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«MASTER IN BUSINESS ADMINISTRATION»

MASTER THESIS

**A Strategy for Enhancing Consumer
Attainment Via a Forex Website**

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Περίληψη

Το χρηματιστήριο συναλλάγματος ή Forex είναι μια αποκεντρωμένη παγκόσμια αγορά με μέσο ημερήσιο όγκο συναλλαγών 5 τρισεκατομμυρίων δολαρίων (iForex, 2018). Για να παραμείνουν επικερδείς εν μέσω αυστηρών περιορισμών στις συναλλαγές και κανονισμών, οι εταιρείες Forex πρέπει να επανεξετάσουν την επιχειρηματική τους συγκρότηση, συμπεριλαμβανομένου του μάρκετινγκ, της διαφήμισης, της νομοθεσίας, των συναλλαγών και των στατιστικών αναλύσεων.

Για να παραμείνουν κερδοφόρες, οι εταιρείες Forex πρέπει να «αναπτύξουν ενεργά εσωτερικά δίκτυα μέσων επικοινωνίας και να εγκαθιδρύνουν αυτοματοποιημένες χοάνες μάρκετινγκ [...] όχι μόνο για να μειώσουν το κόστος, αλλά και για να διασφαλίσουν την πλήρη τήρηση των κανονισμών» (Angel Broking, 2018). Η αποτελεσματική χρήση των μέσων επικοινωνίας μπορεί να προάγει την εικόνα που έχουν οι καταναλωτές για μια εταιρεία Forex, ενώ χρήσιμα εργαλεία ιστοσελίδων μπορούν να αυξήσουν τη μετατροπή του επισκέπτη σε πελάτη, καθώς και τη διαχρονική αξία ενός επενδυτή συναλλαγών για την εταιρεία.

Ως εκ τούτου, η εταιρική ιστοσελίδα είναι ένα από τα πιο σημαντικά εργαλεία σήμερα, όχι μόνο στη βιομηχανία του Forex, αλλά στις επιχειρήσεις. Οι ιστοσελίδες είναι κλειδί για την προσέλκυση και διατήρηση πελατείας. Μια ιστοσελίδα πρέπει να προσφέρει στους καταναλωτές εύκολη πλοήγηση, καλό σχεδιασμό, ποιοτικό περιεχόμενο και μια καλή εμπειρία για τον χρήστη (WebpageFX, 2018). Η σημαντική έρευνα σχετικά με την τεχνολογία ή/και τα χαρακτηριστικά που θα συμπεριληφθούν σε μια εταιρική ιστοσελίδα, μπορεί να κάνει μια εταιρεία Forex να ξεχωρίσει ως ηγέτης της βιομηχανίας.

Στόχος αυτού του έργου είναι η ανάπτυξη μιας σύγχρονης ιστοσελίδας επενδύσεων FOREX, με χρήση τεχνολογιών που θα στοχεύουν στο να προσφέρουν διαφορετικές επενδυτικές ευκαιρίες σε συναλλαγματικές ισοτιμίες, οι οποίες εν δυνάμει θα ενισχύουν την προσέλκυση και διατήρηση δυνητικών καταναλωτών της ιστοσελίδας. Στόχος της ιστοσελίδας είναι να επιτρέπει στους

χρήστες να επωφελούνται από τις επενδυτικές ευκαιρίες που προκύπτουν από αλλαγές στις παγκόσμιες συναλλαγματικές ισοτιμίες.

Έχουμε αναπτύξει μια έρευνα για να διερευνήσουμε κάθε τμήμα της εταιρείας Forex, ώστε να μάθουμε τα προβλήματα και τη χρήσιμη λειτουργικότητα της ιστοσελίδας που θα μπορούσαν να αυξήσουν τη ζήτηση των καταναλωτών και να κάνουν την υπηρεσία roboadvisory περισσότερο δημοφιλή και κερδοφόρα. Τα αποτελέσματα της έρευνας θα βοηθήσουν στην ανάπτυξη μοντέλων συναλλαγών που θα προβλέπουν τις συναλλαγματικές ισοτιμίες. Τα μοντέλα συναλλαγών roboadvisory θα δημιουργηθούν και θα δοκιμαστούν στην ιστοσελίδα για να διαπιστωθεί αν προσελκύουν περισσότερη πελατεία και θα δημιουργηθούν αποτελεσματικά μοντέλα τα οποία μπορούν να χρησιμοποιηθούν από τις εταιρείες για την αύξηση της κερδοφορίας.

Summary

The foreign exchange, or Forex, is a decentralized global market with an average daily trading volume of 5 trillion dollars (iForex, 2018). To stay profitable amid strict trading restrictions and regulations, Forex companies must review their business setup, including marketing, advertising, legislation, trading and analytics.

To stay profitable, Forex companies must “develop active internal media networks and establish automated marketing funnels [...] to not only reduce costs but also ensure full adherence to regulations” (Angel Broking, 2018). Effective media use can promote consumers’ perception of a Forex company and useful web tools can increase conversion as well as a trader’s lifetime value.

A company website is therefore one of the most important tools, not only in the Forex industry, but in business today. Websites are the key to attracting and retaining clientele. A website should offer consumers easy navigation, good design, quality content, and a good user experience (WebpageFX, 2018). Significant research into technology and/or features to include in a business’s website can set a Forex company apart as an industry leader.

The aim of this project is to develop a modern FOREX investment website using the technologies geared towards providing different investment opportunities on exchange rates that will potentially enhance the attainment and retention of potential website consumers. The goal of the website is to enable users to capitalize on investment opportunities arising from changes in global exchange rates.

We developed and administered a questionnaire to 174 males age 18 to 35 living in Europe and Asia to learn of issues and useful website functionality that will increase consumer demand and make the roboadvisory service more popular and lucrative. The survey results will help develop trading models that forecast exchange rates. Roboadvisory trading models will be created and tested on the website to see if they attract more clientele, and effective models will be created which can be used by companies to enhance profitability.

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Chapter 1

Introduction

1.1.1 What is online trading?

For years, people have depended on banks and financial institutions to regulate foreign exchange rates. Typically, if someone wanted to trade, they would call their broker to obtain advice on what deals to make, and an investment would be made. However, with the growth of the Internet, brokers are being replaced with online trading platforms. Online trading has become a very real and viable way for investors to take control of their trading efforts.

According to iForex, “online trading is basically the act of buying and selling financial products through an online trading platform. These platforms are normally provided by internet based brokers and are available to every single person who wishes to try to make money from the market” (iForex, 2018).

In comparison to classic forms of trading through brokers and financial institutions, there are many benefits consumers attain by trading online. Online trading allows the investor to trade when they want with the ease of their computer or phone; more profit can be attained as less fees are charged by online brokerage companies than physical brokers; there is a single platform from which to research and trade as compared to performing separate research before trading; and online companies offer more detailed reports with better recommendations for choosing stocks (Angel Broking, 2018).

Although the Foreign Exchange or Forex industry has seen tremendous profit, in recent years, profits attained by online trading companies have dwindled because of tighter bank regulation, the fading emerging market boom, and secular slowdown in world growth and trade. Because of this fact, the competition to attract and attain consumers has never been so high. Online trading companies have to continue to develop websites to offer cutting edge online trading platforms in order to have an advantage over competitors.

1.1.2 Why trade based on the exchange rate?

In order to attract customers, Forex companies must adapt to current regulations. For the investment and finance companies, this will undoubtedly require the use of artificial intelligence (AI) technologies to help make trading decisions in order to stay profitable and in compliance with the vast library of finance laws and regulations.

One exciting area of opportunity is the exchange market because the concept of trading on the Forex is straightforward. Exchange rates change daily and it is simple to buy and sell different currencies through roboadvisory in order to seek to make a profit. Forex is also one of the least volatile financial markets, with movements between currency pairs changing by 1% or less daily (Murphy, 2017). The Forex market is characterized by extreme liquidity and availability of enormous leverage to increase the value of potential movements. Because the fluctuations are so low on a daily basis, roboadvisory can help identify short- and long-term trends and make lucrative sales, making the market movements lucrative for investors.

Ideally, with the successful utilization of roboadvisory in the exchange rates sector to increase a company's overall profitability, companies can increase their product offering by adding additional investment markets to their product offering – more volatile markets including ETFs, stocks, etc. Success using roboadvisory to trade based on the exchange rate can increase the company's

overall profitability and serve as a blueprint or framework for all future roboadvisory services in various investment domains.

Roboadvisory can help companies adapt to current regulations as well. The fact that the markets are changing and regulations are becoming more strict means that automated services such as roboadvisory may be a huge boon for these companies. The European Securities and Markets Authority, or ESMA, recently announced that they will reduce leverage for contracts of differences (CFDs; ESMA, 2018). Google, which runs a major marketing operation, has announced the same restrictions on financial products (Spencer, 2018). Such regulations will require an eye to the subtleties of the market. Computerized methods such as roboadvisory which can take the complicated regulations into account to ensure compliance with them in making investment decisions.

1.2 What is a website?

With the internet's ability to connect companies with vast amounts of people, there is unlimited potential available for a company to maximize profit. In the world of online trading, the internet's wide reach is what keeps many companies not only surviving, but thriving. Since individuals have broken away from depending on brokers employed at financial institutions to perform trading practices, investors now rely heavily on highly engineered trading platforms and websites to successfully trade and make a return on their investment.

One of the most important tools used in marketing within the Forex industry is a company's website. The website is a necessity to become an authority figure, not only in the financial sector, but in business today. It should offer consumers easy navigation, strong photo images, professional quality content, and an overall experience that inspires people to stay with a company (WebpageFX, 2018). When it comes to the Forex arena, websites are the key to attracting and retaining clientele and therefore significant research of what

technology or features to include in the website is the key to distinguishing a Forex company as an industry leader.

Examples of web wealth management and finance tools include the finance website Betterment. Betterment has a new feature that can both determine and deduct a reasonable monthly withdrawal for a consumer seeking to build up a savings. Consumers can input their life expectancy and risk tolerance into the Betterment website, and it will recommend a savings plan for them based on these factors, and can deposit money from a Betterment account into a savings account based on these calculations (Lieber, 2014).

While different from conventional finance websites which offer real-life wealth management, roboadvisory services offer a low-cost wealth management option. Roboadvisory is a type of wealth management platform that is automated, low-cost, and occurs through mobile or web platforms (Epperson, et al., 2015). Once users sign up for a roboadvisory service, they can input their risk-taking profile, and thanks to the use of advanced algorithms, the roboadvisor can offer AI-driven investment portfolios to choose from. As its name indicates, roboadvisory is entirely automated and can be done without human involvement (Epperson, et al., 2015). Roboadvisory may present a particular advantage for millennials and Generation Z because these age groups may want to adopt investing as a hobby, but do not have the desire or time to learn the rules of trading themselves (Dixon, 2016).

Just as websites like Betterment can help consumers save money, Forex web tools may be able to make investment recommendations through roboadvisory in a similar fashion. A recent report by the consulting firm Deloitte has analyzed over 70 roboadvisors that may drive the change to computerized wealth management. While human wealth managers have dominated the investment landscape for decades, roboadvisory may be able to cater to a larger swath of the population due to the lower cost involved in roboadvisory compared to traditional wealth management programs (Deloitte, 2016a). Even

in the short period of time that roboadvisory has been a wealth management option, it has offered tremendous progress, and there is untapped potential within the roboadvisory industry to better and more effectively serve the finance market.

A website offers a service to consumers, but can also be a look inward at consumer behavior patterns. Especially from a marketing perspective, a website can also act as a tool to research consumer behaviour. Website analytics can capture information such as who is visiting a business's website, which pages are visited, how the visitor found the website, and annual company sales made through the website. Smartly integrating sophisticated marketing software within the website can give great insight into how investors use the website to trade, and can ultimately provide powerful data analytics and bring profit to an online trading company (WebpageFX, 2018).

1.3 What is digital marketing?

A recent study by Nielson and the Association of Canadian Advertisers found that half of all advertising professionals are downsizing the amount of money spent on TV advertisements in order to re-allocate their marketing budgets towards digital marketing (Nielsen, 2016).

Digital marketing is the marketing of products using digital technology, using the internet, mobile phones, display advertising and any other digital medium. It constitutes several channels that help to boost the profit margin of a brand by targeting the right consumers at the right time. These include affiliate marketing, display advertising, email marketing, social media marketing, game advertising, and video advertising. Because it is important for the purpose of this study to fully comprehend how each of these venues can be adapted towards the Forex industry, each digital marketing channel – affiliate, display, e-mail, and social media – is reviewed in further detail.

1.4 Affiliate marketing

“Affiliate marketing is the process of earning a commission by promoting other people’s (or company’s) products. You find a product you like, promote it to others and earn a piece of the profit for each sale that you make.”

Affiliate marketing involves a merchant, or the creator of a product or service, and the affiliate, who can be a single individual or an entire company responsible for marketing the product or service of the merchant or creator.

An affiliate marketing network can also exist, in which the network is responsible for and oversees the transactions between consumers and affiliate individuals or companies (Patel, 2018).

1.5 Display Advertising

“Display ads are the boxes on websites that are obviously advertising. They can be along the top of web pages such as the traditional banner ad, or the larger text billboard; they can also be videos. These types of ads appear on distinct sections of the site that are specifically reserved for paid advertising and are aimed at generating a quick conversion” (ClickZ, 2015).

According to Forrester research, conventional online display advertising will suffer in comparison to mobile, video, and social media advertising. The research firm predicts that online display advertising through social media platforms will increase by 70 percent by 2021 (Marketing Land, 2017).

1.6 Email Marketing

Email marketing is the use of email to develop relationships with potential customers and/or clients. It allows businesses to keep their customers informed and tailor their marketing messages to them.

“The two big advantages of email marketing are price and ease. Emailing is an inexpensive way to advertise your company and its products and/or services compared to many other types of marketing. It's also extremely easy to set up and track an email marketing campaign, making it a very accessible type of marketing for small businesses” (Ward, 2018).

1.7 Social Media Marketing

“Social media marketing, or SMM, is a form of internet marketing that involves creating and sharing content on social media networks in order to achieve your marketing and branding goals. Social media marketing includes activities like posting text and image updates, videos, and and other content that drives audience engagement, as well as paid social media advertising” (Social Media Marketing for Businesses, 2018). As mentioned previously, many companies will invest money to exploit this venue of marketing. Social media marketing is predicted to bring in a very significant amount of revenue for companies as social media sites such as Facebook, Twitter, and Instagram surpass other types of media content in terms of popularity.

Affiliate, display, e-mail, and social media marketing are all part of and can be instrumental to driving people to a Forex company's website to sell its products and achieve a good return on investment.

The right marketing efforts and an effective and efficient website have become a necessity for the any Forex company to differentiate itself and to gain

market share. According to the Cyprus Securities and Exchange Commission (CySec), 248 domain names are registered and regulated by them. And this number is growing (Cyprus Securities and Exchange Commission, 2018).

The following chapter will review the research on the effectiveness of different marketing trends and how they can be applied to gain traction within the Forex industry.

Chapter 2

Strategy Analysis

This section will analyze the wealth management and roboadvisory markets with the objectives of (1) identifying the main market segments that can be targeted by the roboadvisory business of the Company and (2) estimating the potential revenue stream for the Company.

2.1 Strategy summary

Wealth and asset management is a big business, involving more than 3,300 companies worldwide and employing over 500,000 full time people. The value of global Assets under Management (AuM) reached \$69.1 trillion at the end of 2016 and is expected to rise to \$101.7 trillion by 2020 according to PricewaterhouseCoopers (PwC). Technology has shifted the approach of nearly every industry over the past decade, and the field of wealth management has not been immune to technological influence. The rise of the robots – the roboadvisors - is shaking up this once complacent industry. Deloitte has estimated that the roboadvisory market alone will exceed \$3.5 billion in 2020, and rise to over \$16 trillion in 2025 (Deloitte, 2016b).

Historically, investment management was the purview of the wealthy. Roboadvisors, which use computer programs to provide investment advice online, make automated portfolio management accessible, affordable and convenient, with fees less than half of those of traditional managers and low or

no minimum investment. These newer services will surge, managing as much as \$2.2 trillion in the United States alone by 2020, according to consulting firm A.T. Kearney (Epperson, et al., 2015).

However, while roboadvisors offer cheap and transparent advisory services, they are compromised by providing ready-made, standardized, non-interactive, investment advice. This is a serious handicap that limits the appeal of the service to the main target market: the younger, tech savvy individuals that are the natural clients of the new service. This generation of “digital” natives is likely to dominate the future clientele base of roboadvisors and, ultimately, of all wealth managers. Therefore, companies seeking to capitalize on this consumer demographic must seek to develop better-tailored roboadvisors which are more interactive to increase consumer engagement and boost clientele and profits.

As such, we believe there is a gap in the current roboadvisor market: there is a need for an “interactive” product that involves customers in the investment process and creates a deeper, more satisfying experience. We believe that this type of product plays well to the strengths of Forex companies and that the first company able to develop a substantially improved product to fill this gap is likely to enjoy **a significant competitive advantage.**

Robo advisory is increasingly becoming a competitive business. In the last few years, a number of industry giants, such as Vanguard and Schwab, have entered the market, lured by the potentials of this fast growing industry. However, the analysis of the current robo advisory market reveals that the intensity of competition differs greatly according to different geographic areas: while there is intense competition in the United States, the market is still relatively untapped in important regions such as the European Union and Asia.

While in the West, asset managers increasingly worry of losing market share to roboadvisors, Asian asset managers barely had a chance to serve as intermediaries in the first place: the market skipped directly into the digital

stage. Largely, this resulted from a generational “wealth inversion”: the best-paid workers in China tend to be younger, the first big generation of white-collar workers. They are much more likely to be willing to trust online platforms to manage their money.

Competition in the roboadvisory landscape is also changing rapidly. The initial “stand-alone” business model of nimble, start-up companies offering exclusively roboadvisory services is becoming increasingly challenged by high staff and marketing costs, and major consolidation and shakeout is very likely. Forex companies that have expanded in the roboadvisory space are becoming dominant in the market thanks to their existing client base and economies of scales in marketing, staff, information technology (IT) and compliance infrastructure.

The investment process of most existing roboadvisors is basic, standardized and non-interactive. In a typical investment process, a client visits a website where he or she can answer some questions (this is also called the “Know Your Client” or KYC step). Based on the client’s answers, the system generates an investment strategy. This strategy can contain stocks, foreign exchange, cash, etc. After the onboarding process, which includes the website registration and the KYC step, the client can deposit funds and start their chosen strategy. An example onboarding process for the website Motif (<https://www.motifinvesting.com>) is illustrated in Figure 1.

Figure 1: Client onboarding for Motif, a roboadvisory website.

The gap in current roboadvisor strategies is that the KYC step is very straightforward and does not provide any specialized information that would make the roboadvisory service particularly appealing to young digital natives who would be most likely to use the service. There is potential for Forex companies to fill the “gap” with a substantially improved product. The main keys to an improved, distinctive offering are:

1. Exploit the gap in the current robo market to develop an innovative product with an enhanced investment process and customization features;
2. Focus on fast-growing, low competition geographical markets such as Asia, where most Forex companies are already strong and can leverage their experience and existing customer base;
3. Since costs and profit margins are key, develop a systematic strategy to:
 - a) Reduce costs by leveraging and marketing to the existing infrastructure and customer base; and

b) Keep management fees low to attract investors, but maximize margins by generating additional revenues through customization and add-on features.

Offering advanced customization in client portfolios can bring substantial advantages, including additional sources of revenue through trading and the acquisition of valuable information on customers. This information on the clientele can be used in advanced marketing and developing a more targeted offering. Having a part of the portfolio that is fully customizable can also open a full range of opportunities for “social investing”, including, for example, sharing portfolios, tips, and investment discussions with friends. As demonstrated by the recent trends in social media and social investing, this has great potentials for generating “network effects” and attract new clients.

The overall strategic objective should be to build a “simple but scalable” offering: a simple, robust & reliable product and features at the start, to reduce time to market. The product should be vastly scalable to be able to (a) rapidly expand the offering and (b) swiftly counteract the potential offerings and improvements from the competition.

The Budget section summarizes the expected budget requirements and the estimated financial projections for the business. While accurate forecasts are difficult in a novel and fast growing industry such as roboadvisory, the overall conclusion is that the project has the potential to be very valuable.

Planning is important, but feedback and practical monitoring are also key during the implementation phase. In the budget section, we also conduct a sensitivity analysis to identify which key variables and performance indicators we should monitor to measure how effective we are in achieving our objectives in practice.

Initial investment requirements are limited, and there is a considerable upside potential: a successful roboadvisory product can generate a stable and

sizable revenue stream and offer an attractive diversification from the current Forex companies' reliance on the Forex business. However, international competition is becoming more and more intense, and the gap is closing. In Asia, the most promising (and underserved) market, heavyweights such as the Ant Financial-Alibaba group and the China Merchants Bank have announced the intention of developing a roboadvisory offering within the next 12 months.

2.1.1 Strategic area of interest: Asia and China

Asia and, in particular, China, are of particular interest for this study as most of the Forex Companies has a significant presence and customer base in Asia and (b) this is the market with the most potential in terms of prospective clientele for the roboadvisory business.

The Asian market is one of the most promising for wealth management with assets posed to overtake Europe in 2019, according to the Boston Consulting Group (see Figure 3).

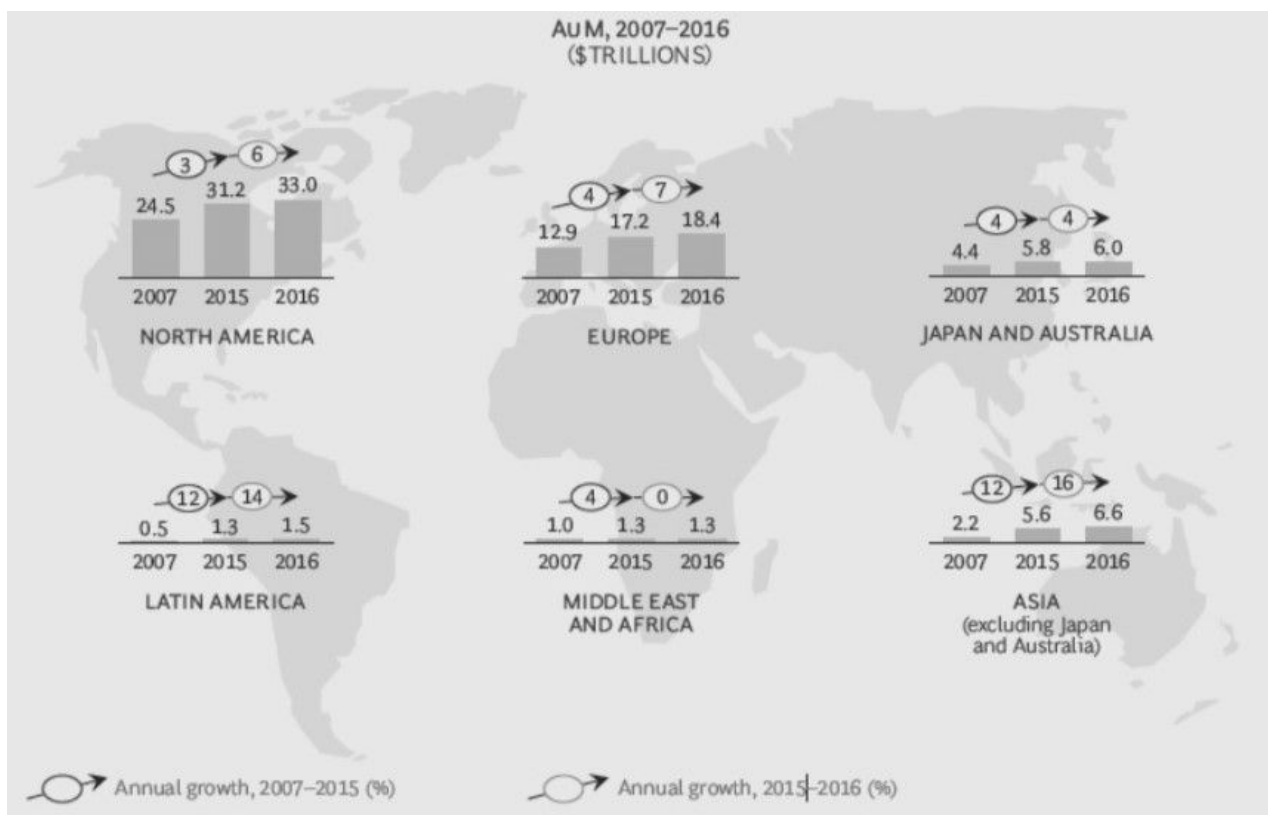


Figure 2: Global AuM growth Source: Beardsley and colleagues (2017)

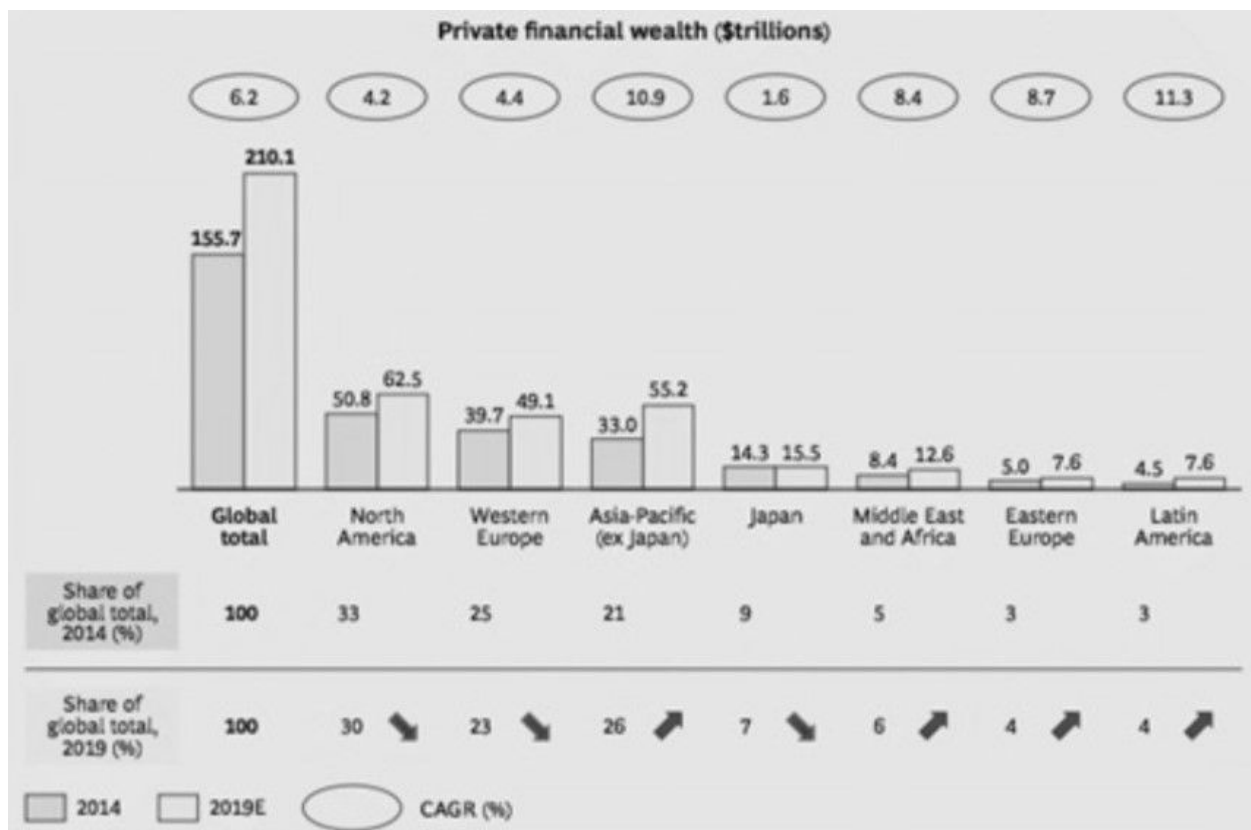


Figure 3: Regional Trends in AuM Growth

Source: Beardsley and colleagues (2015)

This regional trend is of particular importance for the roboadvisory business of a forex company: in Asia, where High Net Worth (HNW) clients are younger and more tech-savvy, almost one third of clients are looking for an automated advisory product (Lakhani, et al., 2017).

In the West, asset managers increasingly worry of losing market share as investors migrate to online methods of wealth management. In China, asset managers barely had a chance to serve as intermediaries in the first place; the market skipped directly into the digital stage. In large part, this resulted from a generational “wealth inversion”: the best-paid workers in China tend to be younger, the first big generation of white-collar workers. They are much more likely to be willing to trust online platforms to manage their money. “In America people love technology, too, when they are 22. They just don’t have any money,”

says Gregory Gibb, chief executive of Lufax, a Chinese online finance marketplace (The Economist, 2017).

China is shaping the future of global tech. China is the country with more internet users than any other—more than 700 million -- as well as the world’s leader in financial technology. China is, by far, the biggest market for digital payments (nearly half of the global total) and for online lending (three-quarters of the global market). Chinese internet leaders Tencent and Alibaba have a combined valuation of one trillion United States dollars. China’s middle class consumers, a demographic which has been growing along with the increasing popularity of the internet in the country, have always been inclined to shop online – in 2020, over 60% of all online sales are expected to come from China (see Figure 4).

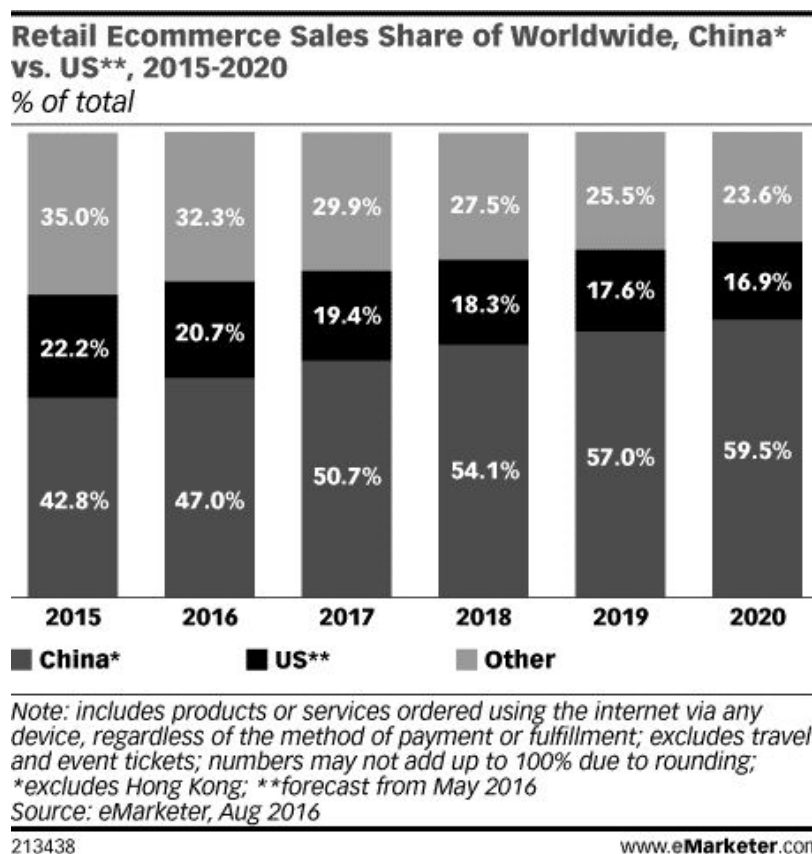
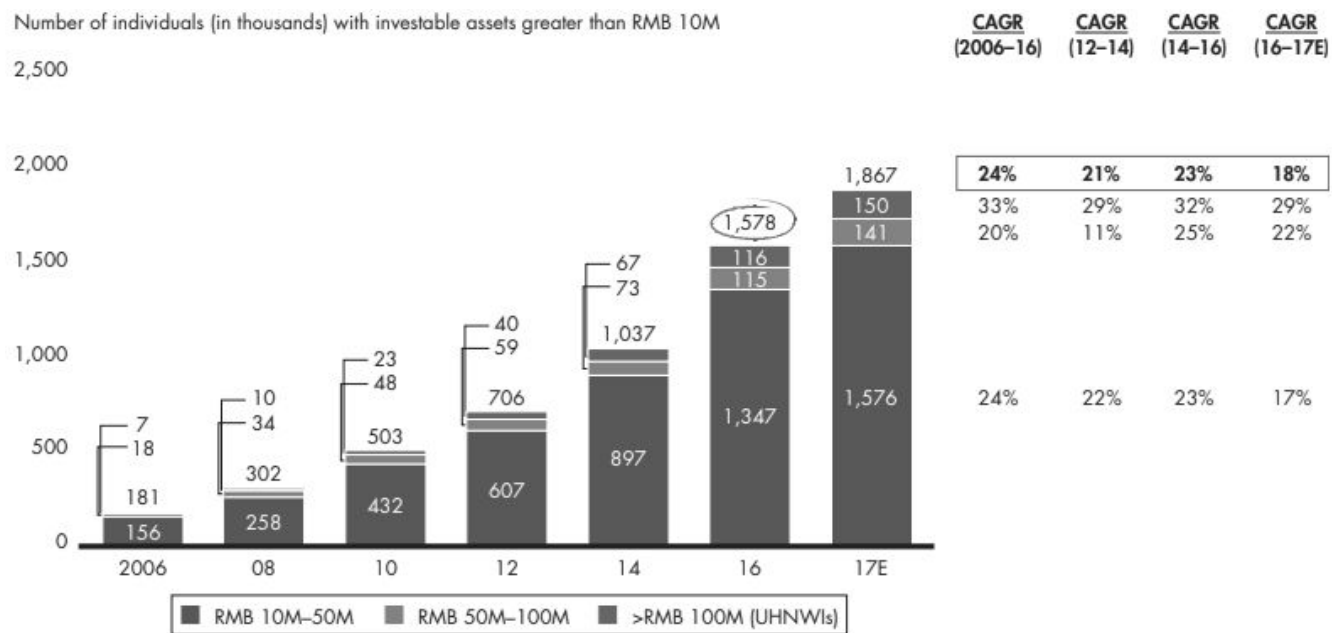


Figure 4: Global Retail Online Sales
 Source: eMarketer (2016)

Chinese are growing increasingly wealthy – the number of individuals with more than ten million Renminbi (RMB) in investable assets has increased by 24% annually in the last decade to 1.6 million in 2016 (Figure 5). There is evidence of a shift in behaviours in affluent Chinese consumers toward wealth and longer-term investing. The Chinese are growing comfortable with their finances and seeking to spend more and invest more, rather than keep a static savings account. At the same time, volatility in domestic financial markets and currency depreciation has promoted interest in overseas investing for risk diversification. As quality providers of wealth management are still largely lagging, the market presents vast opportunities for a roboadvisory business: there is evidence that many younger, affluent Chinese investors are becoming increasingly interested in investing in online roboadvisors (Figure 6).



Sources: National Bureau of Statistics of China; The People's Bank of China; Shanghai Stock Exchange; Shenzhen Stock Exchange; China Banking Regulatory Commission, Shanghai office; Her Majesty's Revenue and Customs (UK); US Internal Revenue Service; National Tax Agency of Japan; National Tax Service of Korea; US Federal Reserve; Bank of Korea; Bank of Japan; World Bank; Bain analysis

Figure 5: China HNWI Population

Source: Zheng and Ott (2017)

Automated Investing

Chinese investors' robo-advisory receptiveness varies with age and affluence.

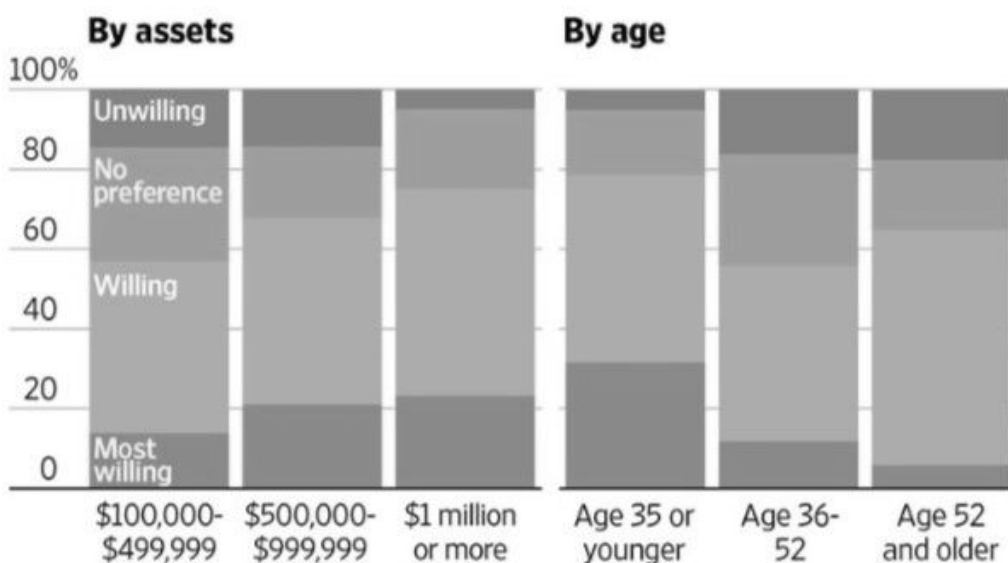


Figure 6: Chinese Investors Receptiveness to Roboadvisors

Source: Cerulli Associates Survey, The Wall Street Journal.

2.2 Management Industry

Wealth and asset management is a big business. Just in Europe, the global asset management business involves more than 4,000 companies and employs over 500,000 full time people (EFAMA, 2017). The value of global AuM reached \$69.1 trillion at the end of 2016, according to the Boston Consulting Group (Beardsley, et al., 2017). It is expected to rise \$101.7 trillion by 2020 according to PricewaterhouseCoopers Technology (PwC, 2014). This includes all assets and wealth professionally managed in exchange of management fees. Considering that the average management fee is 1.13% (Mckinsey & Company, 2016), this translates to a substantial yearly revenue pot of \$1.14 trillion for the industry.

In terms of trends and growth of the industry, there are wide regional differences regarding net new global flows – these differences are related to the industry lifeblood, which is the increase in AuM net of market gains/losses. The North American market remains the largest, with 48% of global AuM. However,

growth in the US and in the other major developing markets is slowing down markedly. In the US, AuM increased by 6% in 2016, but this small headline growth is deceptive: after taking into account the gains in domestic equities in 2016, the net effect was an outflow of -0.3%. Asia, and China in particular, are a notable exception to this trend (see Figure 2): annual AuM growth in Asia (ex-Japan and Australia) was 12% in the period 2007-2015 and over 16% in 2016 alone.

2.3 The Robo advisory Market

Technology has shifted the approach of nearly every industry over the past decade, and the field of wealth management hasn't been immune to its influence. The rise of roboadvisors is shaking up the conservative wealth management industry. Robo advice has rapidly gone, in few years, from being an innovation led by small financial technology, or fintech, start-ups, to being a key component of the market, adopted by leading financial institutions globally.

Robo advisors make automated portfolio management accessible, affordable, and convenient. Attracted by the considerable pot of revenues in the industry and by the large margins available in the early 2000s, robo advisors have entered the market in large numbers, putting the complacent business model of legacy managers under considerable strain. Competition from low-cost providers and regulatory pressures mean that wealth management is no longer anything like the high-margin, low-maintenance business it used to be: wealth managers' profit margins have fallen by nearly a third over the past decade (Greenhalgh and Noonan, 2017). Fees across the industry are falling and becoming more transparent. Wealth managers who do not invest in online systems, to be able to provide sensible advice at low cost, will be left behind and possibly face an existential threat.

This trend toward transparency and low-cost investing has created a fertile ground for the rapid growth of the robo advisory industry. An analysis by

Statista (2018) reveals that at the beginning of 2018, roboadvisors accounted for approximately \$371 billion AuM worldwide, over 70% of which is in the United States. The United States accounts for approximately \$266 billion of worldwide roboadvisory AuM, while Asia accounts for \$87 billion -- most of it in China, still managed predominantly with a mixed robo/human advisory model. Europe comes at some distance, with only \$15 billion (Statista, 2018).

Roboadvisors have been growing AuM at an impressive rate in the few years of their existence and this breath-taking speed of growth makes accurate future predictions difficult. As a result, estimates for the future size of the roboadvisory market by major well-known consultancy firms vary wildly:

- AT Kearney/EY/KPMG: \$2.2 trillion for US alone in 2020 with an expected compounded annual growth rate (CAGR) of 68% (Epperson, et al., 2015)
- Deloitte: \$5-7 trillion for US alone in 2025 (Deloitte, 2017b)
- Business Insider Intelligence (Kocianski, 2017): \$1 trillion by 2020 and \$4.6 trillion by 2022 worldwide
- Statista (2018): AuM is expected to show a compounded annual growth rate of 37.9% from 2018 to 2022, resulting in the total amount of \$1.35 trillion in 2022.

For the purposes of this study we will use the forecasts of Statista, which we believe give a more realistic estimate of current AuM and are more conservative. Expected rates of growth vary considerably among different geographical areas. While the US is currently the biggest market for roboadvisors, Asia, with its younger, more affluent, and tech-savvy population, is forecasted to grow at a much quicker pace (67.7%) and to overtake the US in 5 years, becoming, at approximately \$700 billion, the biggest market for roboadvisors in 2022 (Figure 7).

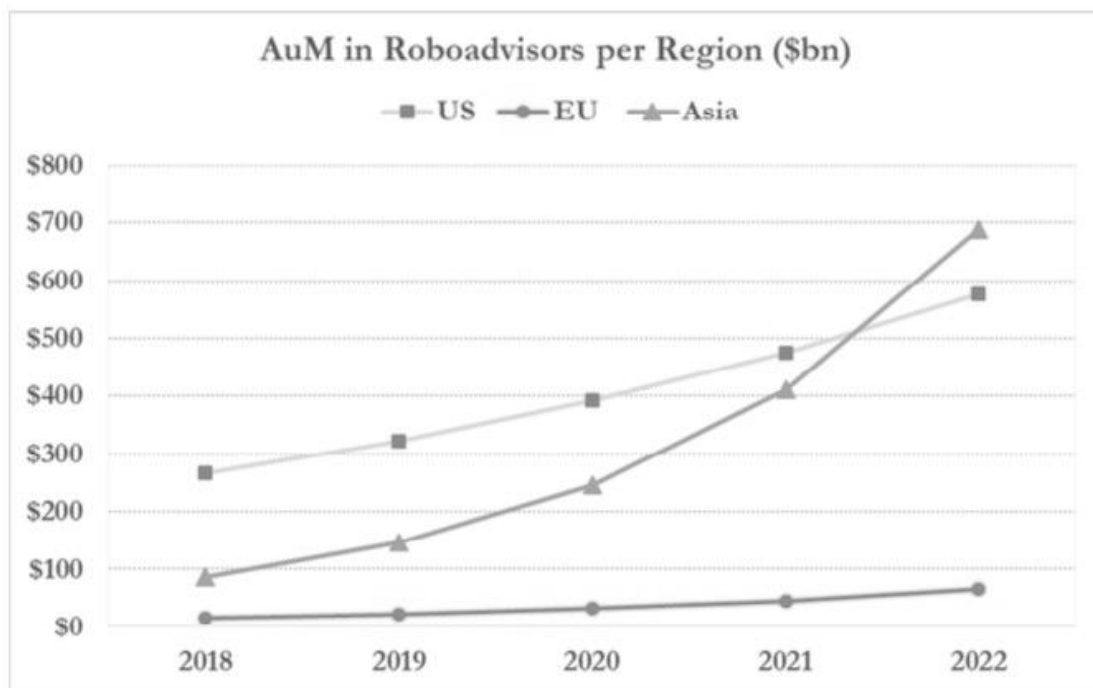


Figure 7: Roboadvisors - Expected AuM Growth per Region

While it is difficult to make accurate predictions in an industry that is growing so fast, the evidence is that roboadvisors are rapidly increasing in popularity and becoming the biggest disrupter in the investment space: launching an on-line offering is rapidly becoming a necessity for legacy wealth managers and institutions. We believe that, in the future, a significant part of the wealth will be managed online, completely or partially (combined with human advice), and that traditional managers, to survive and thrive, will have to implement some form of online offering.

Emerging markets, particularly in Asia, are poised to become the biggest market and source of revenue for roboadvisors: this is of particular interest for Forex companies for promoting their websites and acquire more clients.

Chapter 3

Detailed Strategy

The objective of this section is to discuss the overall strategy of the roboadvisory business of the Company.

3.1 Overall Strategy

An overview of the main potential “risks and rewards” of the project is shown in the SWOT analysis in Figure 8. A SWOT analysis is a structured planning method used to evaluate the Strengths, Weaknesses, Opportunities and Threats involved in a project.

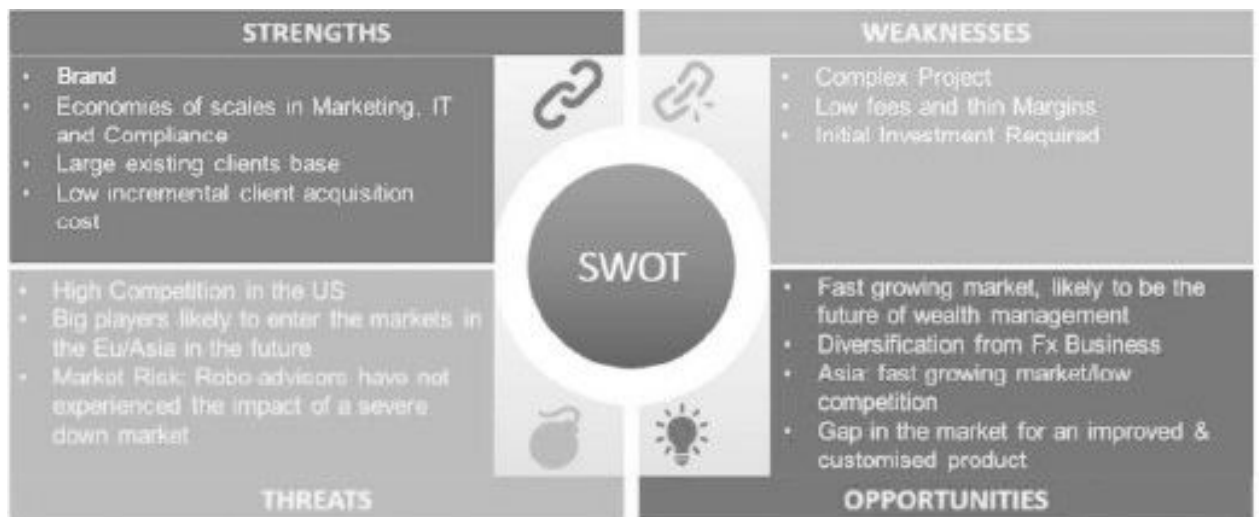


Figure 8: SWOT Analysis

Overall, the main weaknesses and risks we identified are associated with the complexity of the projects, the low margins in the industry, and the high level of competition in some markets such as the United States. Moreover, the

roboadvisory product is cyclical, meaning that it is sensitive to the business cycle and revenues can fluctuate. The roboadvisory product has not been tested yet in a severe bear market, where roboadvisory could experience substantial outflows.

On the positive side, this project plays well to the strengths of Forex companies: the established brand, large potential economies of scale, and existing client base are significant advantages. This can allow Forex companies, similarly to other institutional players, to significantly lower customer acquisition and maintenance costs: this is a key potential advantage and will be discussed in more detail in the Budget section.

Overall, we believe that the main strategy of the robo business should focus on the following aspects:

1. Exploit the gap in the current robo market: develop an innovative product with enhanced investment process and customization features;
2. Focus on fast growing and low competition geographical markets such as Asia where brokers are already strong and can leverage experience and an existing customer base;
3. Costs and profit margins are key. Develop a systematic strategy to:
 - a) Reduce costs in marketing, existing infrastructure and customer base; and
 - b) Keep management fees low to attract investors but maximize margins by generating additional revenues through customization and add-on features.

Costs and profit margins will be discussed in detail in the Budget section. In this section, we will focus on the key features of an improved and innovative product.

3.2 Building an innovative product

Roboadvisors offer cheap and transparent advisory services but the major drawback is that they provide ready-made, standardized, non-interactive,

investment advice. This is a serious handicap that limits the appeal of the service to the main target market: the younger, tech-savvy individuals that are the natural clients of this type of new service. This generation of “digital” natives is likely to dominate the future clientele base of roboadvisors and, ultimately, of all wealth managers.

As such, we believe there is a gap for a substantially improved roboadvisory product and that there are two main areas of opportunity to differentiate product from the current standardized market offering:

1. Investment process: the main source of revenue for roboadvisors is a management fee, so business success is dependent on a successful long term relationship with investors. We want clients to be happy, invest more money, and refer others. Therefore, investment performance is important. Most roboadvisors, for simplicity, use simple automated models to build investors’ portfolios and to select underlying ETFs. While this approach is seductively simple to use and understand, it typically suffers from several important drawbacks that can severely impact the performance of investors’ portfolios and increase risks of large losses. With the increase of modern computing power, we can replace these simplified models with more advanced and realistic techniques, aiming to improve investment performance.
2. Customization: create an “interactive” product that involves customers in the investment process and creates a deeper, more satisfying experience. We believe that this type of product plays well to the strengths of Forex companies to have a significant competitive advantage.

3.3 Investment process

Ultimately, success in a roboadvisory business relies on investment performance, which is essential to be able to increase AuM by both retaining and attracting new clients. We will analyze in the next sections the two main ways to increase performance:

- Adding value: build portfolios that outperform the competition.
- Reducing costs: performance is uncertain, but costs are not. Therefore, reducing costs is the only guaranteed way of increasing performance.

3.4 Adding value

“Optimal portfolios are identified using Modern Portfolio Theory (MPT) [...]. While MPT has its limitations, especially in the area of very low probability significant downside scenarios, we and our advisors believe it is the best framework on which to build a compelling investment management service.” - Wealthfront’s Investment Methodology (“Wealthfront Investment Methodology White Paper,” 2018).

Modern Portfolio Theory helps investors construct risk-averse portfolios to “optimize or maximize expected market return” (Investopedia, 2018). Depending on the level of risk, investors can construct a portfolio that offers the maximum or best return. Another option offered by the MPT framework is that, based on a given desired return, a portfolio can be developed with the lowest possible risk. MPT is the backbone of many investment management philosophies today. The theory was introduced by Harry Markowitz in a paper in the *Journal of Finance* 1952; he was a recipient of the 1990 Nobel Prize in Economics for this pioneering work (Investopedia, 2018).

Most roboadvisors, for simplicity, use the traditional Modern Portfolio Theory (MPT) to build investors’ portfolios. While the MPT approach is seductively simple to use and understand, it suffers from several important drawbacks limiting its applicability in practice. It assumes, among others, normally distributed returns, the same preference functions for all investors, a single time horizon and no transaction costs. These assumptions are all highly unrealistic in the real world.

Black Monday, which occurred on October 19, 1987, was a 21-standard deviations event in which the Dow Jones Industrial Average lost 22% in a single day (“Black Monday”, 2018). According to the MPT framework, we should expect to see such events no more than once every 8.4×10^{94} years. Over the next two days, on October 20 and 21, 1987, the market experienced a more than 5-sigma event which is statistically possible once every 9,500 years. Three “once-in-a-lifetime” events occurred within the timeframe of three short days. Analogous events happened in the financial crisis of 2008, which was the worst economic disaster since the Great Depression of 1929 (Amadeo, 2018). In other words, according to the MPT framework, we live in an ideal world of robo-investors with perfect and frictionless markets. This model is hardly applicable in practice, and may lead to grossly unrealistic and brutally “painful” results when used for financial planning.

MPT is a simple model: while it was okay to use in the pre-computers era of the 1970s and 1980s, there is no reason to stick with it today given the increase in modern computing power. Portfolio Optimization Algorithm (POA; Wiecki, 2015) aims to differentiate from the MPT approach of traditional robo-advisory offerings and to offer a more realistic solution to investors through more realistic return and risk measures and more realistic measures of relationships between assets. POA offers use of more realistic return and risk measures than MPT. Volatility is not always bad for an investment, but the problem with the commonly used measure of volatility, standard deviation, is that it assumes normally distributed returns and it is symmetric: it penalises a +20% performance in the same way as it does for a -20% loss. The POA will use more realistic measures such as CVAR and CVAR ratio. Conditional Value at Risk (CVAR95) is the average real loss (or gain) in the worst 5% of the empirical distribution. The CVAR ratio is computed as average geometric returns divided by the CVAR and is a measure of return obtained for each unit of risk taken. CVAR penalizes only extreme negative fluctuations of an asset/portfolio and have no unrealistic normality assumptions.

POA also offers the use of more realistic measures of relationships between assets. As an old Wall Street saying goes: “In a financial crisis, all correlations go to one.” Correlations used in MPT models assume simplified linear relationships between returns in different investments. In reality, there is strong evidence of non-linearity in markets – during crises, correlations tend to increase significantly, and different assets and markets tend to move down together. In practice, we think we are diversified, but we are sitting on a portfolio whose assets tend worryingly to go down all at the same time in difficult markets. The POA will aim to create more realistically diversified portfolios through models based not on theoretical distributions (e.g., a normal distribution) but on actual real data and on scenario based models (e.g., Monte Carlo simulations).

A simplified example of the outcome of the POA is the objective here is to create portfolios that are more stable and diversified with respect to the simplified MPT aiming to give investors a better “bang for the buck” - higher returns per unit of (real) risk taken.

3.5 Reducing costs

Performance is uncertain, while costs are not. No matter how much we strive to add value, there is no guarantee of future performance. Moreover, roboadvisor portfolios are long-only with limited possibilities of hedging/strategy deviations: they will always follow the market to an extent. The only guaranteed way of improving performance for investors is to reduce the costs of their portfolios.

Most roboadvisors identify costs with just the total expense ratio (TER) of the portfolio's underlying funds and exchange traded funds (ETFs). However, this is a gross, and misleading, oversimplification.

The first step in establishing our low cost strategy is to identify the building block of our portfolios: ETFs. We use ETFs and not active funds as there is strong evidence that the vast majority of active funds underperform in the market and that much of this underperformance is due to excessive fees. As an example, Figure 9 reports the evidence for the US market by SPIVA (Standard & Poor's Indices Versus Active), the most authoritative source on the active vs. passive debate. In the last 5 years only 17.62% of the active funds outperformed the S&P500, while a whopping 82.38% of them underperformed it. Evidence is similar in most other markets.

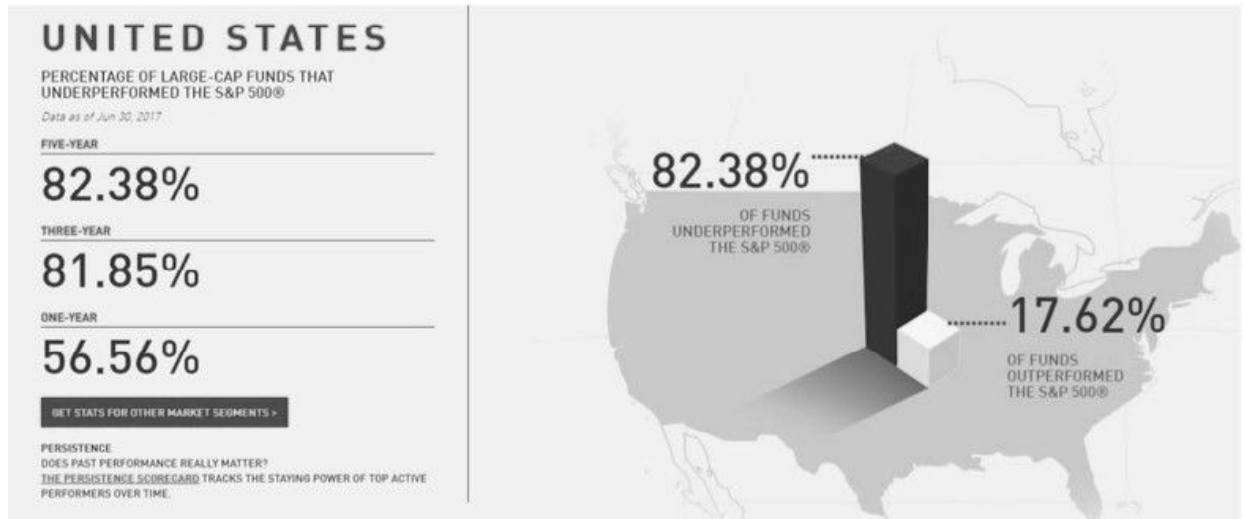


Figure 9: evidence on Active vs. Passive - SPIVA Statistics
 Source: SPIVA U.S. Scorecard - Soe and Poirier (2017)

Costs are one of the most reliable and proven predictors of a fund's success. An extensive study by Morningstar computed the success ratio (percentage of funds that survived and outperformed their category group) for funds in different cost categories. In U.S. equity funds, the cheapest quintile of funds had a total-return success rate of 62% after 5 years, compared with only 20% for the priciest quintile. Evidence overwhelmingly points to low-cost ETFs as the best building blocks of investors' portfolios.

The importance of low costs is magnified by the power of compounding. The target market or roboadvisory is typically represented by younger investors who need to invest for the long term, so even small differences in costs, compounded, can make a huge difference in performance.

Figure 10 illustrates a comparison of the typical cost structure of roboadvisors versus their typical competitors. While roboadvisors are normally able to contain total costs below 1%, the total costs of traditional wealth managers (typically 3%+) and private banks (typically 4%+) are much higher. Estimated average total costs of traditional wealth managers are currently around 3.65% a year according to the Financial Times (Dunkley, 2014).



Figure 10: Comparison of the typical cost structure of roboadvisors versus their typical competitors.

This translates, on an investment of €100k and an assumed 6% performance before fees, in a difference in performance of over 100% over 20 years between the roboadvisor and its competitors (Figure 11).

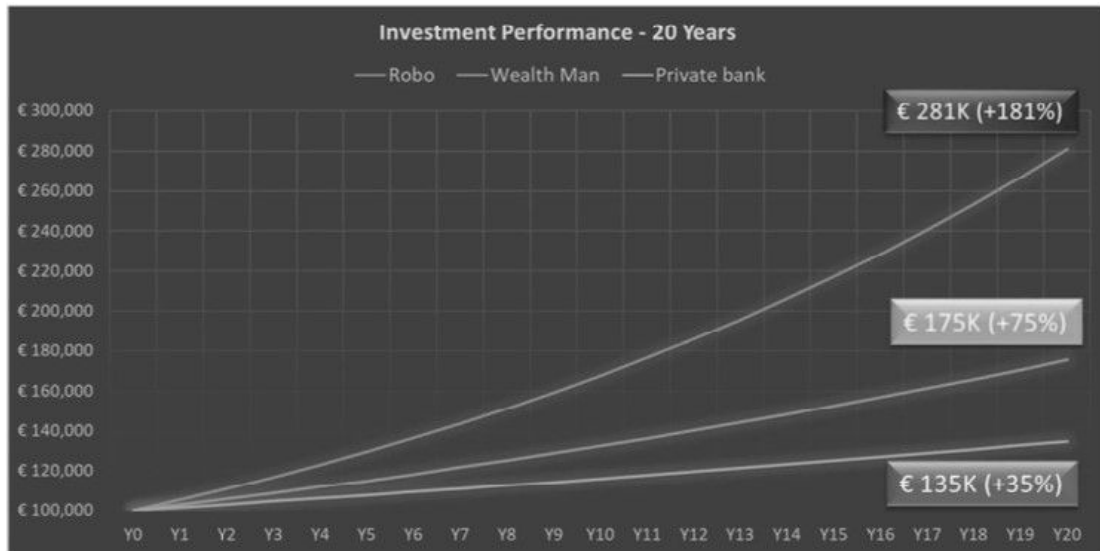


Figure 11: Investment performance over 20 years for Roboadvisory, Wealth Management, and Private Banks.

Keeping costs low is critical, and low costs are one of the main selling points of roboadvisors. While maintaining a cost advantage over traditional managers is easy, it is a much more challenging task when competing with other cost-efficient roboadvisors.

3.5.1 Advanced Marketing

Advanced Marketing algorithms can segment, profile and target customers accurately and cost-effectively. The main features of advanced marketing algorithms include the collection and storage of relevant data related to customer behaviour, past actions and preferences to:

- a) Perform accurate and cost-effective customer segmentation, profiling and targeting aimed to determining stocks/ETFs/products attractive to specific groups of customers;
- b) Identify possible cross-selling opportunities for Forex companies;
- c) Select and constantly update possible choices for the customizable part of the portfolio (e.g. messages and pop-ups with suggestions, similar to Amazon or Google);

d) Supply customers with relevant news feeds according to preferences/interests.

The objective of advanced marketing is to maximize customer engagement and involvement and ultimately to maximize revenues earned from the customized part of the portfolio and increase customer retention.

3.5.2 Budget and Financial Projections

This section will summarize the expected budget requirements and the estimated financial projections for the roboadvisory business. The main assumptions underlying the projections are summarized in Table 1 below.

Variable	Main Assumptions
Pricing Strategy	Management Fee of 0.45% (lower range of the typical fees in the European Union and Asia)
Estimated Market Share/AuM	<p>Forecasts of Roboadvisory AuM in the next 5 years: Statista projections (see Section 2.2)</p> <ul style="list-style-type: none"> • Estimated Market Share of roboadvisor: <ul style="list-style-type: none"> • US market: 0% • EU/Asian Markets: Negligible at start and increasing gradually in 5 years to 0.35% of the robo market in the EU, and 0.45% in Asia
Costs	<ul style="list-style-type: none"> ● Initial estimated costs: €700k ● Variable costs: estimated as 0.2% of AuM (typical costs for institutional

	<p>players) with a minimum of €500k</p> <ul style="list-style-type: none"> ● Client Acquisition costs: Existing Clients: \$50 New Clients: \$150 ● Client Average Lifetime: 6 years (83% yearly retention ratio)
Additional Revenues	<ul style="list-style-type: none"> • Cash Net Interest rate Margin: 1% with an average portfolio cash allocation of 5%. • Trading revenues for customized portfolio (from year 2): 0.12% of AuM

Table 1: Main assumptions regarding variables of interest.

As seen from the table, we have tried to be on the conservative side with the revenue forecasts, by:

- a) Using the most conservative forecasts of roboadvisory AuM (Statista), and
- b) Assuming no market share in the US and cautious estimates of market shares in the EU/Asia. From our market research analysis, we have identified that medium-sized roboadvisors tend to have on average 1%-2% of the total market share. This is a conservative estimation assuming that no new technologies will penetrate the market with substantially improved products. Given the existing expertise and client base, and the expectation of a substantially improved product, we would expect the company to be able to gain a similar market share in Asia. However, to be on the conservative side, we have assumed a market share that is less than half that (0.45%) after 5 years.

Regarding pricing strategy, we have also tried to price the product conservatively toward the lower range of the fees in the EU/Asia to be cost competitive. As discussed in the Strategy section, the overall pricing strategy

should aim to keep management fees low to attract investors and to maximize margins through revenues from add-on modules and services to investors.

Regarding costs, the most critical measures are variable costs, which are recurring, and client acquisition costs which are key to profitability. We have assumed long term variable ongoing costs of 0.2% of AuM, similar to those of institutional players such as Schwab, to reflect the substantial synergies and potential economies of scale with the existing business. We believe that the target should be to achieve even lower levels of costs once the AuM of the roboadvisory business increases. Client acquisition costs are assumed at \$150 per client, which is slightly lower than those of the typical standalone roboadvisors, to reflect company brand name, existing customer base and marketing synergies with the existing FX business. The resulting financial projections are outlined in Table 2. While we made every effort to compute realistic estimates, projections far in the future of a business in a new and fast growing industry, such as roboadvisory, can only be rough approximations. As such, the main objective of the projections is not to have precise estimates of revenues and profits, which depend on a number of assumptions, but rather to:

- a) Help in the planning of the project, by giving an appreciation of the feasibility and potentials of the project;
- b) Aid in the decision making and specifically, in key choices, such as those regarding the pricing strategy;
- c) Help the company track what's important: which variables are key/critical for the success of the project and which key performance indicators (KPI) we need to monitor to determine how effective we are in achieving our objectives.

	Year 1	Year 2	Year 3	Year 4	Year 5
Management Fee	\$264,135	\$1,880,888	\$5,270,828	\$11,928,780	\$24,879,015
Cash Interest Margin	\$29,348	\$208,988	\$585,648	\$1,325,420	\$2,764,335
Trading	\$0	\$501,570	\$1,405,554	\$3,181,008	\$6,634,404
Total Income	\$293,483	\$2,591,445	\$7,262,029	\$16,435,208	\$34,277,754
Payroll	\$496,348	\$497,448	\$937,036	\$2,120,672	\$4,422,936
Marketing / Advertising	\$394,200	\$1,597,458	\$3,685,008	\$7,749,786	\$15,780,246
Other Costs	\$124,087	\$124,362	\$234,259	\$530,168	\$1,105,734
Total Cost	\$1,014,635	\$2,219,268	\$4,856,303	\$10,400,626	\$21,308,916
Profit	-\$721,151	\$372,177	\$2,405,726	\$6,034,582	\$12,968,838
AUM end of Year (\$m)	\$159m	\$637m	\$1,623m	\$3,520m	\$7,228m

Discount Rate	10.0%
Final Value (as a % of AUM)	6.0%
Expected NPV (\$m)	\$283m
Payback Period	2.5 years

Table 2: Financial Projections.

As shown in Table 2, in the initial year we expect a slow start in AuM, reaching just over \$150m at the end of year 1 (this includes both business from existing Forex clients and new clients). To keep things simple, we have not considered the aspect of “cannibalization” of business, where an increase in the robo business comes at the expense of existing Forex businesses as (a) they are two different types of products (investing for the long term and trading in the short term) so we don’t think the effect will be significant and (b) there is also potential for an opposite cross-selling effect, where robo customers allocate part of their portfolio to FX trading. We expect growth to pick up in the following years once the product is stable, there is awareness of the product in the market, and a “critical mass” of AuM is achieved. This translates to an expected loss in Year 1 (Y1) of approximately \$720,000, mainly due to initial costs, but a return to profitability in Year 2 (Y2), with AuM reaching over \$600 million. We expect the payback period, or the length of time required to recover the costs of the

investment, to be approximately 2.5 years, and assets and profitability to increase substantially once a critical mass of \$1+ billion AuM is achieved between years 2 and 3.

Under these circumstances, using a discount rate of 10% (We consider this a realistic rate as, at the date of writing (Jan 18, 2018), average yields of junk bonds in the EU (representing financing rates of riskier EU companies) are approximately 3.74%, and 10 year benchmark bond yield of “risky” EU countries such as Italy and Spain are between 1.5%-2.0%. We consider an additional risk premium of 6-8% over these rates for a risky, “start-up” project as reasonable.) and a final business sale value as 6%. We have a valuation toward the mid-point, between the current standard of valuation of roboadvisors (8% of AuM - see Section 3 on Competition) which we consider excessive, and that of traditional legacy managers (2% of AuM). Of AuM in Year 5, the Net Present Value (NPV) of the project is estimated as +\$283 million. While this is just an indicative figure that depends on a number of assumptions and is intended to be an estimate rather than an accurate measure, the overall conclusion is that the project has the potential to be very valuable.

3.5.3 Sensitivity Analysis: Key Variables and Performance Indicators

The next step is to assess the sensitivity of these projections to some key variables, such as the level of the management fee and the client acquisition costs (CAC), and to identify which key performance indicators (KPIs) we will need to monitor to check how effective we are in achieving our objectives.

A one-dimensional sensitivity analysis conducted in Table 3 shows the effect that variations of management fees have on profitability. While at the level of 0.45%, we expect to turn profitable in Y2, a reduction of the management fee to 0.35% or 0.25% will delay the turn to profitability to Y3. If the fee is reduced further to 0.15%, the project becomes consistently loss making. Conversely, if we

increase the management fee to 0.65%, the profitability roughly doubles. It is important to remember that one-dimensional sensitivity analysis, while useful, has its limitations. For example, it measures the effect of changes of only variable at the time and assumes other variables constant. In this case this does not model other factors, such as the possible increase/decreases in the number of clients when the management fee decreases/increase.

Overall, as Table 3 indicates, there is a big increase in profitability from 0.35% upward: so, the main takeaway is that, with the current assumptions, we should ideally strive to have a management fee of 0.35% or higher.

Man Fee	Year 1	Year 2	Year 3	Year 4	Year 5
0.15%	-\$897,241	-\$881,748	-\$1,108,159	-\$1,917,938	-\$3,617,172
0.25%	-\$838,544	-\$463,773	\$63,136	\$732,902	\$1,911,498
0.35%	-\$779,848	-\$45,798	\$1,234,431	\$3,383,742	\$7,440,168
0.45%	-\$721,151	\$372,177	\$2,405,726	\$6,034,582	\$12,968,838
0.55%	-\$662,454	\$790,152	\$3,577,021	\$8,685,422	\$18,497,508
0.65%	-\$603,758	\$1,208,127	\$4,748,316	\$11,336,262	\$24,026,178

Table 3: Sensitivity Analysis - Management Fee

Table 4 shows a similar sensitivity analysis on acquisition costs for new clients. Here, if we manage to reduce costs all the way from \$150 to \$50, the effect is roughly a doubling of profitability. Conversely, if the CAC spirals over \$300, the effect on profitability is considerable and the project is still not profitable even after 5 years. CACs are one-off costs (paid only once to acquire the client) and thus the impact will lessen in following years when the AuM growth stabilizes. However, the impact in the fast-growing, early years, is substantial and the main take-away from Table 6 is that this is a key cost to keep under control to avoid the accumulation of substantial losses in the initial stages of the business.

CAC	Year 1	Year 2	Year 3	Year 4	Year 5
50	-\$557,020	\$1,279,281	\$4,636,170	\$10,850,355	\$22,840,589
100	-\$639,086	\$825,729	\$3,535,394	\$8,538,910	\$18,179,586
150	-\$721,151	\$372,177	\$2,405,726	\$6,034,582	\$12,968,838
200	-\$803,217	-\$81,375	\$1,276,058	\$3,530,254	\$7,758,090
250	-\$885,282	-\$534,927	\$146,390	\$1,025,926	\$2,547,342
300	-\$967,348	-\$988,479	-\$983,278	-\$1,478,402	-\$2,663,406
350	-\$1,049,413	-\$1,442,031	-\$2,112,946	-\$3,982,730	-\$7,874,154

Table 4: Sensitivity Analysis - New Clients Acquisition Cost

Finally, Table 5 shows the joint sensitivity of the profitability at the end of year 3 to both factors: management fees & CAC. We chose year 3 as it is a key point of turnaround for profitability in most scenarios. From the table we can see that under the target of \$150 CAC/0.45% management fee, we expect a profit of roughly \$2.4 million at the end of Y3. However, if the management fee is reduced to 0.25%, at the same level of CAC (\$150), the profitability is significantly reduced (\$63,000). If we instead keep the management fee at 0.45%, but we increase the CAC all the way to \$350, the effect is to turn the profit to a substantial loss at Y3 end (-\$2.1 million). In general, the CAC is a more critical variable as with small level of customer costs (e.g. \$50 or \$100) the project is profitable even at very low level of management fees, while with high level of CAC (\$300 or \$350) profitability is challenging even at high levels of fees.

Y3 Profit	50	100	150	200	250	300	350
0.25%	2,293,580	1,192,804	63,136	(1,066,532)	(2,196,200)	(3,325,868)	(4,455,536)
0.35%	3,464,875	2,364,099	1,234,431	104,763	(1,024,905)	(2,154,573)	(3,284,241)
0.45%	4,636,170	3,535,394	2,405,726	1,276,058	146,390	(983,278)	(2,112,946)
0.55%	5,807,465	4,706,689	3,577,021	2,447,353	1,317,685	188,017	(941,651)
0.65%	6,978,760	5,877,984	4,748,316	3,618,648	2,488,980	1,359,312	229,644
0.75%	8,150,055	7,049,279	5,919,611	4,789,943	3,660,275	2,530,607	1,400,939

Table 5: Sensitivity Analysis - Management Fee & CAC

Overall, from the results of the sensitivity analysis, we can identify the following key performance indicators (KPIs) that we should monitor to measure how effective we are in achieving our objectives in practice:

- a) CAC: average cost of acquiring a client;
- b) Customer Lifetime Value (CLV): the revenues a customer is predicted to generate over the duration of its account;
- c) CLV/CAC ratio: expected revenues from a client over the cost of acquiring it. This measure is intensively used as yardstick of success by established online businesses.

b)

The CLV/CAC ratio, in particular, is a great way to see if the project can achieve a sustainable growth. The ratio helps to determine how much we should be spending to acquire a customer. Calculating this ratio will show if we are spending too much per customer or if we are missing opportunities to gain clients because we are not spending enough. Obviously, the higher the better - if the ratio of CLV to CAC is less than 1, then the company is destroying value.

While accurate forecasts are difficult in the roboadvisory industry, the overall conclusion from the budgeting exercise is that the project has the potential to be very valuable. Financial projections and sensitivity analyses highlight a number of key aspects:

- Importance of revenues from additional sources (other than management fee) such as cash management and trading;
- Importance of targeting and monitoring some key variables (other than the classical revenue and cost measures), to assess how effective we are in achieving our objectives.

Chapter 4

Questionnaire

4.1 About the questionnaire

We developed a questionnaire to administer to males between the ages of 18 and 35 years old living in Asia and Europe to learn more about them and their preferences for roboadvisory offerings, as we identified this demographic to be an underutilized demographic in current roboadvisory offerings. We used Google Surveys to ask an audience of 174 respondents in this target demographic to answer 10 questions to help us develop a more customized roboadvisory service. The purpose of the questionnaire was to learn of issues that are of interest to the roboadvisory company in order to create better product offerings.

The questions administered and the results are listed in Section 4.2. Nearly 70% of participants had at least a Bachelors Degree and most (35.4%) earned below \$50,000 USD a year. 84.7% of participants did not have trading experience, but 69.4% reported making investments in financial products. 74.8% of respondents stated that they prefer an automated roboadvisory service compared to placing trades on their own. 72.1% of respondents stated that they would like to have an investment app installed on their smartphone. This supports our idea that a more customized roboadvisory offering could better cater to so-called “digital natives” in this age range to gain clientele in this demographic.

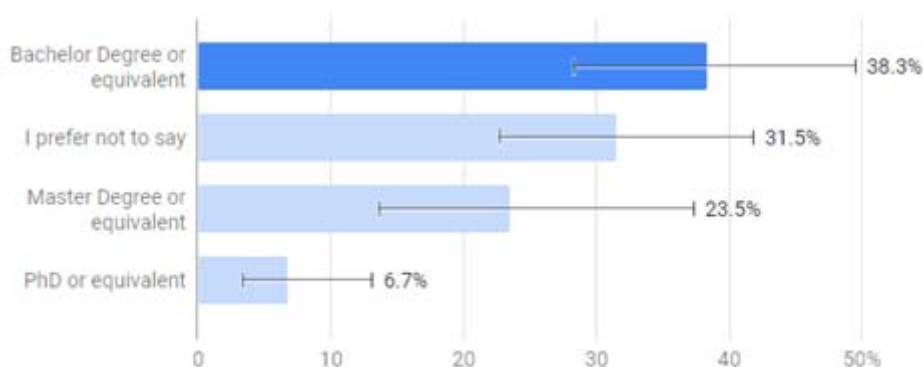
In terms of specific features for the roboadvisory service, most respondents indicated that they were interested in investing in shares such as Apple, Amazon, and Google. However, the majority of respondents said they were not interested in investing in indices such as DAX, FTSE, and S&P. 58.2% indicated interest in investing with a trusted and authorized company, and

72.1% of respondents said that they would like to see new trading tools, such as calculators and trading signals, added to the offering (72.1%).

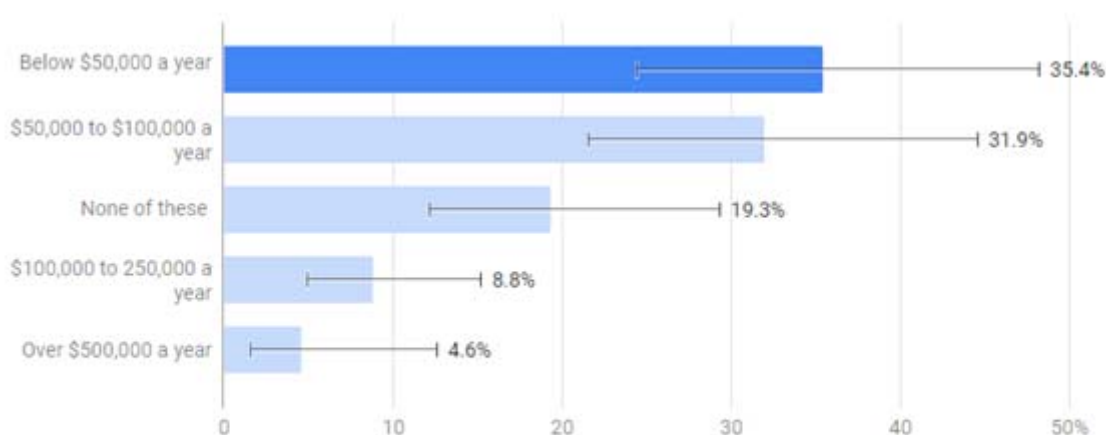
Based on the responses to this questionnaire, we will develop and test models on the website to see if they can boost clientele. Google and social media analytics will also be used to test the effectiveness of our website functionality that are derived from these survey responses. If these models, derived from research and testing, can increase the Forex company’s consumer base, they may also be used on a larger scale by other companies to enhance profitability.

4.2 Survey questions and responses

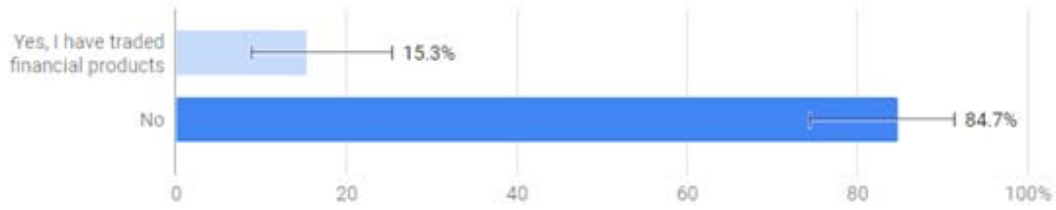
1. What is your level of education? (174 respondents)



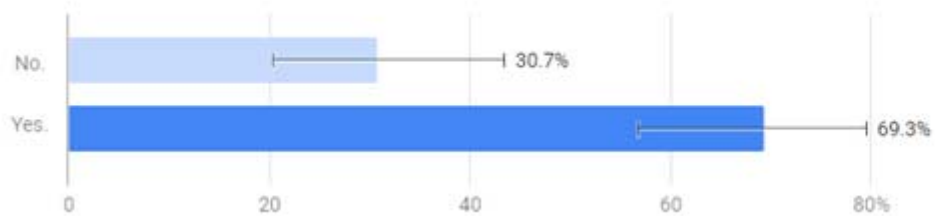
2. What is your Annual Income (USD)? (174 respondents)



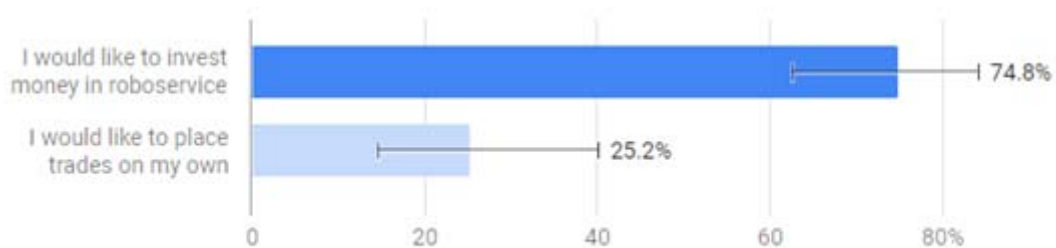
3. Do you have trading experience? (174 respondents)



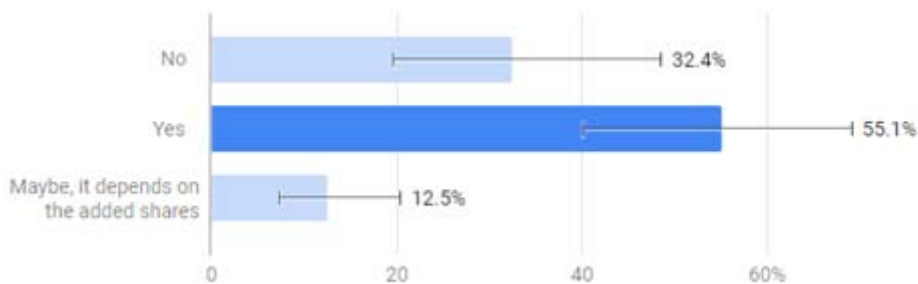
4. Did you make any kind of investments in financial products? (174 respondents)



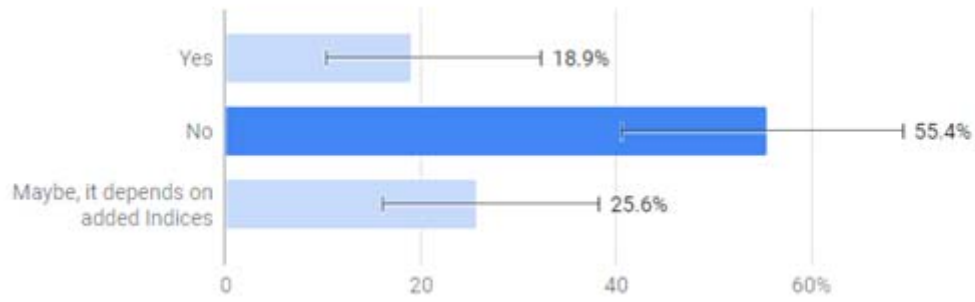
5. Would you like to make trades on your own or use an automated roboadvisory service? (174 respondents)



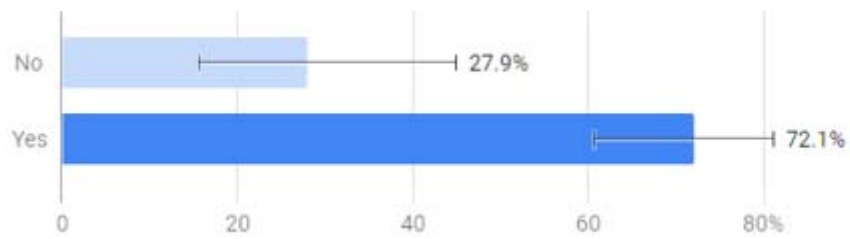
6. Would you consider the opportunity to make investment in shares such as Apple, Amazon, Google etc? (174 respondents)



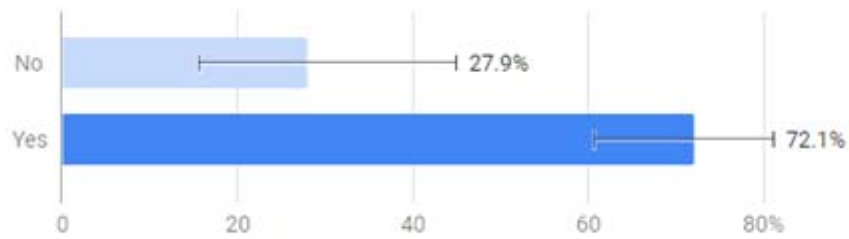
7. Would you consider the opportunity to make investment in indices such as DAX, FTSE and S&P? (174 respondents)



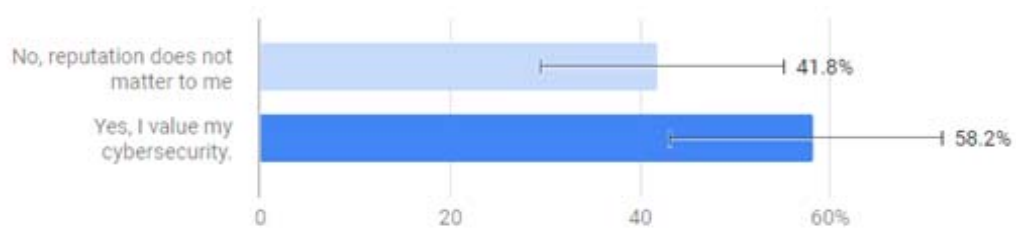
8. Would you like to have an investment app installed on your smartphone?
(174 respondents)



9. Would you like to see new trading tools, such as calculators and trading signals, added to our offering? (174 respondents)



10. Would you like to make investment with a trusted and authorized company? (174 respondents)



Chapter 5

Epilogue

The world of finance is subject to increasingly complex and restrictive regulations, making investment more complicated by the day. Roboadvisory can be a convenient alternative to traditional investment advisory methods in that it is automated, more straightforward, and cheaper than conventional (non-automated) wealth management alternatives. Market analysis indicates that the roboadvisory industry is set to grow by billions of dollars in the coming years. However, many gaps exist in current roboadvisory offerings on the market, which leave these robo offerings less attractive to digital natives, whose business could be a huge boon for the roboadvisory industry. A substantially improved roboadvisory tool would therefore fill a current market need, attracting an entirely new demographic to roboinvestment, which could boost clientele for financial companies and increase company revenue.

Most existing roboadvisors utilize a basic, standardized and non-interactive investment process. The main keys to an improved, distinctive roboadvisory offering are a better investment selection process, a systematic strategy to reduce costs, and an interactive product with a satisfying experience. Overall, the strategic objective should be to create a “simple, but scalable” product. While the initial roboadvisor will be a simple, robust & reliable at the start, it will be vastly scalable to able to (a) rapidly expand the offering and (b) swiftly counteract the potential offering improvements from the competition. The web interface for roboadvisors should also be as appealing and user-friendly as possible, utilizing a graphical user interface (GUI) with convenient features.

We utilize a roboadvisory product aimed at the foreign exchange (Forex) market as a pilot project that can be later expanded to provide other offerings in diverse investment markets. Our innovative product is likely to boost company revenues due to our tripartite goals in developing this roboadvisory service:

1. Exploiting the gap in the current market to develop an innovative product with enhanced investment process and customization features;
2. A focus on fast-growing, low-competition geographical markets such as Asia, where most Forex companies are already strong and can leverage their experience and existing customer base;
3. Seek to reduce costs and improve profit margins by developing a systematic strategy to:
 - a. Reduce costs: leverage and market to existing infrastructure and customer base;
 - b. Keep management fees low to attract investors but maximize margins by generating additional revenues through customization and add-on features.

Customization is the focus of our improved roboadvisory offering, and we believe that it offers tremendous benefits for both the clientele's investment strategies and Forex companies seeking to stay profitable. Our advanced analytical and marketing techniques will hone in on the consumer base to create a better-targeted product that is tailored to the individual. Such offerings are incredibly valuable in today's investment landscape as young people such as millennials and members of Generation Z, who are inexperienced in the financial domain, seek to develop an investment strategy to better plan for their financial future. A customizable portfolio lends itself easily to "social investing," which, given the popularity of social media networks in this day and age, may be of interest to this generation of "digital natives." Social investing can help recruit more roboadvisory customers as clientele share portfolios and discuss their investment decisions with friends and family. This improved roboadvisory

offering therefore both targets an underutilized demographic and provides excellent personalization features which can will help boost clientele in the long run.

In order to determine what functionality, we should add to our roboadvisory service, we will ask all departments of a Forex company to complete a questionnaire. The questionnaire has 15 questions that ask participants about various product offerings they wish to see in a website that offers roboadvisory investment services. We will use the answers to these questions to make the product more appealing. In sum, the development of a roboadvisory product is a complex project in a challenging market. However, there are substantial gaps in the current market for an innovative and interactive product. Those who are quick to take advantage of the opportunity to develop a better roboadvisory product are likely to enjoy a significant competitive advantage in the investment world.

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