillion (tn) managed by the traditional wealth advisors globally.[8] Wealthfront and Betterment, two US-based robo-advisory firms founded in 2008 were the leaders of this movement with AUMs of US$2.2 bn and US$1.4 bn, respectively, with a few others like Personal Capital and Asset Builder following in their footsteps. A study by AT Kearney in 2015 estimated that robo-advisors would account for around US$2.2 tn of investible assets under management by 2020.[9] The challenge posed by these new entrants led incumbent wealth management firms in the United States, like Vanguard and Charles Schwab, to counter with their own digital offerings.

The global robo-advisory firms focused on providing automated investment management services at a fraction of the cost charged by traditional wealth management firms. Their initial thrust was on enabling investors to invest in well-designed portfolios consisting of exchange traded funds ("ETF") in a transparent and efficient manner.[10,11] Moreover, their interactive platforms provided users with an easy-to-use interface on which they could monitor the performance of their investments in real time. These advisors also provided guidance on rebalancing an individual's portfolio in response to changes in the market environment (some did it automatically based on algorithms) to ensure that optimality of the portfolio is maintained. Over time, some of these robo-advisory firms also started providing users with an opportunity to consult with a financial expert for an additional fee. These firms largely targeted a younger clientele who were disillusioned with the traditional financial advisory firms in the wake of the global financial crisis and had greater receptivity to the ease and transparency presented by digital offerings.[12]

In India, over 20 such platforms had come up since 2012 and they provided an array of financial planning solutions.[13] These platforms used digital channels (websites and mobile applications) to target the mass market segment. They differed from the traditional FP&A service providers in terms of the focus of their services, the nature of their service offerings as well as in their medium of delivery. Their advent had a significant impact on the competitive landscape of the industry and seemed poised to change the underlying market dynamics.

The following tables compare the service offerings of the traditional service providers with those of the robo-advisory firms and summarize the impact of the advent of the robo-advisors on the market for FP&A services.

[8] Investment advisory - the rise of the robots – Chappuis Halder & Co (2015).
[9] The Coming Wave of "Robo" Adoption – AT Kearney.
[10] The portfolios were typically constructed based on the principles of modern portfolio theory with a focus on achieving proper diversification across various asset classes. They also sought to ensure that the overall riskiness of the portfolio was in line with the risk profile of the investor.
[11] An ETF is an investment fund and purchase of its units provides the owner with a share of ownership of the assets held by the fund. The underlying assets held by the fund could consist of a mix of stocks, bonds, commodities, derivative assets, etc. The units of the ETF are traded on public stock exchanges and are typically much more liquid and have lower fees compared to mutual funds that provide a similar exposure to investors.
[12] After the crisis, a new generation puts its trust in tech over traditional banks – Kate Rooney, CNBC, September 14, 2018
[13] Robots will control your personal wealth. Are you ready? – YourStory.com.

Comparison of service offering

Parameter	Traditional model	Robo-advisory model
Focus	- Long-term wealth accumulation - Identification of strategies that generate alpha	- Goal-based planning with assistance on expense management - Achieving an effective, well-diversified portfolio across equity/debt and liquid funds
Services[14]	- Investment advisory services - Insurance and tax planning - Financial research and information	- Financial advisory services to help customers identify and achieve their financial goals - Investment advisory services[15] - Insurance and tax planning[16] - Expense management and account aggregation[17] - Financial research and information
Costs	- User fees typically in the range of ₹15,000+ p.a. or a percent of AUM (typically 1% +)	- User fees typically below ₹10,000 p.a. or a percent of AUM (typically lower than 0.5%)
Client servicing model	- Strong personal relationship nurtured by the advisor with a focus on building trust - Periodic in-person reviews along with portfolio performance reports	- Limited personal connect. Focus on transparency and clarity through a well-designed web interface - Real-time access to portfolio information along with periodic telephonic reviews
Execution	- Clients provided signed documents to the advisor for execution	- Most advisors provide digital (completely paperless) processes for transaction execution
Customization	- Significant ability to customize advice / products as per unique requirements of each client	- Ability to customize solution varies with each service provider. Advanced robo-advisors provide a level of customization close to that of traditional service providers

[14] A service provider (traditional or robo-advisory) need not offer all the services listed in this section. Most of them offered only a subset of these services.

[15] Proprietary algorithms analyzed existing investment products (mutual funds, ETFs, index funds, etc.) and came up with specific actionable recommendations for creation of a diversified portfolio.

[16] Nature of insurance and tax advisory services provided by robo-advisors was typically less detailed and customized compared to that provided by traditional FP&A advisors.

[17] Many of the advisory portals enabled customers to analyze their expense profile and assisted them in identifying opportunities for savings. While some facilitated this as an annual exercise based on the analysis of user inputs on expenditures, others facilitated it through the details collected through their accounts aggregation service. Robo-advisors that provided account aggregation enabled users to aggregate details of multiple accounts held with various financial institutions at one location and monitor its performance in real time. Account aggregation requires the user to provide the login details for all the banking and credit card accounts held by the user to the aggregator. The aggregator uses this information to directly keep track of various expenditures incurred on these accounts and generate reports that provide key insights into the spending patterns of the user. This approach facilitates accurate recording of expense items compared to data provided based on a user's memory. However, it also requires sharing sensitive login information with the aggregator.

Consistency	- Nature of advice could vary across different advisors with the same service provider	- Technology-backed approach ensures consistency of advice across different advisors for a service provider
Privacy	- Risk largely limited to mala-fide actions by advisor or a physical breach	- Greater risk of exposure to an electronic breach - Risk of mala-fide actions of employees / physical breach continues to exist

Impact on market dynamics

Parameter	Traditional model[18]	Impact of robo-advisors
Competitive landscape	- Wealth management outfits of financials service providers - Boutique FP&A firms	- Advent of over 20 robo-advisory firms with a large number preparing to launch over the next few years
Market definition	- Focused largely on UHNIs and HNIs - Limited penetration of FP&A services among the middle class	- Active targeting of the middle class
Scalability	- Limited by the availability and bandwidth of multi-talented professionals who combined sales, client servicing, advisory and execution skills - High servicing cost per client limits target market size - Limited geographical reach as physical presence is required to deliver service	- Separate teams handling the sales, client servicing, advisory and execution work-streams - Greater geographical reach as technology facilitated service delivery through phone and internet

Revenue models of these robo-advisory firms differed as they sought to monetize their relationship with their clients in different ways. Some had a direct model wherein the customers were charged a flat fee or a percentage of the transacted amount/assets under management. Others had an indirect model based on distribution commissions from asset management firms on the investments facilitated by them or advertising revenue from the leasing of ad space on their portals.

The firms also differed in terms of their value proposition to clients. Robo-advisory firms in India could be classified into three broad segments based on the nature of the service offerings.

i. Investment facilitators: Offered customers guidance on optimal investment products and an ability to transact in them. Some advisors provided customers an opportunity to invest in '*direct*' schemes of

[18] Refers to the formal FP&A service providers; does not include the ad hoc FP&A services provided by distribution agents, tax advisors, friends, and family members.

mutual funds that did not have the distribution commission charges associated with '*regular*' schemes.[19]

ii. Goal-based financial planners: Offered customers an ability to outline key financial goals and developed a plan to achieve those goals. Assets/investments could be tied to specific goals and the ability to achieve these goals could be monitored over time.

iii. Comprehensive financial planners: Offered customers advice across all aspects of their personal financial life including income/expense management, goal-based financial planning, tax optimization, risk management, etc.[20]

Regulatory Overview

Investment advisory services are regulated by the Securities and Exchange Board of India ("SEBI") and FP&A broadly comes under that domain. SEBI (Investment Advisors) Regulations, 2013 lays out the key roles and responsibilities of an investment advisor and the process to get oneself or an organization certified as a registered investment advisor.[21] The regulation stipulates that all investment advisors (firms and individuals) need to obtain a certificate of registration from SEBI.

Some of the key tenets of the Investment Advisors regulation are as follows.

i. An investment advisor shall act in a fiduciary capacity towards its clients and shall disclose all conflicts of interests as and when they arise.

ii. An investment advisor shall not receive any consideration by way of remuneration or compensation (or in any other form) from any person other than the client being advised, in respect of the underlying products or securities for which advice is provided.

iii. An investment advisor shall maintain an arms-length relationship between its activities as an investment adviser and other activities.

iv. An investment advisor shall ensure that a detailed risk profiling of the client is conducted and ensure that investment advice provided is appropriate to the risk.

The regulation focuses on avoiding conflicts between advisors and distributors. While the regulation permits financial intermediaries like insurance agents, mutual fund distributors, pension fund advisors, etc. to provide limited advice incidental to the sale without registering with SEBI, this exemption is being scrutinized to eliminate potential conflicts of interest that it could create.

[19] All mutual fund schemes offer investors an option to invest in it either through the direct route or regular route. While both routes provide investors exposure to the same set of underlying assets, a higher commission (technically referred to as the expense ratio of a scheme) is charged for the regular version vis-à-vis the direct version of the same scheme. Typically, one can buy the direct version directly from the asset management companies while the regular version is offered through distributors. The extra commission charged by the regular plan largely goes towards payment of incentives to distributors.

[20] A significant part of the analysis involved in providing comprehensive financial planning was still being done offline by most robo-advisors.

[21] SEBI (Investment Advisors) Regulations, 2013 defines "investment advice" as any advice relating to investing in, purchasing, selling or otherwise dealing in securities or investment products, and advice on investment portfolio containing securities or investment products, whether written, oral or through any other means of communication for the benefit of the client and shall include financial planning.

THE ARTHAYANTRA JOURNEY

Vision

As Nitin took a closer look at the state of FP&A services in the country, he realized that there were significant gaps that needed to be addressed. Wealth management outfits largely serviced the HNIs and UHNIs. Distribution agents focused more on product sales as opposed to suitability for the investor. Small financial planning boutiques lacked consistency and scale. Therefore, most Indians depended on informal advice from family and friends. Access to an advisor who was capable, trustworthy and prepared to commit their time was a luxury that few had.

Nitin had founded Arthayantra with the view of helping people find answers to what he believed were a set of unanswered personal finance questions. The company prided itself as a passionate force for change in the way personal finance is perceived and delivered in India. Essentially, the Company sought to be a '*A Trusted Advisor*' to its customers.

Setting it up

Nitin was joined by Sunil Lingareddy, in establishing Arthayantra in 2008. The period 2008–2011 was spent in developing their core product. Preliminary groundwork involving discussions with industry professionals and informal surveys led them to two key conclusions.

Firstly, the offered advisory service needed to be "holistic," that is, covering all aspects of a household's financials. Each decision had an impact on multiple aspects of personal financials, the impact being amplified in the instance of middle-class households with tight margins between income and expenditure. A piecemeal approach that focused only on one aspect (e.g. investments or insurance or expense management) would create imbalances in other areas. Only a "holistic" approach had the ability to harmonize all aspects and unearth synergistic benefits.

Secondly, a high-quality technology platform capable of handling a large customer volume was the key to developing a scalable FP&A business model targeted at the mass market. This would ensure a high level of consistency and unbiasedness, thus reducing the problem of the advice being highly advisor dependent. At the same time, the platform also needed to be flexible to accommodate a customer base that varied significantly in terms of their financial position, needs, and understanding of both finance and technology. Only then would the platform facilitate a smooth ramp-up in customer base without a decrease in quality of service.

Based on this understanding, they focused on developing '*Arthos*', a technology platform that could integrate all aspects of financial planning. Nitin leveraged his engineering background to take the lead in developing the schematics and writing the code for *Arthos*. The first version of *Arthos* was developed in 2010. The initial plan was to either offer it in partnership with a bank or a financial services firm or make an outright sale to an interested buyer. However, they found a high level of skepticism in the industry about the viability of a mass-market business model. While there was a broad acknowledgment regarding

the existing gap in services, it was accompanied with a reluctance to commit resources to addressing that gap. This skeptical market response motivated the Company's decision to go directly to customers rather than relying on any established partners. There were significant initial challenges with regard to hiring specialist talent for various key roles within the firm. The Company met these challenges by having core team-members wear multiple-hats across functions.

Arthayantra was formally launched on November 22, 2012. It had a team of 25 employees at the time of launch. The Company set itself an aggressive target of acquiring 6,000 users within the first 3 months. Initially, two levels of services at different price points were offered. A *Basic* Plan offered free of cost provided users with a detailed financial health check-up and basic advice. An *Elite* Plan priced at ₹10,000 per annum offered comprehensive financial advisory services (see **Exhibit 3**). The Company relied initially on word-of-mouth advertising. There was good initial traction with users as it comfortably achieved its 3-month target.[22]

Refining the value proposition

In line with Nitin's vision, the Company offered a value proposition of 'holistic' financial advisory services to its customers. It started with a thorough discussion with the customer to understand their detailed financial profile and ensure that it was captured accurately on the customer portal on their website. The financial profile covered information on their annual income and expenses, total assets and liabilities, insurance coverage, tax position and the financial goals of the household. It also had a carefully designed questionnaire to understand the individual's risk profile.[23] The Company took a conscious decision not to offer account aggregation services given concerns that the requirement of sharing sensitive information might deter prospective customers.

The information obtained from the customer was processed by *Arthos* which generated an action plan for the customer. The action plan contained recommendations covering (i) risk management to improve the customer's ability to withstand various short-term and long-term risks through adequate insurance cover and creation of an emergency fund, (ii) expense management to identity measures through which the household could increase the amount available for investment towards their goals and (iii) capital management to ensure that the existing asset-liability portfolio was restructured to create a new portfolio most suited to meeting the household's financial goals given the customer's risk profile. The action plan was presented to the customer by a financial planner who sought to explain the rationale behind each of the recommendations. The action plan and the customer's financial profile were reviewed on a semi-annual basis to implement any required course corrections. Finally, the Company also sent out regular mailers to customers/conducted conference calls to ensure that its customers were provided with regular market updates and general information on management of household financials. This practice also helped the Company maintain a regular connect with its customers.

[22] From Arthayantra's perspective, a user is referred to as a customer once they transition from the free *Basic* plan to the paid *Elite* plan.
[23] The customer's risk profile comprised the customer's attitude towards risk as well as the customer's appetite for risk given the household's financial position.

Over the course of 2013, the Company continually improved its service offerings based on its customer feedback. It sought to establish various organizational processes to ensure a consistent and high-quality experience for even the least financially savvy of users. It also wanted to ensure that the processes and systems it built were scalable. The Company realized that there were three aspects that were important to helping them achieve this goal.

- *Specialized teams for user handling:* Arthayantra understood that it needed different skill sets to manage different stages of a user's lifecycle. Consequently, having separate teams for handling each stage enhanced user-experience as opposed to having a single relationship manager handling all aspects of the client's lifecycle. Moreover, the separation of responsibilities also increased operational efficiency with scale.
  a. Customer relationship management team: New users showing interest in Arthayantra or those signing up for the *Basic* plan were approached by this team. They focused on educating the users about the idea of financial planning and how it benefited individuals/households in defining and meeting their financial goals. They also sought to relate these methods and benefits to that user's specific financial situation to encourage them to take advantage of the comprehensive service provided in the *Elite* Plan.
  b. Customer service team: This team reached out to customers signing up for the *Elite* plan and assisted them in capturing their financial profile. Given the technology-based approach towards FP&A, it was critical that the customer information was both accurate and complete. The customer service team acted as interlocutors between the customers and *Arthos*, translating various financial terms for the customer and ensuring that various complexities of the customer's financial position were appropriately represented on the portal.
  c. Investment advisory team: This team helped explain the financial plan generated by *Arthos* to the customer to ensure that the investment advice was fully understood by the customer. The team also guided the customers on how they could execute various aspects of the plan.

- *Data-backed approach*: The Company recognized that the only way to ensure accuracy and consistency in its advice was by ensuring that any recommendation was backed by a well-defined methodology and robust data analysis. Such an approach removed the bias associated with an individual advisor and enhanced credibility. It also reduced the dependence on advisors. Facilitating this approach necessitated that (i) the Company collected detailed information on the customer as well as on financial markets and (ii) it developed complex algorithms that combined this information in coming up with actionable recommendations for the user. For example:
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  a. Investment strategy recommendations given by the Company was based on the analysis of all Indian mutual funds across 36 key parameters and then combining that analysis with the financial risk profile of the client to come up with an optimal investment strategy.
  b. Given the large amount of generic financial information available through various channels (internet, television, informal advisors, etc.), it was quite possible that the recommendations provided by the Arthayantra were at variance with those provided by these external channels. In such situations, the Company adopted a data-driven approach to convince customers regarding the superiority of their advice leading to greater credibility.

- *Strong technology platform*: *Arthos* formed the backbone of Arthayantra's value proposition and the Company was continually focused on ensuring that it stayed ahead of the curve. The platform was designed to implement the data-backed approach the Company sought to follow. It was capable of generating a detailed action plan for the user at the click of a button, once all user-related information had been captured accurately. At the same time, ensuring data security was equally paramount given the large amount of user information that the Company captured. User feedback was used to continually enhance the portal and make it robust enough to (a) capture and analyze highly complex financial positions and (b) handle large customer volumes. The Company believed that its upfront investment in developing *Arthos* as a ready–to-scale platform would help it reap large dividends in the future.
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Managing headwinds

However, this period leading up to Q1 2014 was also marked with a challenging external environment. The strength of the economic rebound after the global financial crisis had slowed down. Moreover, concerns regarding 'policy paralysis', corruption and a falling exchange rate contributed to an overall mood of pessimism in the country.[24] Finally, the industry continued to remain skeptical about the online model despite the emergence of several other robo-advisory firms.

This pessimism was also reflected in the fortunes of the Company as overall market sluggishness led to limited enthusiasm towards FP&A services. While the user base grew at a steady pace, most of them were opting only for the free *Basic* plan. The high annual fee level acted as a deterrent to many users in making the transition from the *Basic* to the *Elite* plan. Moreover, the initial sense of optimism had given way to a feeling of increasing concern among the employees of the Company. While they still believed in Nitin's vision of making quality financial advice accessible to the Indian middle class, there were doubts regarding the Company's ability to execute it. The Company witnessed an erosion of talent with employee strength falling to a low of 13 in late 2013. And finally, the initial seed funding raised in 2012 had been exhausted by 2013. The Company had to defer payment of some of its obligations for a period of over 5 months as the management team sought various avenues of short-term funding to keep the Company running.

At the same time, Arthyantra had already started bringing about a strong positive change in the lives of many of its customers. In one instance, the steps taken by a customer based on their advice helped his family survive the financial impact of his untimely demise. In another instance, they helped a family restructure their finances to meet the challenge of a family member being diagnosed with a critical illness. Nitin believed that it was the motivation provided by these positive experiences that helped the Company sustain through this tough period.

24 "Investor pessimism overdone, feels Deutsche", *Business Standard*, March 25, 2013; "India Approaches Elections with a Sluggish Economy", *The Diploma*t, February 26, 2014; "UPA's lost decade: How scams and policy paralysis crippled the country's economy", *DailyMail* UK, January 27, 2014.

The financial mood of the country started changing after Q1 2014 which led to an increase in interest towards FP&A services.[25] Moreover, the 'Fin Tech' sector gained popularity with extensive coverage in the print and digital media and Arthayantra benefitted from being part of this coverage. **Exhibit 4** lists some of the media coverage that contain references to Arthayantra during the period from July 2013 to June 2014. The Company also secured additional funding enabling it to pay its outstanding dues and answer any sustainability questions for the medium term.

STRATEGIC CHOICE

Nitin realized that while the economic upswing and the second round of funding had provided renewed vigor to Arthayantra, they needed to be better prepared for a future change in external conditions. They needed to take advantage of these favorable conditions to establish a strong platform for the Company's growth. The core team believed that there were two key drivers of the business – the number of customers and the profitability per customer. The size of the customer base would depend on the growth rate in customers they manage to achieve. Profitability per customer was more complex to analyze as it varied over the customer's lifecycle. Therefore, merely looking at the profitability per customer in a year would be misleading. Net customer lifetime value which calculated the present value of the net profits attributed to a customer in each year, suitably adjusted for possible churn in customers, was a better measure.

Net Customer Lifetime Value

Net customer lifetime value is defined as the discounted value of the net profits associated with each customer over his/her lifetime less the cost incurred in acquiring a customer. It is a key metric to analyze the unit economics around the viability of a customer segment. Targeting a customer segment is viable if the net customer lifetime value of a new customer exceeds the costs of acquiring the customer. **Exhibit 5** presents examples of simple models of customer lifetime value calculations. At a very basic level, the calculation of customer lifetime value is similar to that of using a dividend discount model for calculation of the NPV of a series of cash flows. We consider four variations based on two parameters: net profit per customer and churn rate (the rate at which existing customers drop off each year); the variations arise depending on whether the net profit per customer is constant or growing and whether there is churn rate or not. As can be seen in **Exhibit 5**, when the profits generated per customer (revenue per customer less service cost per customer) are a constant at 100 units every year, one can divide 100 by the discount rate to arrive at the customer lifetime value (as in Model 1). The growth rate of the profits attributable to a customer is incorporated in a similar fashion to that of growth rate of dividends as seen in Model 2 of **Exhibit 5**. The key difference with the dividend discount model is in the use of a churn rate to represent the percentage of existing customers that the firm loses in the next period. The effect of incorporating the churn rate is akin to that of a negative growth rate (equal to the churn rate) in the dividend discount model. Finally, Model 4 of **Exhibit 5** presents an example that incorporates the churn rate as well as a growth rate in net profits per customer. The result is equivalent to that of using an effective growth rate combining both factors. As can be seen from Model 4 of **Exhibit 5**, growth rate of 5% in net profits per customer and churn rate of 20% results in an effective growth rate of –16%. While all the models

[25] "Upbeat Boeing and Airbus revise 20-year market outlook for India", *Economic Times*, March 14, 2014; "Sensex, Nifty attain record closing high", *Business Standard*, May 19, 2014; "It's raining money for Indian companies", *LiveMint* August 8, 2014.

presented in **Exhibit 5** use a relatively simple approach of applying a growth rate and a churn rate on the first year expected net profits per customer, the Company had taken a more complex approach wherein estimates for the net profits per customer were obtained from its financial model for all years in the forecast horizon (2014-2023).

Overview of the two options

The team had identified two options that the Company could choose from going forward – (1) Option A: Core advisory model (2) Option B: Advisory-cum-execution model. The core advisory model would enable the Company to target a segment with a higher profitability; it came at the cost of a moderate growth profile. The advisory-cum-execution model would enable the Company to drive an accelerated growth path; though profitability would be achieved only a few years down the line. Both options would retain the free *Basic* plan that was used to on-board users to the platform. The choice was with respect to the nature of services that would be offered and fees that would be charged for a user who upgrades to be an *Elite* customer.

Option A: Core advisory model

In some ways, the core advisory model would be a continuation of the Company's current strategy. Arthayantra would charge a flat fee of ₹10,000 per annum and provide comprehensive FP&A advisory service to its customers. The fee level would be revised on an annual basis. The focus of the Company would be restricted to advisory, while it sought to partner with third parties for providing execution. This approach would enable the Company to offer a clear value proposition to its customers and avoid potential conflicts of interest between advisory and distribution services.

Option B: Advisory-cum-execution model

The advisory-cum-execution model would entail a significant deviation from the Company's present strategy. Under this option, the Company would expand its service offering to include execution services. The annual service fee would be reduced to ₹1,000 enabling the Company to achieve accelerated growth by targeting the mass market segment. While estimates of the size of the middle class vary, it is generally believed to consist of over 120 million (m) households forming close to 50% of the Indian population.[26] The fee revenue would be supplemented by distribution commissions that the Company would earn from asset management firms for the provision of execution services.

The Company expects that on average, around a third of its customers would opt for execution services. Distribution revenue would consist of an initial commission at the time of deployment of new investment as well as trail fees on investments already in place.[27] Over time, the distribution commission earned per

[26] **Exhibit 6** shows the distribution of Indian households by income. **Exhibit** 7 shows the distribution of Indian urban and rural households by consumption. **Exhibit 8** shows the annual wage inflation in the India from 2010 to 2014. Totally, 124m households are estimated to be in the annual household income range of US$5,000 15,000. "The great Indian middle class: the promise and the reality", *LiveMint*, March 14, 2016.

[27] For purposes of forecasting, total distribution commission is calculated at a blended rate of 0.8% on the effective investments in place at the end of the year. In practice, the commission on new investments made in a year would be higher than the trail fees earned on investments that have continued from the previous year.

customer would steadily increase as the total investment in place would grow with time.[28] By 2023, it is expected that distribution commissions would form ~2/3 of the revenues for the Company. Having a large customer base would help it achieve economies of scale in rationalizing service cost levels per customer. Scale is also expected to have a strong impact on reducing customer acquisition costs. It would provide greater visibility for the Company as well as provide a large customer database which could be mined to develop more efficient customer targeting strategies.

Strategic Analysis

The option chosen would have implications for the Company's value proposition, scalability, operational complexity, and competitive positioning. The following table summarizes the key strategic considerations that the Company was analyzing.

Parameter	Option A: Sole Advisory Model	Option B: Advisory-cum-Execution Model
Scalability	- Longer time to scale - Impact on future funding viability	- Scales at a rapid pace, with a potential publicity snowball effect down the line
Value Proposition	- Pure-play FP&A firm	- Full-service provider – advisory and execution - Greater control over customer experience across the value chain
Operational Complexity	- Lower operational complexity given the niche focus and slower growth rate	- Potential conflict between distribution & advisory functions - Organizational design needs to keep pace with rapid growth
Target Segment	- Affluent customers	- Mass market
Competitive Landscape	- Boutique FP&A advisors - Wealth management firms extending into upper middle-class segment - Other robo-advisory firms	- Majority of the robo-advisory firms - Standalone distribution agents for various financial products

Financial Analysis

The financial implications of the two options on the key drivers – customer growth and customer lifetime value and consequently on the NPV of each option are laid out here. **Exhibits 9**, **10** and **11** lay out the Company's estimates of the key financial metrics for the two options.[29]

[28] It is assumed that each customer invests an annual amount every year which grows broadly in line with the wage level of the customer. The total capital market returns earned across the investments of all customers is assumed to be equal to the total redemptions done by customers in a year. This essentially implies that the total investments in place for a year grow only by the total amount of new investments made by customers (both new and existing) in a particular year.

[29] All financial forecasts are based on projections of nominal values of revenues and costs. NPV is calculated by discounting the nominal cash flows at a nominal cost of capital.

Customer Growth Profile for Option A: Sole Advisory Model

Given the smaller size of the target segment and high fee level of ₹10,000 per annum, the Company expects customer growth to be steady at 25% per annum over the next 10 years. The customer base is expected to grow from 3,000 customers in 2014 to around 22,000 customers by 2023 under this option.

Customer Lifetime Value for Option A: Sole Advisory Model

The lifetime value of an average customer joining in 2014 is estimated to be ₹7k which compares favorably with the customer acquisition cost of ₹2k resulting in a net customer lifetime value of ₹5k (see **Figure 11.3**). Over time, the net lifetime value of a new customer is expected to increase to ₹27k by 2023 largely driven by the increase in revenue per customer and averaging of fixed costs over a larger customer base in later years.[30] The high annual fee ensures that each new customer is profitable from the first year itself. However, the moderate customer growth profile does not enable the Company to achieve any significant cost rationalization over time.

NPV Analysis for Option A: Sole Advisory Model

Table 9.2 presents an analysis of net present value of the financial forecasts for the sole advisory model. It can be seen that the Company estimates a base case NPV value of ₹1.8 bn. **Figure 9.1** and **Figure 9.2** present a sensitivity analysis of the NPV by simulating multiple iterations of the model with variation in its input factors.[31] The NPV has a 90% confidence interval ranging from ₹1.0 bn (55% of base case NPV) to ₹3.1bn (155% of base case NPV). The assumption around growth rate of customers has the greatest impact on NPV.

Customer Growth Profile for Option B: Advisory-cum-Execution Model

The Company expected the low fee level of ₹1,000 per annum to significantly reduce the reluctance of customers in transitioning from the free *Basic* offering to the paid *Elite* offering. The Company believed that the advisory-cum-execution model would help it achieve a turbo-charged customer growth rate of 100% p.a. over the next 10 years with its customer base growing from 3,000 to close to 950,000. These growth forecasts were underpinned by the Company's strong belief in (a) the presence of a large latent and relatively un-served need for FP&A services in this segment, (b) its ability to attract customers to its platform, (c) its ability to retain customers with its superior product offering once they transition to the *Elite* model and (d) presence of limited competition in this market segment.

[30] Net customer lifetime value in 2023 has not been inflation adjusted. Any direct comparison with 2014 metric is appropriate only after adjustment for expected inflation. Adjusting for 7.0% expected inflation, the net lifetime value of a customer acquired in 2023 at 2014 prices is ₹15k.

[31] The sensitivity results are obtained assuming that the expected value of each of the input variables to which the output is sensitized is drawn from a uniform distribution with a minimum value equal to 75% of the base case forecast and a maximum value equal to 125% of the base case forecast. The output distribution is generated using 1,000 iterations of the model using input variables drawn from their respective distributions of expected values.

Customer Lifetime Value for Option B: Advisory-cum-Execution Model

The lifetime value of a customer would change significantly in this option depending upon the year in which the customer comes on board. A new customer acquired in 2014 provides (on average) a negative net present value of ₹4k over his/her lifetime. However, by 2023, the net lifetime value of a new customer increases to ₹19k (see **Figure 11.4**).[32] This improvement in profitability is driven both by increase in revenue per customer as well as increase in profitability per customer due to rationalization of costs. Revenue per customer (in the first year of their joining) is expected to increase from ₹2.2k in 2014 to ₹4.3k in 2023. Over the lifetime of an individual customer, the share of distribution commissions in the revenue attributable to the customer grows to over 90%. In parallel, efficiency improvements driven by scale and data analytics are expected to halve the costs of serving an existing customer.

NPV Analysis for Option B: Advisory-cum-Execution Model

The NPV analysis for the advisory-cum-execution model presented in **Table 10.2** shows a base case NPV estimate of ₹6.0bn. In order to account for the higher risk associated with this option, a higher discount rate of 20% was chosen for this option (vs. 15% for Option A). The higher risk is also seen in the sensitivity analysis of the NPV shown in **Figure 10.1** with a 90% confidence interval ranging from ₹1.2 bn (21% of base case NPV) to ₹16.4 bn (275% of base case NPV). The factors having the greatest influence on NPV are the assumptions around the growth rate of customers and the estimated reduction in service cost per customer over the forecast period.

The Decision

Nitin and his team knew that they needed to consider both strategic and financial factors to arrive at their decision. The advisory-cum-execution model clearly led to a higher valuation, but that would mean charting out into relatively untested waters and the valuation would only materialize if the Company survived around 5 years of negative operating profits. Moreover, the success of Option B depended largely on establishing a strong revenue stream of distribution commissions. These estimates were subject to the dual risks of potential dip in distribution commission levels due to competition from direct mutual funds as well as increased regulatory focus on segregation of advisory and distribution services leading to higher compliance costs. Finally, managing an organization growing at that pace would be much more difficult on the ground compared to putting numbers on an Excel sheet. On the other hand, there were also the prospects of ancillary revenue streams from the distribution of products other than mutual funds. The Company believed that these streams might become sizeable contributors to overall revenues if everything went to plan.

The sole advisory model, in comparison, seemed much less risky from an execution perspective. However, given the intense competition that they were likely to face and the smaller size of their target customer segment, there was a risk that their enterprise would not be able to sustain an onslaught by a

[32] Net customer lifetime value in 2023 has not been inflation adjusted. Any direct comparison with 2014 metric is appropriate only after adjustment for expected inflation. Adjusting for 7.0% expected inflation, the net lifetime value of a customer acquired in 2023 at 2014 prices is ₹10.0k.

competitor with deep pockets. There was also the risk of their small size making them an easy take-over target for new entrants/existing players in the space.

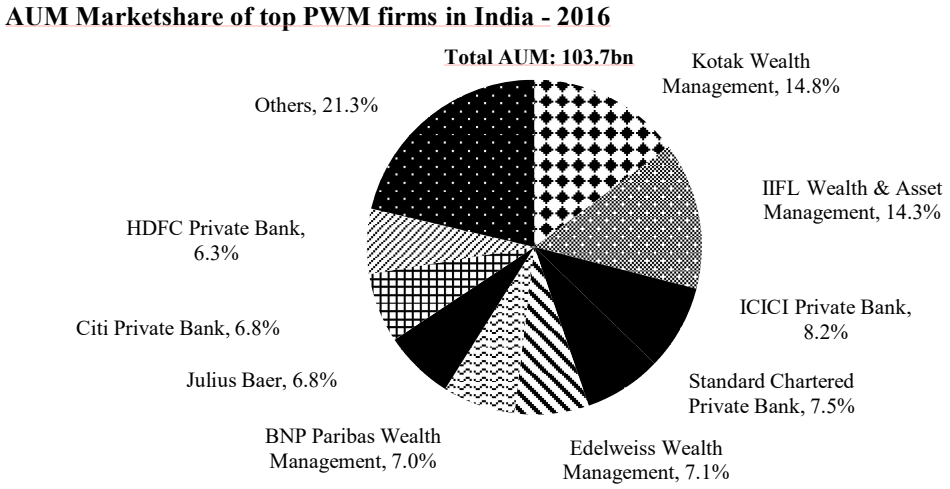
QUESTIONS

1. Are Arthayantra and other robo-advisors in India bringing about technology-driven industry transformation in the space of FP&A business? Support with arguments.
2. Analyze the current value proposition of Arthayantra vs. that of other robo-advisory firms.
3. What are the organizational implications of Arthayantra switching to an advisory-cum-execution model?
4. Compare the two options being evaluated by Arthayantra.
   a. What is the impact of the option choice on the value of the firm?
   b. Elaborate on the following risks to the key drivers of value in each option.
      i. Customer growth (risks to achieving targeted market share, effect of competition, product-market mismatch, pricing, macroeconomic risks.)
      ii. Customer lifetime value (achieving targets for revenue per customer, reductions in service cost and acquisition costs per customer, impact of potential conflicts of interest.)
      iii. Identify and discuss any other sources of risk you feel could be important.
   c. Suppose there is a failure of the technology platform or Arthayantra is unable to achieve the customer growth rate/profitability estimates laid out by the Company? How do the two options differ in terms of the potential future benefits/flexibility in the instance of such a development? What flexibility (for generating upside) do they provide if everything goes to plan?
   d. Based on the analysis, which option would you recommend to Arthayantra?
5. How is this disruption likely to affect incumbent wealth managers? How could they respond to this threat? Could the challenge posed by robo-advisors be considered an example of disruptive innovation?[33]

[33] A challenge posed by new entrants in a field can be considered to be a disruptive innovation if it meets the following four criteria – (a) the incumbents follow a path of sustaining innovation which seeks to improve the quality of product/service delivered to existing customers, (b) there exists a customer segment for whom the quality of product/service offered by the incumbent exceeds their requirements, c) the new entrants offer a more basic quality product to this customer segment at a lower cost and the incumbents have an ability to challenge the new entrants if they chose to, and (d) over time, the quality of the basic product improves and it starts becoming attractive to the core customers of the incumbents leading to the eventual displacement of incumbents by the new entrants. (How Useful is the Theory of Disruptive Innovation? – King and Baatartogtokh, *MIT Sloan Management Review*, 2015)

Exhibit 1

Market share of top private wealth managers of India



Source: Asia Private Banker

Exhibit 2

Investment Pattern of Households

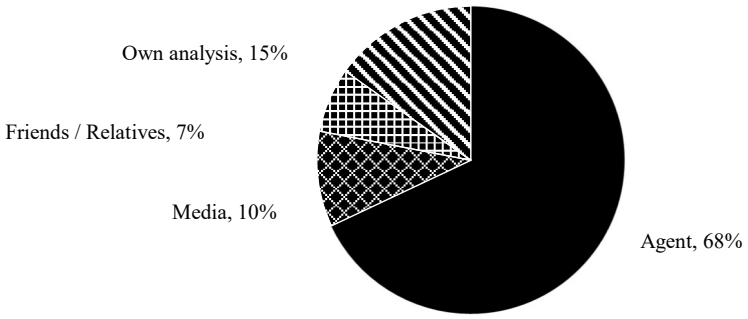
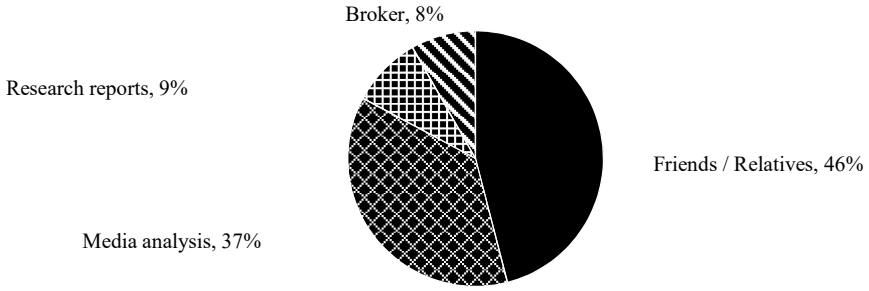
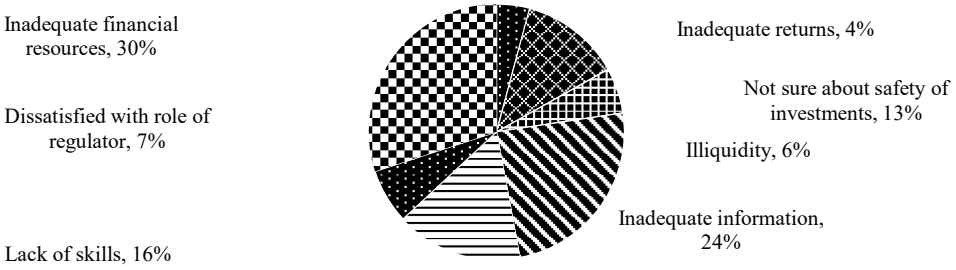


Exhibit 2 (Contd.)

Sources of information for secondary market investment by households



Reason for not investing in secondary markets



Source: How Households Save and Invest: Evidence from NCAER Household Survey (2011)

Exhibit 3

Comparison of *Basic* and *Elite* Plans (offered prior to 2014)

	***Basic* Plan**	***Elite* Plan**
Fees	Free	₹10,000 per annum
Services	Basic services consisting of - Financial health check-up - Identification and status of personal financial goals of the individual	Comprehensive financial plan including - Advice across expenses, liabilities and assets - Advice on risk, insurance and tax - Customized mutual fund portfolio - Interaction with financial advisors
Users referred to as	User	Customer

Source: Arthayantra

Exhibit 4

Select examples of media coverage received by robo-advisory and Arthayantra in the period July 2013 – June 2014 – Excerpts from articles

THE ECONOMIC TIMES

Eight smart money moves to make before the age of 30 – 6 Aug 2013

"Automate investments and go online

One of the most common excuses for not investing is, "I don't have the time." Days become weeks and weeks turn into months. Get past this stumbling block by automating your investments. For instance, you could start an SIP in a mutual fund and give an ECS mandate to your bank. On a designated day of the month, the money will be invested automatically.

Saving time and effort is just one of the many benefits of automating your investments. It also takes emotions out of investing and enforces a discipline an investor may lack. If the money has been earmarked for investment and is debited from your account, you will not use it for any other purpose. "We recommend that investors opt for SIPs at the start of the month. This induces the much needed financial discipline," says Nitin Vyakaranam, CEO of Hyderabad-based financial planning firm, Arthayantra.

Another smart move is to sign up with 4-5 mutual fund houses for the online investment facility. You might have to visit the branch office for submitting the application form, along with other documents, but the onetime effort will make fund investing easy forever.

The online route has become a compelling option after the launch of direct plans of mutual funds in January 2013. Sold directly to the investor, these plans have lower charges because there is no intermediary. Corporate investors and high net worth individuals are flocking to these plans because lower charges translate into higher returns. According to a study, the direct plans of all categories have outperformed the regular plans in the past three months (see graphic). This gap will keep growing. Invest directly and gain from it."

live mint

Fee-based advisory is taking shape – 21 Nov 2013

"Although segments of the industry feel that some investors won't be ready to pay a fee for advice, not all agree with that view. Nitin Vyakaranam, founder and chief executive officer, ArthaYantra, an online financial planning firm, says, "There is a need and willingness to pay for advice, the issue really has been the industry reach." Now you can get ready to see many more fee-based advisory services being offered to the mass affluent segment as well."

"Innovation and technology

It is not easy to scale up an advisory business thanks to the branch model that most companies follow and the investment in human capital as advisers. Mathur says, "This is a high cost business and one will have to consider innovation through technology to expand and make it profitable."

Vyakaranam also echoes the same view when he says, "The industry can increase its customer reach successfully through the use of technology." He doesn't think that many entities will be able to offer a fee based service successfully without relying on technology driven innovation. Technology based innovation for you means easier and more widespread access to financial services."

Exhibit 5

Customer Lifetime Value

Customer lifetime value ("CLV") essentially represents the net profits attributable to a customer over his/her lifetime. This is compared with the cost of acquiring the customer to arrive at net customer lifetime value ("NCLV"). NCLVs can be compared across customer segments to analyze relative profitability. Key assumptions that go into estimating CLV are the net profit per customer in a particular year and the amount of churn faced in that customer segment. Various models exist for estimating CLV depending on the assumptions made regarding the customer profile. Some of the basic models used for estimation have been laid out below.[34]

1. Model 1: Constant net profits and no customer churn
2. Model 2: Growing net profits and no customer churn
3. Model 3: Constant net profits and fixed customer churn
4. Model 4: Growing net profits and fixed customer churn

	Model 1	Model 2	Model 3	Model 4
Net Profit / customer in year 1 (P_1)	100	100	100	100
Growth rate of net profit per customer (g)	-	5%	-	5%
Customer churn rate (c)	0%	0%	20%	20%
Effective net profit / customer in year	100	100	80	80
Effective growth rate of net profit / customer (g')	0%	5%	-20%	-16%
Discount rate (d)	15%	15%	15%	15%
Customer Lifetime Value (CLV)	667	1,000	229	258
CLV Formula[35]	P_1 / d	$P_1 / (d - g)$	$P_1 * (1 - c) / (d + c)$	$P_1 *(1 - c) / (d – g + c*(1 + g))$

In addition to these simple models, other models that are based on more complex evolution of key parameters can be developed. For example, one could project the net profits from a customer over a forecast period based on operating assumptions and then use a terminal value based on one of the above models to calculate customer lifetime value when the growth rate of net profits is not linear. A similar approach is taken in the case to estimate net customer lifetime value for the two models.

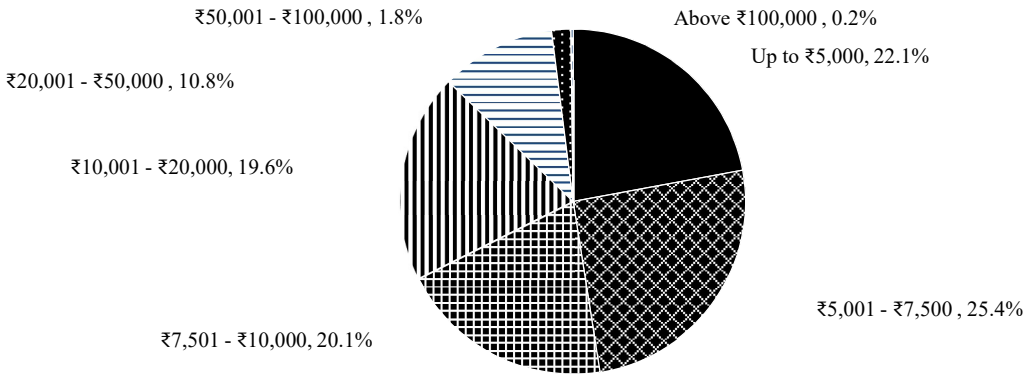
Source: Calculations based on the models outlined in Customer lifetime value: Marketing models and applications, (Paul D Berger and Nada I Nasr, *Journal of Interactive Marketing*, 1998).

[34] The models described here assume that a customer could have an infinite lifetime with a firm. While this appears aggressive, it is a reasonable approximation when the maximum lifetime that an average customer could have with the firm is upwards of 25 years. Note that maximum lifetime of an average customer is different from average customer lifetime as the latter is also affected by the churn rate.

[35] Essentially, the CLV in these four models can be seen as the discounted value of a growing perpetuity with an effective first year value of P1', an effective growth rate of g' and a discount rate of d. Therefore, the CLV can be calculated as P1'/(d – g').

Exhibit 6

Distribution of Indian households by monthly income



Source: Statista.com (2015 Survey)

Exhibit 7

Distribution of consumption of Indian households

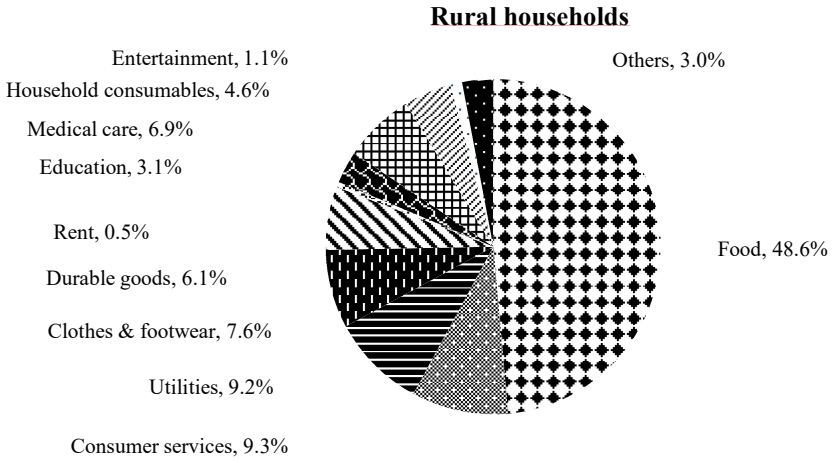
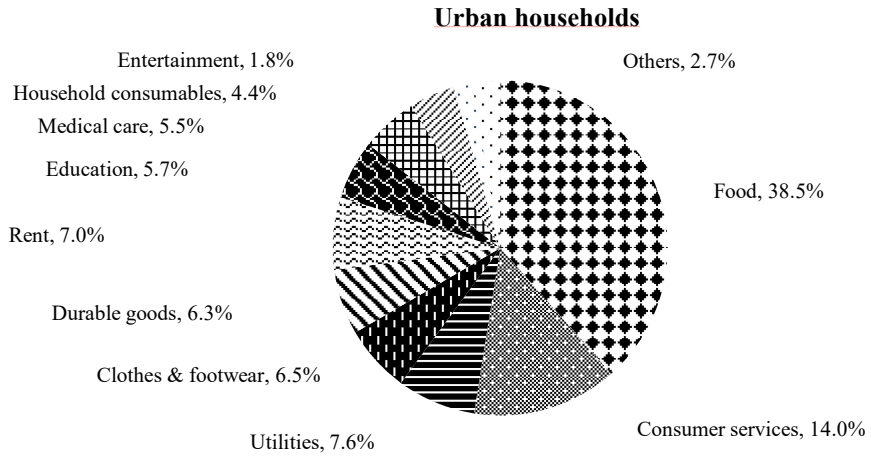


Exhibit 7 (Contd.)



Source: Key indicators of household consumer expenditure (2011-2012), NSS

Exhibit 8

Source: AON Hewitt Salary Increase Survey 2014 – 2015

Exhibit 9

Financial analysis of Option A: Sole Advisory Model

Table 9.1

Detailed Financial Projections

	2014 Year 1	2015 Year 2	2016 Year 3	2017 Year 4	2018 Year 5	2019 Year 6	2020 Year 7	2021 Year 8	2022 Year 9	2023 Year 10
Customers ('000)	3	4	5	6	7	9	11	14	18	22
Revenue (₹ m)	30	41	57	78	107	147	203	279	383	527
Service cost (₹ m)	(12)	(16)	(21)	(29)	(38)	(51)	(69)	(92)	(123)	(164)
Customer Acquisition cost (₹ m)	(1)	(2)	(2)	(3)	(4)	(5)	(7)	(9)	(12)	(16)
Fixed cost (₹ m)	(15)	(16)	(17)	(18)	(20)	(21)	(23)	(24)	(26)	(28)
Operating profit (₹ m)	2	8	16	28	45	70	105	154	222	319
Rev. / cust. (₹ '000)	10.0	11.0	12.1	13.3	14.6	16.1	17.7	19.5	21.4	23.6
OP / cust. (₹ '000)	0.7	2.0	3.4	4.8	6.2	7.6	9.1	10.7	12.4	14.3

Note: Cust. - Customer

Table 9.2

NPV Analysis

Discount rate	15.0%
PV OP – Forecast period (₹ m)	223
Terminal multiple[36]	20.0x
PV OP – Terminal Value (₹ m)	1,575
Total NPV of OP (₹ m)	1,798

Source: Arthayantra

[36] Terminal value is calculated by using an exit multiple on the Year 10 Operating Profit of the firm.

Figure 9.1

Sensitivity analysis of total NPV[37]

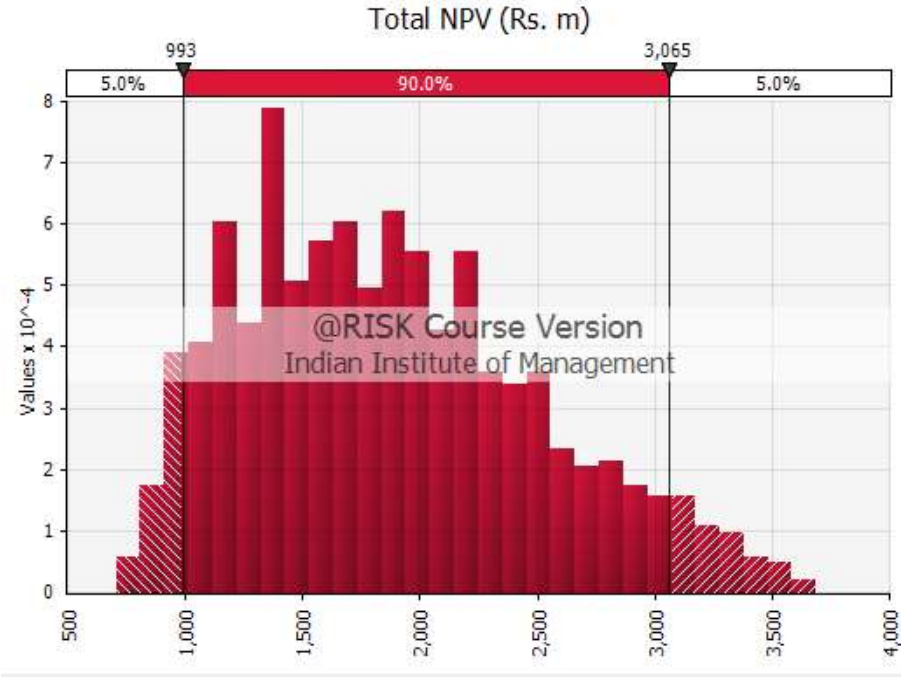
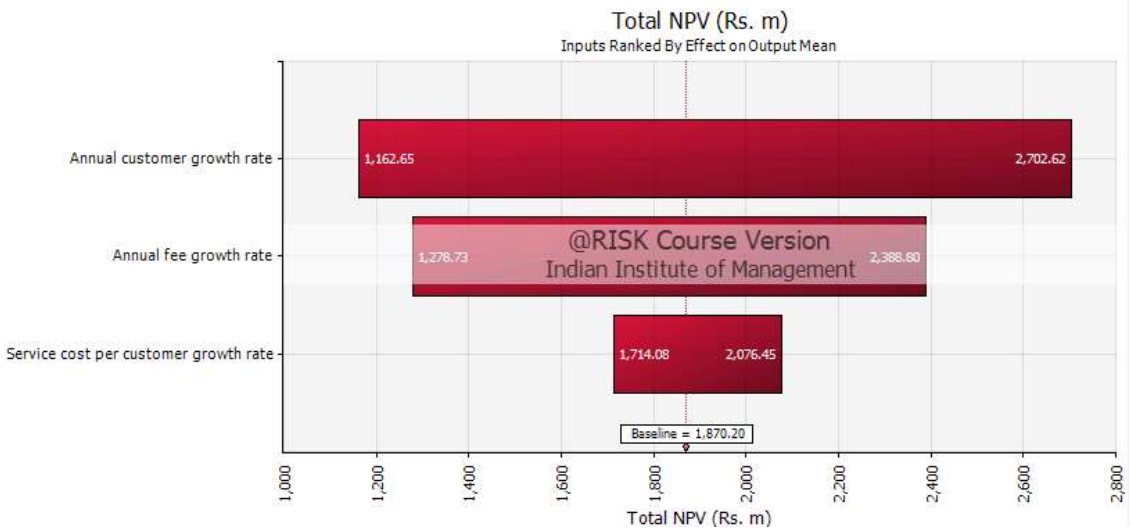


Figure 9.2

Relative importance of inputs in sensitivity analysis of total NPV[38]



Source: Arthayantra

[37] The sensitivity results are obtained assuming that the expected value of each of the input variables to which the output is sensitized is drawn from a uniform distribution with a minimum value equal to 75% of the base case forecast and a maximum value equal to 125% of the base case forecast. The output distribution is generated using 1,000 iterations of the model using input variables drawn from their respective distributions of expected values.

[38] Figure 9.2 shows the average NPV for those iterations that lie in the extreme left tail (below 10th percentile) and right tail (above 90th percentile) of the distribution of the expected value of the input variable under consideration (based on the 1,000 iterations); to isolate the marginal impact of this input variable, other input variables are drawn from their respective full distributions of their expected values.

Exhibit 10

Financial analysis of Option B: Advisory-cum-execution Model

Table 10.1

Detailed Financial Projections

	2014 Year 1	2015 Year 2	2016 Year 3	2017 Year 4	2018 Year 5	2019 Year 6	2020 Year 7	2021 Year 8	2022 Year 9	2023 Year 10
Customers ('000)	3	4	6	11	34	101	253	506	759	949
Fee revenue (₹ m)	3	4	6	11	34	152	380	759	1,139	1,424
Dist. revenue (₹ m)	1	3	6	12	33	101	290	704	1,388	2,328
Total Revenue (₹ m)	4	7	11	23	67	253	669	1,463	2,527	3,752
Service cost (₹ m)	(12)	(13)	(17)	(28)	(68)	(152)	(380)	(813)	(1,304)	(1,744)
Customer Acquisition cost (₹ m)	(1)	(1)	(3)	(8)	(27)	(68)	(152)	(271)	(290)	(233)
Fixed cost (₹ m)	(15)	(16)	(17)	(18)	(20)	(21)	(23)	(24)	(26)	(28)
Operating profit (₹ m)	(24)	(24)	(26)	(31)	(48)	13	115	356	907	1,747
Rev. / cust. (₹ '000)	1.4	1.8	2.0	2.1	2.0	2.5	2.6	2.9	3.3	4.0
OP / cust. (₹ '000)	(7.9)	(6.3)	(4.5)	(2.8)	(1.4)	0.1	0.5	0.7	1.2	1.8

Table 10.2

NPV Analysis

Discount rate	20.0%
PV OP – Forecast period (₹ m)	319
Terminal multiple[39]	20.0x
PV OP – Terminal Value (₹ m)	5,644
Total NPV of OP (₹ m)	5,963

Source: Arthayantra

[39] Terminal value is calculated by using an exit multiple on the Year 10 Operating Profit of the firm.

Figure 10.1

Sensitivity of total NPV[40]

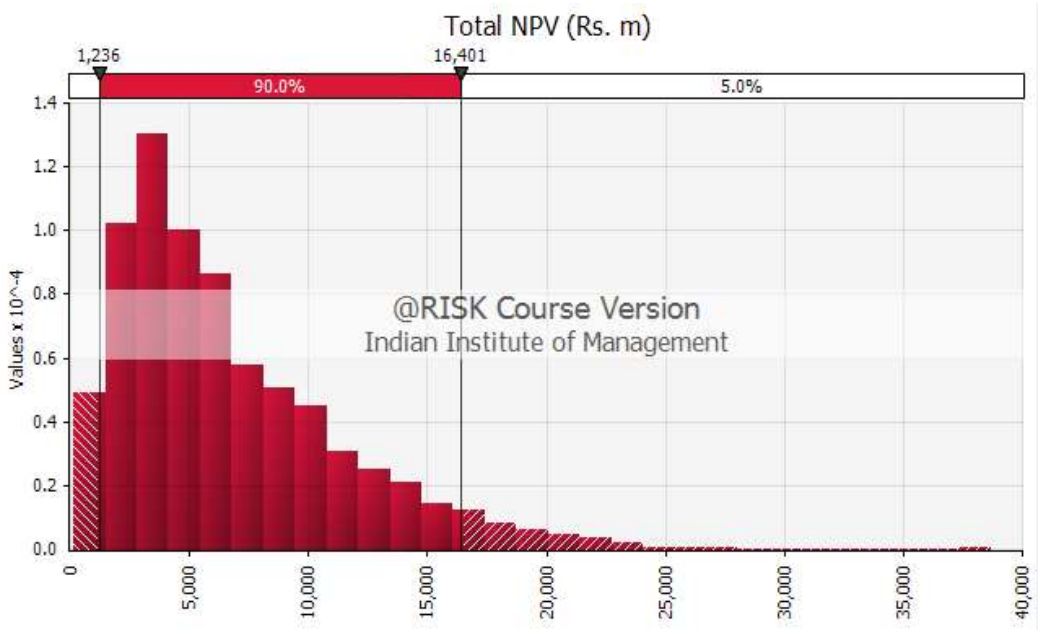
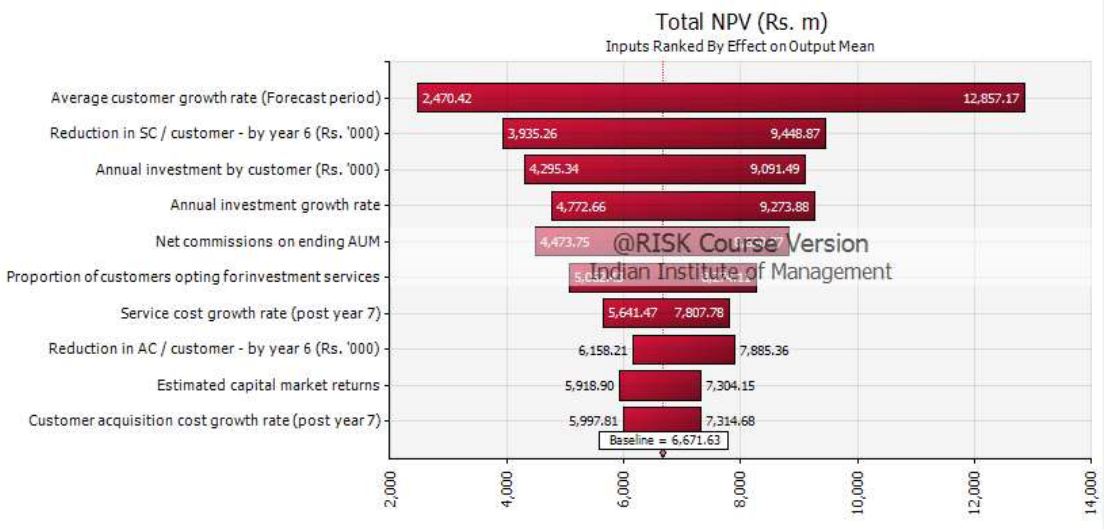


Figure 10.2

Relative importance of inputs in sensitivity analysis of total NPV[41]



Source: Arthayantra

[40] The sensitivity results are obtained assuming that the expected value of each of the input variables to which the output is sensitized is drawn from a uniform distribution with a minimum value equal to 75% of the base case forecast and a maximum value equal to 125% of the base case forecast. The output distribution is generated using 1,000 iterations of the model using input variables drawn from their respective distributions of expected values.

[41] Figure 10.2 shows the average NPV for those iterations that lie in the extreme left tail (below 10th percentile) and right tail (above 90th percentile) of the distribution of the expected value of the input variable under consideration (based on the 1,000 iterations); to isolate the marginal impact of this input variable, other input variables are drawn from their respective full distributions of their expected values.

Exhibit 11

Comparison of growth profiles of Sole advisory model (Option A) & Advisory-cum-execution model (Option B)

Figure 11.1

Customer growth profile

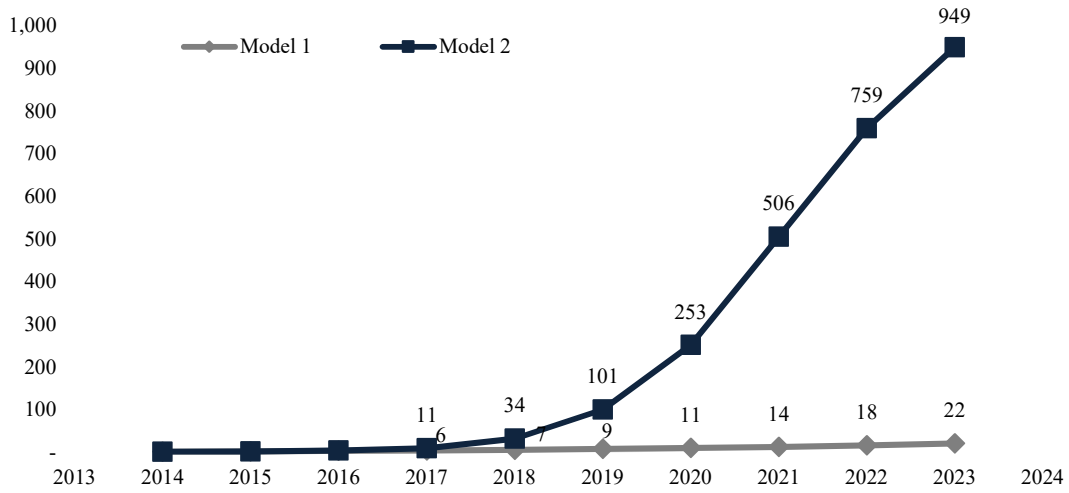


Figure 11.2

Operating profit per customer profile

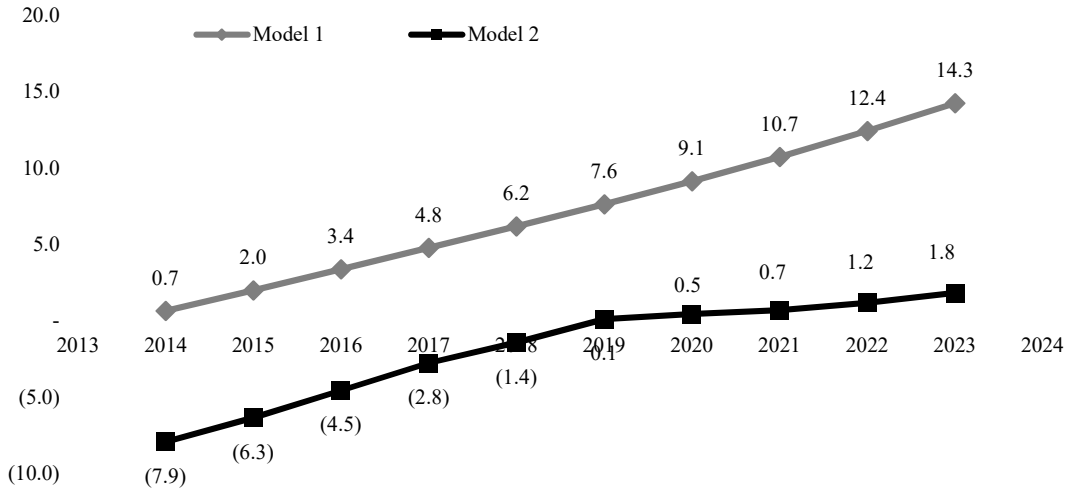


Figure 11.3

Net Customer Lifetime Value for Option A in ₹'000 (by joining year of customer)[42,43]

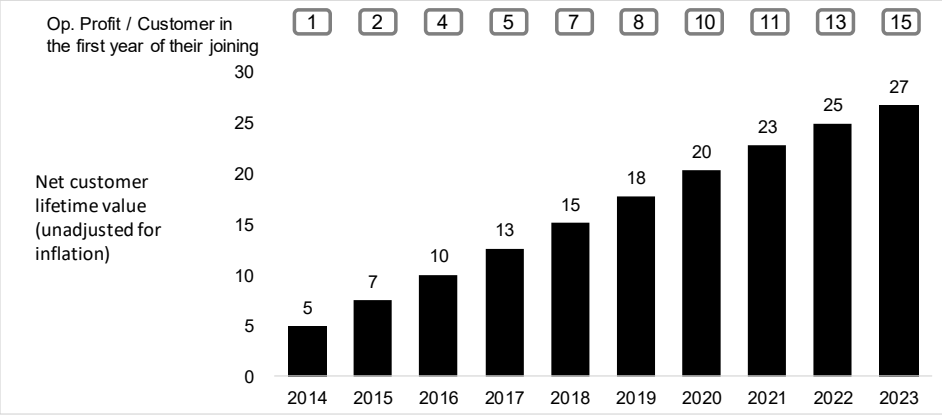
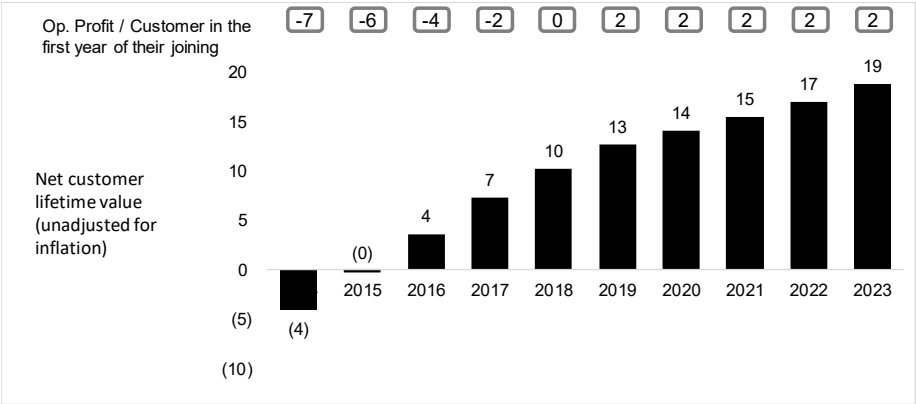


Figure 11.4

Net customer lifetime value for Option B in ₹'000 (by joining year of customer)[42 above]



Note:

1) In the above charts, each bar represents the net lifetime value of a customer joining in that particular year measured at the beginning of that year (or at the end of the previous year). It also presents the operating profit per customer for a customer in the first year of their joining. For example, for Model 2, ₹14k is the net lifetime value of a customer joining in 2020, measured as of the beginning of the year 2020. The operating profit attributable to this customer in the first year of joining is ₹2k.
2) NCLV also factors in customer churn rate. Therefore, NCLV should be read as the expected net lifetime value of a customer acquired by the firm. For a customer that stays with the Company for life, the value generated for the firm would exceed the NCLV. For example, under Model 2, a customer joining in the year 2020 and staying with Arthayantra for life

[42] Customer lifetime value calculated using the projected operating profit per customer for a year over the forecast period and an assumption of a 4% growth rate after that. A churn rate of 20% is assumed alongside a 15% discount rate for Option A while a churn rate of 20% and a discount rate of 20% is used for Option B. The terminal value of customer value beyond the forecast period calculated using the formula – OP_0*(1 + g)*r/(1 + d – r*(1+g)), where OP_0 is the forecasted operating profit for that customer in the last year of forecast period, g is the growth rate of operating profits beyond the forecast period, r is the retention rate of customers and d is the discount rate. A perpetual model is used for forecasting the terminal value. Net customer lifetime value arrived at by subtracting the acquisition cost per customer for that year from the customer lifetime value. NCLV displayed represents the lifetime value of discounted operating profits from a customer joining in a given year.

[43] Operating profit per customer represents the operating profit (excluding customer acquisition costs) contribution by a new customer joining that year. For Option A, as the revenues and costs are identical for a new and old customer in any given year, this value is same as the operating profit for any customer for that year. For Option B, the operating profit for a new customer joining in a particular year is different from that of customers who joined in previous years.

would generate a net lifetime value of ₹80k for Arthayantra. However, once a churn rate of 25% is factored in, the NCLV drops to ₹14k as 25% of such customers are expected to churn out every year.

3) The NCLV values are measured at the beginning of each year for the average customer joining that year. Therefore, to compare the NCLV value of year 2020 to that of year 2015, one would also need to discount the value for 2020 by 5 years. One possible choice for the discount rate is the expected rate of inflation of 7%.