



HOW WILL ROBO-ADVISORS RESHAPE ASSET MANAGEMENT?

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EXECUTIVE SUMMARY

Robo-advisors are a complete match with our DNA. That's why we chose at Initio to dive in this topic in 2018. Indeed, as a consultancy firm specialized in change management in the Finance and Banking industry, this innovation covers most of our range of activities, assisting our clients with their projects and bringing them our expertise whether the emphasis is put on:

- digitalization,
- regulatory compliance and risk management,
- organizational structural change or
- simply business enhancements.

To do so, we wanted to go beyond the web and acquire our own data. Hence, we decided to start with a global presentation of basic concepts and key definitions, in order to understand what is behind this concept covering a broad range of possible set-ups. Then, we wanted to present you with the current state of the market globally, with the US taking the lead and by far in terms of aum (assets under management) but also many local and international actors launching their services in the EU and in Asia. To complete this overview, we gathered and put in parallel the vision of 13 robo-advisory experts, interviewed over the summer 2018, bringing some interesting and valuable qualitative insights. In order to assess the user as well as the professional perception, we also conducted a survey with 310 respondents both professional and retail investors, adding some quantitative data to our study. Finally we summed up our recommendations in order to successfully deploy a robo-advisor structured as "ten commandments".

In the annexes you will also find:

- the one pager presenting our commercial offer,
- a quick recap presenting the conference Initio organized with the support of the LHoFT (Luxembourg House of Financial Technology) in October 2018,
- the full transcripts of the 13 experts interviews.

The main insight would be that robo-advisors bring in

an opportunity to leverage on large economies of scale both allowing to reduce costs and remain competitive, potentially unlocking a reservoir of population in demand for more than basic asset management services but not necessarily targeted by the industry until now.

Almost everybody we met conducting this study was convinced that within a 4 to 5 years timeframe, most or all of the assets processed by the industry would go through, either directly or indirectly, a fully automated algorithm driven robo-advisor. Wealth managers and private bankers were amongst the most reluctant since this technology is still viewed as a mass market rather cheap way of delivering basic services and thus not being relevant to serve their high-end clientele.

Robo-advisors indeed allow a self-service digital distribution of asset management services, mixing both the advantages of low management fees from passive management while retaining some of the benefits of a relatively more adaptative and active allocation than just pure indexing. But it is also a tool that can be used by portfolio managers or financial advisors that could help them achieve even higher quality standards, enabling them to widen their scope, to clear them from certain basic tasks and allow them to focus on more elaborate complex issues. They basically enable providing customers with a tailor-made service with a digital point of contact and a standardized system in a compliant and affordable manner.

Robo-advisors are a component of this major wave of transformation that is impacting our whole way of conceiving, developing and distributing added value, products and services in general as professionals. Our way of getting in touch with the industry and selecting our investment services as customers is also changing drastically. The ongoing digital revolution will deeply affect and modernize both the structure of the industry and the conception we have from asset management and banking services. As most major changes do, this shift comes with a fair share of fears and doubts on the one hand as well as optimism, enthusiasm and excitement on the other hand.

A close-up portrait of a woman's face, heavily overlaid with a red color tint. Her eyes are looking directly at the viewer. On the left side of her neck and shoulder, there is a detailed illustration of mechanical components, including gears and a coil spring, suggesting a fusion of organic and mechanical elements.

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INTRODUCTION

Among the trending concepts around digital transformation, robo-advisors are and remain with blockchain, big data and artificial intelligence one of the hot and unmissable topics for 2018-2019. Either by easing access and execution for investors, by providing them with a low-cost way to combine passive and active portfolio management or by being a new smart recommendations-wise side-kick to asset managers, robo-advisors are bringing game-changing digital services to the asset management industry.

Although they are not yet the next gen financial advisor, they provide however a good opportunity for introducing investment robots to the general public and to help collecting some additional AUM (assets under management). Human contact and trust are fortunately still praised and valuable assets. But the beginning of the new era has already seen the launch of a bunch of digital financial services.

Robo-advisors are at the crossing of different strong trends: lowered management fees, digital distribution and machine-enhanced decision making. Their ability

to reduce the production costs through automation over the long term and to enable large economies of scale also allow for setting the minimum investment in robo-advised funds lower than for traditional investments. Thus robo-advisors present a seductive alternative investment solution for many people who wouldn't be qualifying for tapping the high-end products available in traditional private banking or asset management. All these reasons would explain why recent studies^{1,2} would project robo-advised funds AUM to grow at a consistent rate of 33 to 37% annually over the next 3 years, thus bringing their amount to roughly 4 times what they used to be beginning of 2017. AT Kearney³ projects an even steeper growth for robo-advised funds, with a 68% annual growth rate to reach \$ 2.2 trillion AUM by 2020. An important underlying factor in robo-advisors potential success relies in how investors and the general public perceive the robustness of this innovative model. Trust is indeed a major factor when it comes to handing over to a third-party part or all the responsibility to achieve return on one's precious and well-deserved savings.

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1. "Retail Direct Firms and Digital Advice Providers 2015: Addressing Millennials, the Mass Market, and Robo Advice." Cerulli Associates
 2. S&P Market Intelligence study quoted in Robo Advisors' AUM Expected to Hit Nearly \$145 Billion in 2017, September 5th, 2017
 3. Hype vs. Reality: The Coming Waves of "Robo" Adoption, A.T.Kearney, June 2015, https://www.atkearney.com/documents/10192/7132014/Hype+vs.+Reality_The+Coming+Waves+of+Robo+Adoption.pdf

PART I

KEY CONCEPTS AND BASIC DEFINITIONS OF ROBO-ADVISORY

The image shows a laptop screen with a terminal window open. The terminal window has a dark background and displays a file tree on the left and a code editor on the right.

File Tree (Left):

- Project
- Coding
 - 100-days-of-code
 - .git
 - FAQ.md
 - log.md
 - r1-log.md
 - README.md
 - resources.md
 - rules.md
 - atom-packages
 - browser_persistence
 - c01
 - FlashcardsExpress
 - freecodecamp_tribute
 - JavaScript-Authentication
 - .git
 - models
 - public
 - routes
 - index.js
 - views
 - .gitignore
 - app.js
 - package.json
 - README.md
 - LocalWeatherFCC
 - node-weather-zipcode
 - nodeschool
 - NodeWeather
 - portfolio
 - nodeunitTest

Code Editor (Right):

```
log.md index.js
1 var express = require('express');
2 var router = express.Router();
3 var User = require('../models/user');
4
5 // GET /register
6 router.get('/register', function(req, res, next) {
7   return res.render('register', { title: 'Sign Up' });
8 });
9
10 // POST /register
11 router.post('/register', function(req, res, next) {
12   if (req.body.email &&
13     req.body.name &&
14     req.body.favoriteBook &&
15     req.body.password &&
16     req.body.confirmPassword) {
17
18     // confirm that user typed same password twice
19     if (req.body.password != req.body.confirmPassword) {
20       var err = new Error('Passwords do not match.');
21       err.status = 400;
22       return next(err);
23     }
24
25     // create object with form input
26     var userData = {
27       email: req.body.email,
28       name: req.body.name,
29       favoriteBook: req.body.favoriteBook,
30       password: req.body.password
31     };
32
33     // use schema's 'create' method to insert document into Mongo
34     User.create(userData, function (error, user) {
35       if (error) {
36         return next(error);
37       }
38     });
39   }
40 });
41
42 module.exports = router;
```

A BIT OF CONTEXT

Robo-Advisors are a component of the current huge wave of transformation called the digitalization. This phenomenon is referred to as the 4th wave of industrial revolution based on the implementation and the roll-out of Artificial Intelligence, Robotics and nano-technologies (in a few words, the 1st one being based on the steam engine, the 2nd

Table. 1: **Figures from the The Future of Jobs Report 2018, World Economic Forum, Sept 2018**

Human Activity / Work Hours	Human	Machine
2018	71%	29%
2022	58%	42%
By 2022		
Jobs destroyed	75 M	
Jobs created	133 M	

one on electricity, telephone and internal combustion engine, the 3rd one on computers and internet). In order to quantify the impact of this currently happening change of our way of work and our way of life, you will find in table 1 a few projections published by the World Economic Forum in September 2018⁴, giving an idea of the size and the speed of this revolution:

As an information and service-based industry, the financial sector will be one of the first and most impacted. Whether it is for cost-efficiency, enhanced quality or improved accessibility purposes, digitalization is unavoidable. Robo-Advisors are a perfect example. Now that we have a little more context about the big picture, let's address the basic concepts and key definitions behind robo-advising, starting with the name itself of the technology then seeing what they can do, how they can be deployed and finally stating the main benefits they can bring as well as the potential leads for improvement.

DOES THE NAME ROBO-ADVISOR FIT THE TECHNOLOGY?

Automation and Robotization mixed with Artificial Intelligence are beginning to reshape major sections of human activity. Composed with the contraction of 2 words, the name suggests robo-advisors deal with Robotics and calls upon our imagination based on science-fiction movies and literature.

The word Robot appeared almost a hundred years ago, in 1920, finding its root from the Slavonic word for worker. One of the major authors who then developed the theme and whose novelist work dealt with Robots is Isaac Asimov. He wrote a series of very realistic, innovative and visionary books and most of the inventions he conceived in his futuristic depiction of the world are incredibly sound and accurate. A few decades later robo-advisors emerge as a real disruptive alternative for implementing ones investment strategies.

Although there is no agreed upon universal definition, robots consist in a mix of mechatronic (mechanics and electronic). They are physical machines able to adapt to their environment. They are smart automates designed to have some degree of autonomy and to be able to achieve self-reliantly a series of complex tasks without human supervision. They embark sensors to

adapt their behavior to their environment. They can mimic life or human behavior. So, when we talk of robo-advisors, we talk more of bots, virtual robots or algorithms which can be seen either as one or a team of bots achieving different tasks both sequentially and simultaneously. The Financial Industry Regulatory Authority (FINRA) would rather talk of digital investment advice, which sounds more fitting and perhaps more appealing because less threatening.

Besides this lexical imprecision, Robots can have one of three main functions:

They can either reduce onerousness by relieving people from boring and repetitive tasks with no value added (examples: vacuuming or grass mowing).

Or they can prevent people from putting themselves in danger by doing something a human could do but putting her or himself at risk (examples: diffusing bombs, exploring space, working in radio-active environment and so on)

Or they can execute tasks in a more qualitative and reliable way, thanks to their computations-based behavior or their physical design (examples: robotic

4. *The Future of Jobs Report 2018, Centre for the New Economy and Society, World Economic Forum* http://www3.weforum.org/docs/WEF_Future_of_Jobs_2018.pdf

precision used in chirurgical operations, nano-bots being able to operate within the human body, or more basically robots in the car industry).

The activity of providing financial advice not being one of the more dangerous ones, we can safely say that robo-advisors don't serve this function. But the other 2 uses for robots apply to robo-advisory. They can both prevent the advisor and the customer from doing some tasks in the investment process that are necessary while not bringing a lot of added value to the person executing them nor to their customer. And they can also achieve better quality at some specific tasks because they are not bounded by human rationality and can monitor market data relentlessly for instance, staying focused and objective around the clock. The decisions they can take are never biased by anything other than model misspecifications.

Now that we have seen robo-advisors are not exactly robots, but share with them some of their main characteristics, let's focus on a financial advisor job description.

A financial advisor is a person providing their clients with financial advice. In order to do so, she requires to know her client's needs. She needs to assess her client's profile by determining the client's ability to take risk, willingness to take risk and other input such as investment horizon, liquidity needs, personal and professional projects... This assessment relies on verbal exchanges with the client, most often also on statistical data and work experience. She also needs to know about the quite vast investment universe, trends in the financial markets, fiscal implications of the investment decisions and match her portfolio recommendations with the

preestablished investor profile. As that is a lot of data to process on one's own, financial advisors rely on a team of financial analysts and collects additional market data from various sources.

Of course, once all this data is processed into useful information, investment decisions can be taken, in accordance with the Investment Policy Statement agreed upon with the client, in order to invest the client's assets and maximize the portfolio's risk/return profile in the client's benefit. Once the portfolio is constituted, it requires frequent rebalancing, monitoring and adjustments when necessary. The end of the process consists in reporting the portfolio's performance to the client and keep him posted in a compliant and timely manner.

As we will see, Robo-Advisors can do parts or all of the process described above and can be used either complementarily to a human financial advisor or replacing them in the most basic and simple cases. Besides, if we compare bots and human abilities, while some complex thoughts mechanisms are difficult to model, available information can in some cases be difficult to tap digitally and human interactions be somehow hard to mimic, some of the inherent software characteristics tend to outrace the human brain and its limitations. For instance, money can buy limitless computation power. As long as the servers are online, the bots can keep assessing market data and adjusting portfolios allocations in a timely and full customer base wide manner. Automated push notifications can maximize client's awareness and satisfaction about sound communication through customization and perfect timing delivery. Let's now dig beyond these few examples and see what robo-advisors are capable of.

WHAT IS A ROBO-ADVISOR?



Figure 1: **Asset Management Value Chain, What Robo-Advisors can do**
Source Initio

A Robo-Advisor can be seen as two blocks: one dedicated to digital onboarding and customer knowledge, and the other to portfolio management.

THE ONBOARDING BLOCK:

THIS ONBOARDING PROCESS CAN BE AS FAST AS 120 SECONDS (AS REVOLUT DEMONSTRATED) OR LAST LESS THAN 8 MINUTES (AS THE AVERAGE DURATION FOR N26 ONBOARDING PROCESS)

The first block is able to digitally take the necessary information to establish a relationship with a new customer and keep refreshing this data through more or less regular updates. This part of the process is important because it requires to be done in a compliant way (KYC, AML). Most importantly the information gathered will be the basis for the suitability checks of the asset allocation.

When compared to neobanks onboarding process, different technical measures can be used. The identity checks can be done with a remote operator taking control of the client's smartphone to make the appropriate ID scans, or even better, the information from the electronic passport can be uploaded using the now universal NFC technology. This onboarding process can be as fast as 120 seconds (as Revolut demonstrated) or last less than 8 minutes (as the average duration for N26 onboarding process). For instance Investify is using a similar way of onboarding clients as N26.

Once identity has been confirmed diligently, the gathering of useful information for risk profile assessment can begin. As recent FCA warnings about Suitability checks highlighted, and obviously in the client's interest, it is highly important not to neglect this process and to have the most advanced and subtle profiling process. This part will evaluate the investor's ability and willingness to take risk, in order to determine her or his risk aversion profile. Some robo-advisory players use this step of the process to distinguish themselves from competition using gamification, investment education scorecards or predictive and dynamic questionnaires.

The interesting part of digital tools is that this process for gathering information about the user can be done with a good old fashioned questionnaire that has to

be filled up manually, or it could be more dynamic and smooth by getting some approvals from the user to use his existing banking profile or even some data from his or her activity on social networks or even exploiting data from his or her music playlists, favorite food, life habits in general. The potential output would be a natural language chatbot who you'd simply ask the amount to invest in order to be able to finance your child's studies in 15 years and the program would be able on its own to gather enough information to provide you instantly with several options and the probabilities of success associated. Then with your selection or approval, it would make the appropriate adjustments by itself to your portfolio to support this strategy.

THE ASSET ALLOCATION BLOCK:

According to our benchmark exercise, most current Robo-advisors not surprisingly rely on a categorization of the customer's risk aversion on a scale from very high to very low, using 3 to 12 subsets. The matching with the appropriate portfolio allocation relies in most cases on a selection of 8 to 20 ETFs. This strategy enables an optimized transactions costs reduction with a maximized diversification effect. It also eases the communication on transactions costs and make it far simpler to remain transparent about the fees and costs imputed to the client since their calculation is relatively straight forward. The asset classes are thus each represented with 1 to 8 different ETFs. Such a restricted investment universe with a good upfront research can prove to be very efficient and it can be argued that most investing profiles (regarding the general population) would be sufficiently equipped with such an investment product.

The interesting part is when this universe tends to be widened and more investment decisions are available for the robo-advisor. It demands of course the appropriate computation power and such a level of automation is harder to achieve in a retail mass market customer perspective. Depending on how the requirements for the portfolio have been assessed, robo-advisors will progressively be able to more and more achieve series of complex tasks, as soon as AI would be involved. In the current state, most input parameters remain fairly simple and robo-advisors are not designed to achieve complex investment strategies, but rather mimic a slightly more dynamic than pure indexing way of managing one's asset. There is still a long way before recommendations or decisions made by the bot would be as sophisticated as one a human could provide, relying on experience and most importantly the combination of team work and use of several advanced tools to determine the right course of action. But once these processes have

been modeled, robo-advisors will be able to do their work in a more impressive and reliable manner. As it was shown in Eisenstein's movie The General Line, where the viewer can witness a memorable race for harvesting a corn field between a man and a machine in the 1920's, it is hard to keep up when you are facing the cold computation power of modern computers or machine enabled productivity.

With more and more digital trading platforms and the generalization of STP (Straight Through Processing), it is not any more unimaginable to conceive plugging a robo-advisor directly to the market makers and make it able to automatically settle the orders it autonomously decided to perform. There are still a few gaps to bridge in order to reach this level of automation though.

In terms of rebalancing, the process can be both rule-based with a fixed regular frequency and event-based with alerts triggering the system when necessary. This event driven feature is of prime importance in order to do the necessary reassessment of investor profiles and soliciting human intervention when market data or performance demand to do so.

Dealing with the corporate actions, making the necessary adjustments, structuring the ETFs, processing the buy sell orders still require a large amount of human work to get done but the whole portfolio manager's risk assessment and stock picking job, in a more junior version, can be taken care of by current robo-advisors. Most current solutions retain a human view in the process in order to simultaneously double-check the robo-advisor behavior, improve their solution and sweeten the investor's fears.

The reporting part can also be taken care of by most Robo-Advisors in a compliant way and the digital nature of the service makes it often even more pleasant for the customer to access (either on demand or through push notifications) her or his dear updates about his or her portfolio performance.

To sum this up, our definition of a robo-advisor would be:

Robo-advisors are digital platforms that provide **automated, algorithm-driven financial planning services** with little to no human supervision. Broadly speaking, a Robo-advisor **digitally onboards** clients while collecting information about them, their financial situation and future goals. After having digitally assessed the client's risk profile, it uses this data, combined with market data, to offer advice and/or automatically allocate and rebalance clients' portfolios. A Robo-advisor can also be used as a support to portfolio managers in their decision-making process, providing them with **smart and automated** recommendations, alerts and dashboards.

Now that we have covered what they are, let's focus on how they can be used and what benefits they bring to the

table. Deployment can mode done in 2 implementation modes combined with 3 management modes.

2 IMPLEMENTATION MODES:

1. Either the robo-advisor can be made available directly to the retail investor. It can prove to be a useful tool for the customer to feel comfortable investing his assets on his own, either with recommendations or letting the robo-advisors do the asset allocation for him. The aim is to guide the investor through the whole process of investing diligently, compliantly in a sweet and cheap manner.
2. Or it can be used by the financial advisor himself, as a tool to improve both in terms of speed and quality, the preparation for his meetings with clients, optimally leverage the information exchanged during the appointment and increase the number of portfolios he or she can effectively manage. The use of these kind of tools is not new but rebranding them as robo-advisors involve more of an inclusive software package assisting the financial advisor. The choice then remains in the asset or wealth management's firm hands to either integrate the nature of the digital tools used by their employees in their commercial speech or not. The robo-advisory platform can also be commonly used as a way to ease interactions between the advisors, the portfolio managers and the customers.

3 MANAGEMENT MODES:

1. The robo-advisor can just make recommendations and serve as a decision support system to identify opportunities, matching them with the investor profile. An example of this implementation type would be the Anlage Finder proposed for free by Deutsche Bank on their Maxblue online investment platform. This is also another adaptation of Gambit's algorithm which they package under the brand Squiree. The robo-advisor then acts as an intermediary, between the client and the financial advisor, to help on one hand the customer reach his/her objectives and on the other hand the advisor improve his/her suggestions.
2. The robo-advisor is in semi-automatic mode. It can do the asset allocation and rebalancing process on its own but requires some form of human intervention to take action, such as a portfolio manager or a committee validation. This model is similar the one offered by Birdee from Gambit as implemented by Keytrade Bank.
3. The robo-advisor is in full blown automatic mode. It can either adapt your payments according to your bank account balance, volume of payments or use a fixed monthly payment to implement the

agreed upon strategy. Basically, you put a coin today in the machine, you wait for a few months or a few years, and you can follow up the evolution of your balance in real time with push notifications or mails letting you know how it goes. If correctly specified, the system can be self-sufficient and even generate customizable alerts when required. In the end you got a cheap and sweet smart self-service

asset management system. This is the 100% digital robo-advisor mode. As Investify would propose, this model can also offer several options to the investor: indeed she/he can choose among several "themes" to customize her/his own portfolio with special investments, for instance "aging population", "gold", "dividends kings", "gaming world", "water" or other additional themes.

THE MAIN BENEFITS AND DRAWBACKS

As we have seen, Robo-Advisor are currently more of a tool for people who would like to invest responsibly their savings over the long-term, adding some flexibility to their portfolio compared to pure indexing at similar costs. Their models remain quite straight-forward and most often based on Modern Portfolio Theory applied to simplified asset classes modeled by a few ETFs. But there are many opportunities for improvement.

THE MAIN BENEFITS ARE:

- **Lowered costs and management fees in a competitive and regulation-driven environment:**

Through automation and economies of scale plus the way most models are packaged, robo-advisors cost on average between a third and half what a traditional asset manager would cost. Although the debate on active VS passive management is still open, different studies more or less recently argue that returns net of management fees are often higher while passively benchmarking compared with higher costs of transactions impacted returns from actively managed portfolios, beyond sometimes poor decisions.

- **An automated process:**

Due to their algorithmic nature, robo-advisor allow to serve customers in a customized way with very different requirements with a standardized product. Also, the automation of the process drastically reduces operational risk. Most of the manual sources of error are bypassed.

- **Enhanced Service Accessibility and Availability thanks to Digital Distribution:**

A digital service is available 24/7 and reachable instantly from our pockets, as long as we have enough battery remaining in our smartphone and an acceptable internet bandwidth. According to Eurostat⁵, Internet Access as a percentage of

households reached 87% on average over the European Union (28), mixing urban and rural areas altogether. Also, beyond regulation, there is no geographical expansion limitation. The virtual aspect of the service allows to expand without having to invest in local branches, virtually allowing for a one click deployment over the full euro-zone area for instance and reaching out instantly to the 340 million Euro-zone (19) population.

- **Potential for High Quality Analysis and User Experience:**

Depending on how well the model was specified, robo-advisors are supposed to better exploit the available data than current systems. The banking industry has been collecting huge amount of data for years but is still not as able as the GAFA (Google, Apple, Facebook, Amazon) to efficiently and fully leverage on them. Start-ups like neobanks and robo-advisors, building their IT system from scratch with modern technologies rather than maintaining and modernizing rather old systems, are much more performant and resilient than what traditional players rely on. This assertion ignores whether this would be the case if fintech providers would be facing the same volumes of activity to deal with, but at least, as users, this is the impression perceived. Most new players also spend a lot of time and energy to focus on user experience, either rendering a smooth use of a good-looking and practical app or adding additional services such as an educational platform like StarTalers for instance.

- **The opportunity to bypass behavioral biases:**

Behavioral Finance aims at overcoming and raising self-consciousness about our bounded rationality. As smart as we can be, we'll always be limited by our physical abilities. That's why we rely on more and more sophisticated tools to enhance our decision making, from calculators to spreadsheets and

5. Eurostat, Digital economy and society statistics - households and individuals, 26Sep2018

now algorithms and machine learning. Whether it is regarding emotional or cognitive biases, it is worth noticing that lots of market inefficiencies can be arbitrated and leveraged on using machine enhanced decision tools. Robo-advisors can integrate these biases to take advantage on them, but more importantly remain more objective since they are not subject to these biases, if specified and developed correctly. Cognitive biases consist of anchoring and adjustment biases, mental

accounting biases, framing biases and availability biases. Emotional biases consist of loss aversion biases, overconfidence biases, self-control biases, status quo biases, endowment biases and regret aversion biases. Besides robo-advisors may allow to bypass at least one of the double layer of biases, the one from the investor himself and the one from her or his asset manager.

THE MAIN DRAWBACKS:

- The way people perceive this innovation:

As we will see later on, most people still have doubts and fears about this technology and still need the comforting presence of a human being to guide them in the financial markets' world. As with all innovations, our behaviors require time to adapt and that's perhaps the biggest challenge for robo-advisory at the moment: be able to communicate and convince about the positive balance between benefits and drawbacks of their service. One difficulty to quantify this observed natural reluctance has been to find sources putting in parallel the nature of the service and its cost. Most studies only focus the relationship to the digital service without placing the price in the equation. Yet we all know that price is in the top 3 decision factors.

- A limited investment universe:

As already mentioned, most robo-advisors rely on a limited selection of ETFs, and that's part of the

reason why they manage to offer low minimum investment requirements and management fees. But over the last months we have seen the emergence of more and more services allowing for rather more granular asset selection.

- A predominance of rather too simple models at the moment when looking broadly at the market, that would tend to tarnish the reputation of the technology, sometimes referred to as cheap in a bad way. This is especially annoying for those with spot on products, but our educated guess is that the fundamentals behind the spread of this technology are too strong to have a short-lived fad rather than an extensive overhaul of the way of working in the sector.

Now that we have covered the scope of basic concepts and definitions, let's focus on the potential evolution of what they could turn out to be.

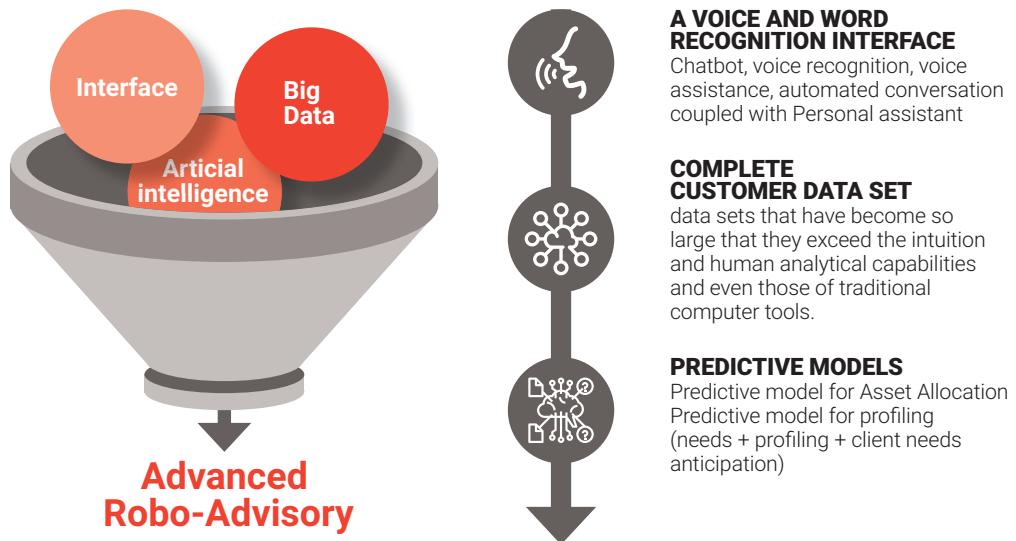
THE RECIPE FOR TOMORROW'S ROBO-ADVISORY SERVICES

It is important to highlight that we are only witnessing the emergence of a very strong trend that is here to last. The current models, although performant and profitable for some of them, are not in the most sophisticated form and the idea until now was more to beat the time to market than to elevate the quality standards of the profession. Looking towards automated solutions and new models about to emerge it makes sense that both time and energy are spent today on developments with the intent to influence the market. Players able to come up with innovative high quality solutions to meet the strong requirement of High Net Worth individuals will have competitive advantages in the digitalized world of tomorrow and maybe emerge as leaders.

The cocktail is simple: based on modern technologies and a robust underlying financial analysis model, combining a state-of-the-art interface with the multiplying power of both big data and artificial intelligence would enable to enhance suitability as well as reducing the overall risk of the portfolio. A touch of behavioral finance in the model would compensate for the cognitive and emotional biases caused by humans' more or less bounded rationality.

In order to cover the Interface, the AI and Big Data topics, we selected an array of articles, written by Square Management⁶ consultants over 2017 or 2018. We summarized them and translated them when necessary, with the blessing of our fellow consultants, the authors. Thanks to them for this helpful contribution.

6. Initio is part of a larger group, Square Management, consisting of the association of 5 consultancy firms, Tallis Consulting, Viatys Conseil, Vertuo Conseil, Adway and Initio

Figure 2: **The recipe for tomorrow's robo-advisory services** - Source Initio

THE INTERFACE:

"I need to invest for my child's studies 15 years from now, what are my options? OK go for Option 3". In a few years, it will be as easy as that to implement one's investment strategy based on current market conditions, your current and forecasted income and expense levels as well as other auto-detected customizable factors. Subscribing will be as easy as sending a text without even having to type it.

Natural language processing is taking over the traditional user interface. Alexa from Amazon, Google Home, Siri from Apple or Watson by IBM are the most famous ones but the number of chatbots deployed is increasing impressively. For instance, more than a quarter of the customers queries are taken care of by Rita, Revolut's chatbot. They manage to answer in less than 2 minutes on average and their chat is very reactive. Another actor who is providing more than 60% of the French banking sector is Inbenta. With their omni-bot and dynamic FAQ solutions, they claim up to 80-95% correct answers and 30-50% entering contacts reduction. Although natural language processing is more accurate when it comes to specific questions than natural conversations, developers are focusing more and more on the emotions and empathy demonstrations skills of their chatbots, a way to smoothen the contact with the user.

According to a Gartner study⁷, by 2020, "customers will manage 85% of their relationship with the enterprise without interacting with a human". On top of that, Juniper⁸ forecasts "chatbots will be responsible for cost savings of over \$8 billion per annum by 2022 up from \$20 million in 2017".

BIG DATA:

The amount of data we leave behind us while surfing the web or using our smart devices is incredible. Why not use this data to improve and refine the way investors' profiles are determined?

Indeed, instead of using a questionnaire to gain some knowledge about the users' preference, knowledge and investment experience, data collected about our payment and investment history, our musical tastes through our playlists, gastronomical tastes or even shopping habits could bring some additional information about our behaviour towards risk.

On the financial markets' analysis part as well, Big Data and Data Science should bring a lot of innovation in establishing some new kinds of predictive models.

Big Data also enables to go beyond sampling and thus reduces the probability of sampling and estimation errors.

ARTIFICIAL INTELLIGENCE:

Machine learning and Artificial Intelligence will have us learn a lot about ourselves. When you don't have to establish rules or mathematical models, subject to approximations and modelling errors but when algorithms can construct themselves by empirical observation, you don't only have an easy way to automate some complex tasks but you also have a whole new system to analyse and understand collective behaviours able to act upon more elaborated conclusions reached in a more timely manner. Artificial Intelligence has indeed endless applications in research and analysis as well as in predictions enhancement and risk factoring.

7. Gartner Customer 360 Summit, March 2011, https://www.gartner.com/imagesrv/summits/docs/na/customer-360/C360_2011_brochure_FINAL.pdf

8. Juniper Research, Chatbot Conversations to deliver \$8 billion in Cost savings by 2022, July 2017, <https://www.juniperresearch.com/analystxpress/july-2017/chatbot-conversations-to-deliver-8bn-cost-saving>

INTERFACE : TOWARDS THE END OF MOBILE APPS?

BY ANTHONY MONTEIRO,
VIATYS CONSEIL CONSULTANT,
JUNE 2017

Afew innovative and bold companies announced the deployment of their chatbots over instant messaging platforms, promising to bring the user experience to the next level.

Silicon Valley's giants and beyond started to race to become leader on this new market segment. While mobile apps downloads decrease paired with an increase in the use of conversation platforms, trends predict a bright future for chatbots. Some companies already integrated the added value not to focus only on their app any more.

CHATBOTS OR CONVERSATIONAL AGENTS

A chatbot or Intelligent Personal Assistant, is a computer program which conducts a conversation via auditory or textual methods. It can be used for answering both standard and non-standardized client requests. The client could use this personal assistant to obtain information or, when combined with safe identification procedures, place investment or transaction orders. Financial services and banks are using chatbot to help their users perform tasks quickly and lower call volume. As users could either be customers or employees, potential applications for chatbots are broad.

These Conversational agents, rule based to answer standard requests or Artificial Intelligence based to handle sophisticated requests, are able to answer numerous and complex exchanges. The concept is far from new: the first chatbot goes back to 1964-1966 when an MIT professor, Joseph Weizenbaum, wrote a program called ELIZA, simulating a psychotherapist able to return predefined answers. But it's mostly due to recent progress in Artificial Intelligence, natural language processing and machine learning that chatbots leveled up to a new dimension. These technological leaps drastically upgraded their abilities of interacting, understanding and reasoning.

For instance, it is now possible with Facebook Messenger to buy a plane ticket, order a cab or transfer money to your loved ones.

A BRAND NEW USER EXPERIENCE

Available 24/7, chatbots allow to get instant and easy customized, contextualized and in real time answers. Accessible through main messaging platforms, users can converse with robots like they would with humans. Thanks to machine learning algorithms, bots learn from each exchange with the user increasing their accuracy and ability to provide appropriate answers. Using conversational agents is a valuable tool to leverage the user experience and enhance the relationship between clients and financial institutions. A chatbot used through a messaging service doesn't require to download and install an umpteenth application but rather is presented as an extra feature conveyed by an existing mobile app. This seems to be a key advantage when, according to a comScore study, for 51% of American users, the monthly average app downloads is 0 (and only 1 for the other half).

MESSAGING PLATFORMS BOOM

If smartphones owners are nowadays reluctant to download new apps, how consistent to offer them to contact their service providers through their favorite messaging applications? While Facebook Messenger exceeded the billion users ceiling, Apple's messaging app, iMessage, has conveyed more than 2 billion messages per second. In 2016, more than 1.5 billion people used a messaging application, so more than 75% of smartphone owners in the world. For the first time in mobile history, people use more messaging applications than social networks. It has become standard for brands to be present on social networks, but given the above figures, shouldn't they also engage on messaging apps strategy as well? Today,

only a few pioneers tried and offer the virtual assistant experience to their customers. They are leading the way towards a virtual conversational future, either orally or in writing. Gartner forecasts that by 2019, 20% of users' interactions will be handled through virtual personal assistants. To keep up and offer an optimized user experience, brands will have to invest in the right technologies, meaning messaging platforms. And at the right time, meaning any time.

CONVERSATION, THE NEW SOFTWARE INTERFACE?

Satya Nadella, Microsoft's CEO, announced that "chatbots will fundamentally revolutionize the way people live their experience with IT". Bots will, at first, enhance applications but shall quickly replace them to become THE new interface. Satya Nadella adds that "More or less all developers who are creating mobile apps today, software or websites will create bots tomorrow, as new interface." The same way smartphones revolutionized our way of life in the recent years, prompting the switch to mobile apps from web. We are witnessing today a turn towards interfaces ripe for dialog, from a menu interface to a conversational interface. China might be a little ahead, chatbots are more common and proficient, as demonstrated by the local competitor of WhatsApp: WeChat.

FOR MORE INFORMATION:

<https://blog.square-management.com/2017/06/09/chatbots-vers-la-fin-des-applications-mobiles/>

WHEN BIG DATA MEETS ROBO-ADVISORY

BY CECILE GRAFF,
ADWAY CONSULTANT,
MAY 2017

Through intuitive indicators and in-depth profiling robo-advisory would give clients access to smart portfolio balancing and flexible investment.

Beginning of 2016, French middle-class households had 33 billion euros of their savings invested in very simple and standardized financial products (such as PEL and Livret A), according to a 2016 letter of the French Financial Market Authority (AMF). 74% of them declare to be satisfied with the quality of service of their banks.

We can therefore assume that French small investors have not benefited from sophisticated financial advices either from advisors or technologies that are responsible for providing advisory services.

TAILOR MADE SOLUTIONS TO PROFILE CLIENTS

New technologies such as AI or machine learning are unleashing a new range of investment options for savers. These technologies are providing financial institutions with a tool to deliver neutral, low cost advices. They are based on what the client himself is ready to tell the platform and thus are handing the control back to users to define their profiles and preferences.

The purpose of using those technologies is both to increase transparency within capital markets and empower investors. The website Marie Quantier is, for instance, proposing daily, weekly and monthly financial weather forecasts to educate and inform customers about trends and specific investment allocations.

COST CONTROL

Since the implementation of MiFIDII in May 2018, asking for a greater transparency from financial institutions (FIs) over their sources of revenue, Financial Institutions had to rethink their tailor fees management.

Along with these billing and organizational

changes trust has been eroded and easier access to technologies has encouraged a growing part of the market to digitalize their exchanges with banking providers.

On top of these factors we observe a decreasing ratio of satisfaction among users towards their counselors or private bankers compared to the cost they may represent.

AN OPPORTUNITY FOR THE INVESTOR

The ability of robo-advisors to combine deep knowledge of the user and large review of potential investments to deliver value in the interest of the client is the core leverage of the service. To unleash optimal added value big data is key.

The main difference between traditional banking advisors and a robo-advisor is the customized approach of the service. Robo-advisory can deliver tailor made solutions based on many different types of data related to the client: its habits, level of confidence, investment capacity and so on. Indeed, when analyzing financial and extra-financial data through big data and machine learning robo-advisory services are able to adapt and create customized portfolio that are designed to be the best fit to the unique client's profile.

Using client profiling and machine learning enable financial advices to be adaptive to slight or big changes in client's preferences and ensure to deliver advices at the closest of the immediate client's situation.

It would make easier to consider all three main parameters in asset management: markets trends, available cash and clients' preferences.

Artificial Intelligence techniques require a huge number of participants and also a tremendous amount of data, because the more they are trained the better the advice is.

EMPOWER CLIENTS THROUGH KNOWLEDGE

The idea is for FIs to use the amount of data available (for many years institutions have been collecting data but it does not mean

that they have been using it). Financial actors could offer customized offers and portfolio allocations by integrating big data processing, deep learning layers and dynamic clients' interactions on top of collecting data. Which means for both FIs and client's control over costs and optimized assets allocation.

As it happens, under strengthened regulation environments, FIs are looking for autonomy and cost reductions while offering greater value to their clients.

TAILOR MADE OFFERS

Robo Advisors are offering new opportunities for clients; smaller investors could access the same quality of advice as wealthier customers. Allocations would be proposed according to markets analysis but also adapted to clients' level of savings and objectives.

If we take a step ahead, we can see arise a new type of advisors. Through complex algorithms it would become a reality to propose fully customized services where none of the investment journey would be left behind. Customer will make decision upon customized proposals based on their immediate goals. As per SIRI designed by Apple, these robo-advisors would learn from decisions made by users and use data made available by clients to adapt and improve the quality of their proposals.

Advisors of tomorrow are more like us than we think. They will adapt faster and take decisions according to multiple constraints: they will use neuronal systems.

for dialog, from a menu interface to a conversational interface. China might be a little ahead, chatbots are more common and proficient, as demonstrated by the local competitor of WhatsApp: WeChat.

FOR MORE INFORMATION:

<https://blog.square-management.com/2017/05/12/et-si-le-big-data-client-rencontre-le-robo-advice/>

AI: THE INTELLIGENT INVESTOR AND ROBO-ADVISORS

BY GREGORY ROGIVAL,
INITIO CONSULTANT,
APRIL 2018

Robo-advisors and to some extent Artificial Intelligence (AI) are today at the heart of vast discussions and may create a lot of opportunities but also threats.

The use of robo-advisors and AI is also a strategic decision for many companies in virtually every sector. Artificial Intelligence is present everywhere: in medicine, law and the financial sector, in particular in banking and insurance.

But what about approaching the problem differently and like Simon Sinek⁹ did in his book we can start this article by asking «why»? Why should investors use Robo advisors in their financial decisions?

It is true that when speaking about investment, we all want to be seen as "Intelligent Investors"¹⁰. However, only happy few will be similar to Warren Buffet. We are human beings and have emotions. Our emotions are biases and some even say that for investments we often are our worst enemies.

If we were a Homo Economicus and rational there would not be a place for behavioral finance and economics. We have to admit that in addition to rationality humans have emotions and this causes problems or

distortion in the decision process. In his book "Thinking fast and slow" Kahnemann (Nobel prize of economics and psychologist) speaks about two ways in which information can be treated: the fast way based on emotions and the slow one based on reason. James Montier¹¹ who wrote on behavioral investing gives a description of the two main characters of Star Trek: Captain Kirk (the emotion-based decision - automatic and effortless) and doctor Spok (the rational decision based - logical and deductive).

ROBO ADVISORS AND ARTIFICIAL INTELLIGENCE (AI)

The question is then: "Are Robo Advisors useful for the investor?" or, what's the value proposition of them.

If as investors, we accept the fact that we make investment mistakes because of our behavior AI and algorithm value proposition may be a solution by offering us a rational perspective on our investment and portfolio management. An algorithm based on theoretical finance may help us to achieve our objective with a better control of the risk/return principle. This does not mean that AI

is the solution to avoid or completely erase the risk factor. Humans make mistakes, but we have to remember that machines too, although in a low proportion. However, we are more indulgent about our own mistakes than machine mistakes, in other words we more easily forgive ourselves but not the machines.

We mentioned at the beginning Star Trek Captain Kirk and Doctor Spok. One is full of emotions and trust his feelings. The other is a pure rational mind. The success of the serial is the combination of those 2 performers. We are in finance the captain of our portfolio but alone, our decisions will have biases. We need advice and recommendations from a more neutral, biases less (or close to zero) entity. Therefore, AI can play an important role in our decisions and projects in that direction are in a strategic point of view a sustainable and competitive decision.

FOR MORE INFORMATION:

<https://www.initio.eu/blog/2018/4/18/the-intelligent-investor-and-robo-advisors>

9. Simon Sinek; "Start with Why"; Portfolio Penguin; 2009

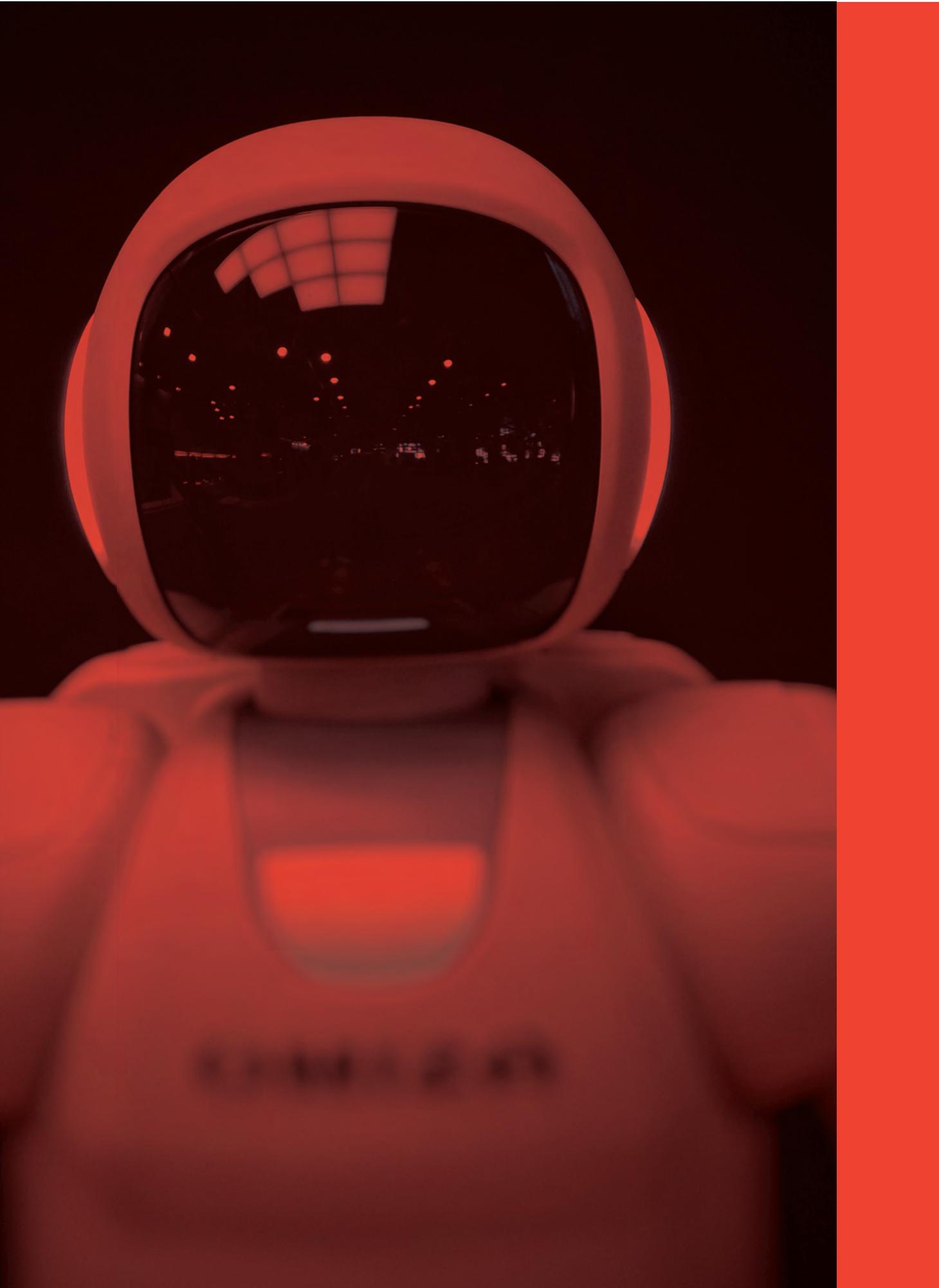
10. Benjamin Graham; "The intelligent investor"; Harper Business; 1984 (revised edition 1971, 1972)

11. James Montier; "Behavioural Investing"; Wiley 2007

PART 2

MARKET INSIGHTS AND BENCHMARKING WHO DOES WHAT?

In 2015, Robo-Advisors were expected to create an earthquake in the wealth management world. Indeed, many of their characteristics such as being unbiased or near instantaneous can't be challenged by a human advisor. Also, automation allows handling cost effectively, a high number of clients and therefore opening the gates to smaller account balances. Robo-Advisors can be seen as extremely promising for investors and quite worrying for human advisors. This leaves us to wonder about what the current state of Robo-Advisors is and what could we expect in the future?





THE COST ISSUE AND THE NEED TO SCALE UP

As already introduced beforehand, controlling costs is one of the key factors of success by:

- > Allowing to charge less fees to be attractive or at least stay competitive,
- > Decreasing risk of not breaking even/being profitable,
- > Due to high competition it is one of the only levers. To this extent, scale seems to be one of the key drivers because:

- > It allows to spread the costs,
- > The pressure on yields is extremely high, therefore volume matters,
- > A higher AUM (Assets under Management) figure tends to be reassuring for investors,
- > Paradoxically the number of Robo-Advisors is increasing faster than the market when scale seems to be one of the most important KSF (Key Success Factor).

THE NUMEROUS DEVELOPMENT STRATEGIES

A. PARTNERSHIPS/ACQUISITIONS

Amongst the various strategies that can be observed partnerships and acquisitions are one of the main drivers. Indeed, they allow for the Robo-Advisors to find funding and an easy to target client base while for the Asset Manager or Bank securing a promising product and avoid it shifting to a competitor.

Major acquisitions of Robo-advisors or digital advice firms since 2015 include the following:

- > March 2015: Northwestern Mutual acquires LearnVest.
- > August 2015: BlackRock acquires FutureAdvisor.
- > January 2016: Invesco acquires Jemstep.
- > May 2018: Principal Financial Group acquires RobustWealth.

[Source Morningstar]

The advantages are to combine know-how from the partners to:

- > Put the Robo-Advisor on the distribution chain online as quickly as possible to start/increase the income generation and acquire as many clients as possible,
- > Allow each partner to focus on his core competencies to mitigate risks, issues and avoid spending time and money "reinventing the wheel",
- > Decrease expenses by finding all cost efficiencies and synergies. This will ensure the break-even is much easier to obtain,

- > Can be a good means to market some investments run by the partner to new investors.

The disadvantages are:

- > Cannibalization: some clients that were paying more fees may be tempted to lower these expenses resulting in a potential loss of income.
- > Risk of conflict of interest: the Robo-Advisor solely executes orders in the way it was programmed. Therefore, if there is a strong bias in the investment rules to focus on internal products then it could create some lack of trust from clients.
- > Risk that the algorithm is modified following partner demands in a way that wasn't planned and that could result in potential issues.
- > Liability and risk in case of litigation is most likely to be mostly borne by the partner.

B. ADVERTISING AND MARKETING

Advertising and marketing is a strategy adopted by Betterment, Wealthfront and Charles Schwab. Basically, the idea is to raise awareness of the public for a B2C model. The issue is that it can become very costly and the expected results are quite random and difficult to anticipate. In a low yield model, it may take several years to recover from the expenses incurred and break even.

Table. 2: Payback Periods (in years) on \$300 of Client Acquisition Costs for Robo-Advisors Are Lengthy

Source Company filings, Morningstar

Account Size (\$Thousands)	Adjusted Opirationg Income (bps)					
	2.5	5	10	15	20	35
\$25	48	24	12	8	6	3.4
\$50	24	12	6	4	3	1.7
\$75	16	8	4	2.7	2	1.1
\$100	12	6	3	2	1.5	0.9
\$150	8	4	2	1.3	1	0.6
\$250	4.8	2.4	1.2	0.8	0.6	0.3
						SCHW
						AMTD
						ETFC
						Robo

Average account sizes at Charles Schwab, E*Trade, and TD Ameritrade are calculated as client assets divided by total active or funded brokerage accounts. Adjusted operationg income excludes advertising, restructuring, and other unusual expenses

According to Morningstar, it is assessed that advertising cost per account acquisition could be around \$300 per gross new account and \$1,000 per net new account.

C. RAISE CAPITAL

This is the most common method chosen by fintech, especially from inception. However, the issue is that without easy access to distribution channels/know-how or spending large amounts in advertisement for client acquisition, it may result in a very slow development. As there are well over 200 Robo-Advisors worldwide and still increasing, speed is an important factor of life or death in the long run. Unless a specific niche is targeted it seems quite difficult to succeed as a standalone pure player.

Générale) that can provide easy access to complementary skills and facilitate networking

- > Using the Robo-Advisor as an entry level service and offer to shift to human advice
- > Use the Robo-Advisor to offer additional – paying – services

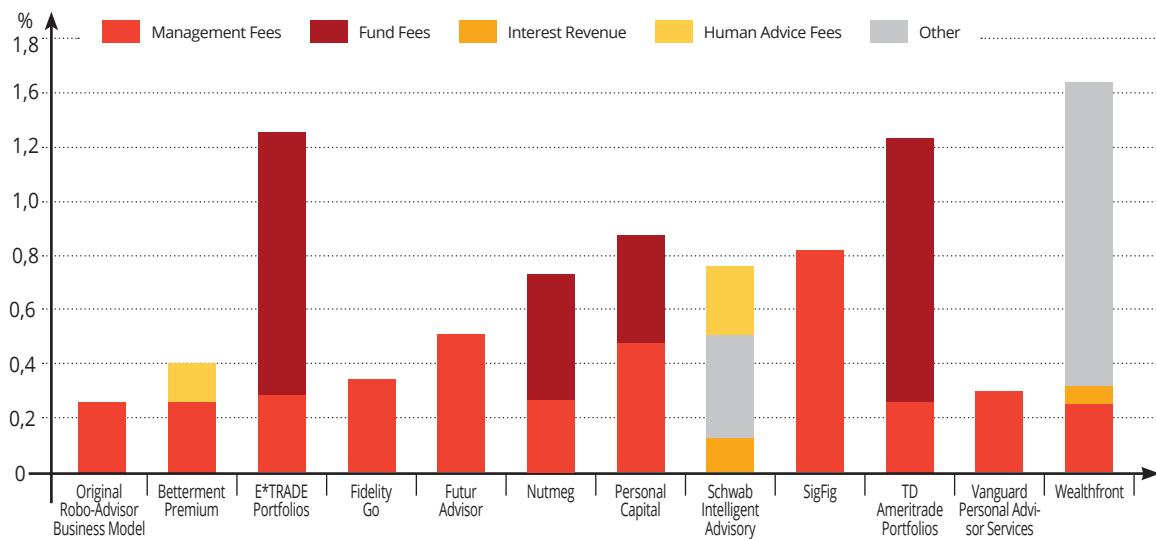
These last two items can be demonstrated by the below:

- > Prioritizing institution or asset manager's own product when relevant in a reasonable fashion.
- > Outperforming consistently and significantly most competitors for a certain type of profile of investment. Indeed, it is difficult to compare performance as investors' profiles and risk may vary significantly.
- > Focusing on higher account balances clients

D. OTHER STRATEGIES

- > Leverage on business incubators (such as LHOFT – Luxembourg House of Financial Technologies, LuxFutureLab by BGL or LePlateauLux by Société

Figure 3: **New Business Models Are Transforming Robo-Advisors Into Moneymaking Machines**
(Revenue as Percentage of Client Assets - Financial Services Observer | 8 June 2018 (Morningstar))



Source: Betterment, Charles Schwab, E*Trade, Fidelity, FutureAdvisor, Morningstar, Nutmeg, Personal Capital, SigFig, TD Ameritrade, Vanguard, Wealthfront, Schwab Intelligent Advisory revenue yield estimate is based on the asset allocation of a moderate-risk Schwab Intelligent Portfolio. Wealthfront revenue assumes maximum use Portfolio Line of Credit

THE MAIN ACTORS WORLDWIDE

A. NORTH AMERICA

Most popular Robo-Advisors:

- > Vanguard Personal Advisor Services (112bn\$ AUM, August 2018)
- > Betterment (14bn\$ AUM, August 2018)
- > Schwab Intelligent Portfolios (33.3bn\$ AUM, August 2018)
- > Personal Capital (7.5bn\$ AUM, August 2018)
- > Wealthfront (10bn\$ AUM, August 2018)
- > FutureAdvisor
- > WiseBanyan
- > Blooom
- > SigFig
- > Acorns
- > Ellevest

There are a lot of articles and data on these actors, so we will not go into details. Should you be interested in having more details we would, for example, recommend checking the Robo-Advisor Comparison Chart from RoboAdvisorPros.com

B. EUROPE

Scalable.capital

Scalable.capital was created in 2016. They target UK, Germany, Austria and Switzerland. In May 2018, the AUM was already at 1bn€. The management fee is 0.75% and underlying fund costs are 0.24% on average. Scalable Capital is a privately-owned business. Blackrock (world's largest asset manager) owns a share in the business along with the founders and 2 German VC firm. They are focused on B2B and partner with banks such as ING.

Nalo

Nalo started in 2016 in France. They target french Life Insurance contracts and help to define investment strategies to their client and balance the portfolios. They charge 1.65% all inclusive which is quite significantly lower for this niche (usually over 2.5%). For deposits over 250k€ a human advisor will also provide additional services for free.

True Wealth

True Wealth is from Switzerland and started its business in 2013. As of December 2017, AUM were of 100MCHF. Fees are a flat 0.5% + 0.17% average product cost which make them quite competitive. They offer a lot of customization within customer risk tolerance and work with Saxo Bank as their Custodian. They are currently promoting Sustainable Investments (SRI).

Keyprivate

Keyprivate is the Robo used by Keytrade bank (Belgium and Luxembourg). They offer test accounts which can be reassuring for new investors. 0.75% excl. VAT is charged to their clients. They also claim to be the first to launch a Robo-Advisor in Luxembourg. Lastly, they have an expert team that will control the performance and correct some allocations if necessary so that it is optimal. They partner with Gambit to provide the Robo-Advisor.

Birdee

Birdee comes from Gambit Financial Solutions that has been working on Investment software since 2007. They have created 20 different portfolios that should suit most clients to reach the best risk/return balance. Their fees are a flat 1% net and include everything. As for Keyprivate do, they offer test accounts. Last but not least, they provide a mobile app for Android and iOS which can be more convenient for some investors. It is worth noticing that BNP Paribas acquired a majority stake (51%) in Gambit Financial Solutions in September 2017.

C. WHAT ABOUT ROBO-ADVISORS IN ASIA?

LET'S TAKE 2 EXAMPLES:

Stashaway (B2C)

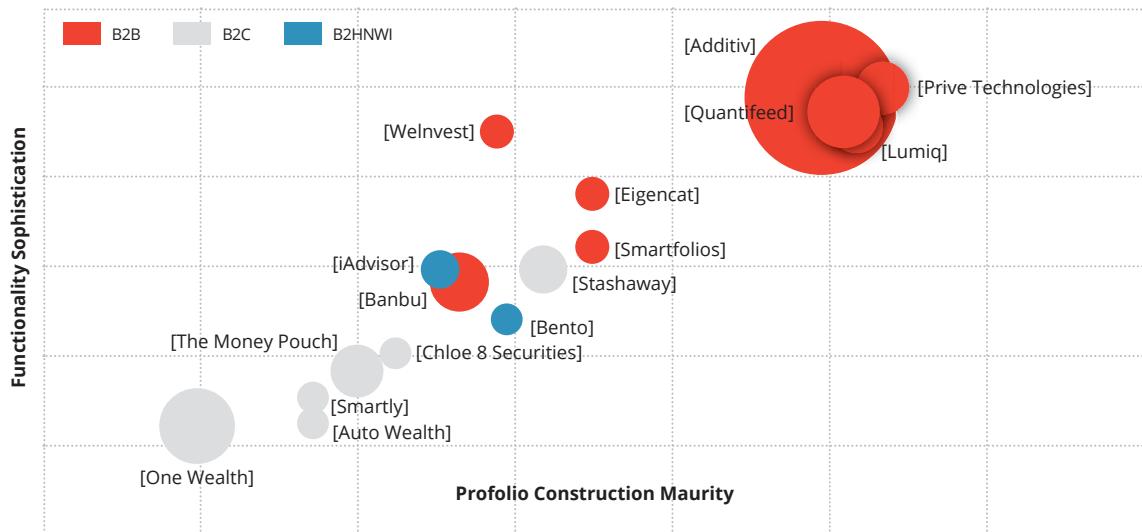
Stashaway is a B2C solution. Its inception was in 2016 in Singapour. Proprietary investment framework with risk-first approach ERAA (Economic Regime-based Asset Allocation) leverages economic data to make strategic asset allocation adjustments. Portfolios have up to 19 differentiated and global asset classes, such as stocks from a variety of sectors from around the world, bonds issued by governments and corporations, and gold. Annual fees vary from 0.8% (<25k\$) down to 0.2% (>1M\$).

Privé Managers, (B2B)

Privé Managers is a B2B solution. Its inception was in 2012 in Hong Kong. Privé Technologies, named the fastest-growing technology company in Hong Kong by Deloitte and ranked by the Financial Times' FT 1000 APAC as the 14th fastest-growing company in Asia in 2018, provides a scalable, easy-to-use software platform for institutional clients to quickly get up to speed in the current race to digitalize their offerings

Figure 4: **Hong-Kong and Singapore Robo-advisory Market Overview**

Source: Kaplan official whitepaper top4 Robo-Advisors in Asia - Financial Services Observer | 8 June 2018 (Morningstar)



in order to meet changing client expectations and financial regulations.

David Lee (Chief Revenue Office, Privé) says "You could think of us as 'private banking in a box' - get our modular platform, put it onto your core banking system and you will essentially become a digitized private bank, on par with that of any global private bank from Europe or the U.S."

D. AND WHAT ABOUT THE REST OF THE WORLD?

Lack of data and numerous local specificities would make this cumbersome. Also, due to the ease of global investing it is very easy for an investor to be able to choose from North American or European Robo-Advisors.



WHAT ARE THE IMPORTANT TRENDS TO FOCUS ON?

Hybridization: Human advisor access is added to Robo-Advisors (e.g. Personal Capital, Betterment, WealthSimple, Ellevest, Vanguard, SigFig and TD Ameritrade). Also, traditional advisors are implementing Robo-Advisors to automate onboarding and asset selection [<https://money.usnews.com/investing/investing-101/articles/2018-06-27/6-of-the-newest-trends-in-robo-advisors>]

The decrease of fees and zero fees policies: the aggressive pricing is a huge challenge as it is influencing client expectations and overall, the yields are dropping. Some actors have reached a zero fee and are expecting income through other type of services. This will create tremendous pressure for competitors that cannot provide such a large scope of services.

Investment diversification: clients are becoming more and more sophisticated and are expecting to have the widest range of investments possible. This

may become a struggle to models that are solely based on stock and bonds ETFs.

Increased transparency: clients expect to know what the key investment assumptions coded in the algorithm are. Opacity will be more and more seen as a no-go.

Artificial intelligence and machine learning: it is expected artificial intelligence research and programs will be applied to Robo-Advisors. Indeed, this could allow significant boosts of investment performance to attract clients, cost efficiencies and differentiation from competitors.

Number of Robo-Advisors: is still increasing: this may create a huge challenge to seek capital funding or partnerships. Also, as it has already been several years this topic is discussed and more experience and knowledge is gained, funders are likely to become more and more selective.

TAKE AWAY

As we are approaching 2019, Robo-Advisors have seen a lot of evolutions but we can comfortably say that these haven't taken over and act more in a complementary way than a disruptive one to the market, at least for the time being. One of the main struggles for Robo-Advisors is financing the setup and research while being as competitively priced as possible. With the trend to decrease revenue yields down and even to zero, it has become a matter of life or death to offer additional paying services such as human advice. Also, a lot of people's interest is shifting for instance towards AI and machine learning and these features could become strong competitive advantages. Finally, it isn't certain that Robo-Advisors are that much unbiased. Indeed, opacity is still quite high and let's not forget that these have been programmed by humans. Nevertheless, the market should continue widening as awareness and trust grows and that younger generations open to this concept get wealthier or inherit.

PART 3

QUALITATIVE INSIGHTS FROM A ROUND OF 10 ROBO-ADVISORY SPECIALISTS INTERVIEWS

We conducted a qualitative survey to support our quantitative results. We selected profiles of people with expertise in the field of robo-advisory or several topics related to this new technology such as Big Data, Innovation, Artificial Intelligence... The interviews were conducted in face-to-face.



ABOUT THE INTERVIEWEES



LAURENT MAROCHINI

Laurent Marochini is Head of Innovation & Quality at Societe Generale Securities Services in Luxembourg. Prior to joining SGSS, Laurent worked at BNP Securities Services in Luxembourg as a Middle Office Derivative Products. He joined in 2000 the Credit Suisse Private Banking as Head of Settlement Operations & Client Service and entered the Societe Generale in 2006 as a Risk Manager, and then became Head of Innovation & Quality. Laurent was twice 2nd Worldwide Best Innovation Maker of Societe Generale. He is also Co Chairman of the Working Group Blockchain & Crypto Currencies at ALFI and Member of the Fintech & Digital Executive Committee.



YVON MOYSAN

Yvon Moysan is a Lecturer in digital marketing, Academic Director of a Master degree in apprenticeship in digital marketing and Innovation and a member of the Crédit Agricole Nord de France Digital Banking & Big Data Chair at IÉSEG School of Management. He is also the CEO of Saint Germain Consulting, a consulting company in digital marketing, focusing on the banking and insurance industries. He graduated from Harvard and ESSEC and has more than 15 years of professional experience in digital marketing (BNP PARIBAS, HSBC France, AXA worldwide headquarter, etc.).



GAËLLE HAAG

Gaëlle Haag is the CEO of Startalers. She spent 13 years in the financial industry, first a consultant at McKinsey and last as Group Head of Sales management and marketing at a European private banking group. Her experience convinced her of the need to reinvent the wealth management model to tackle the challenges our society and build a more responsible and inclusive economy. She has created StarTalers to tackle the gender investing gap.



SEBASTIAN HASENACK

Sebastian Hasenack is a digital wealth specialist, Co-Founder of Investify – the first fully digital Robo-Advisor in Luxembourg – and now responsible at Solidvest by DJE Kapital AG for Sales and B2B-Cooperation. Before he studied business and national economics and worked as a portfolio and fund manager for a Luxemburgish asset management boutique.



OLIVIER SELIS, CFA

Olivier is CEO at Lux Future Lab, BNP Paribas incubation and acceleration program in Luxembourg. With almost 20 years of experience in the Group, he developed a solid knowledge of the financial industry, with a particular focus on innovative solutions. He holds a CFA certificate and he is currently enrolled in the Entrepreneurship and Innovation Program at Stanford University.



KOEN VANDERHOYDONK

CEO Belgium & Luxembourg at Blanco Services, he has over 15 years of experience of successfully growing and managing B2B businesses in the global financial landscape. He has a passion for innovation in the banking industry and he is a #FinTech and #RegTech influencer with a large international follower's base.



OLUS KAYACAN

After evolving in Institutional Banking and Asset Management for 20 years, Olus has joined Governance.com, an innovative Regtech, to help Financial Institutions simplify their data and GRC process as Business Development Director. He is now Managing Principal at Capco.



DAVID FURCAJG

David Furcajg is the CEO of Highwave Capital. HighWave Capital is a Robo-Advisor that uses Nobel prize research in behavioural finance to better assess end-investors risk aversion and enhance portfolio allocation and performance.



JÉRÉMIE DE SAINT-ALBIN

Jérémie is a Viatys Conseil Consultant with 10 years' experience. His main fields of expertise are project management, innovation and digital cultural integration. He took responsibilities on each part of the project cycle, from product conception to users' formation, as well as target solution testing. Certified as a Product Owner, trained for the Design Thinking Methodology, he acted on institutional websites, mobile apps or intranet reshapings and on digital transformation issues as well.



BART VANHAEREN

Bart Vanhaeren is CEO & co-founder of Investsuite, a European wealthtech company. Previously, he was 20 years with KBC Group. In his last position he was a Board Member at KBC Securities, where he launched several digital investment platforms. Earlier in his career, he set up KBC Consumer Finance, which he scaled to 2000 people in five countries. Bart holds an MSc in Chemical and Environmental Engineering, a MSc in Financial Economics, and obtained his full MBA at IMD, Lausanne. He wrote two books (Crowdfunding in Belgium, Get Up Start Up).



SYLVAIN FORTE

Sylvain is an engineer and entrepreneur, passionate about Big Data and Artificial Intelligence technologies. He is the current CEO of SESAMm, an innovative FinTech company that he co-founded which develops trading indicators based on Big Data text analysis (news, blogs, social media, forums). SESAMm's goal is to help asset managers, funds and banks generate alpha in a differentiating and efficient way by leveraging the power of Big Data and behavioral finance.



JOSÉ SOARES

José Soares is an International Business and a Technology Entrepreneur with more than 18 years of working experience in a variety of industries, including Telecommunications, IT and Financial services. Throughout his professional tenure, Jose has built a reputation for developing strategic partnerships, evangelizing new technologies, and building out channel programs in the public and private sectors.



CHRISTIAN FRIEDRICH

Christian Friedrich is founder and CEO of aixigo AG. aixigo is one of the largest independent providers of software for financial service providers in Germany, Austria, France, Luxemburg and Switzerland. We offer the fastest wealth management platform and enable innovation leaders in digitalising all aspects of the personal investment business. aixigo's aim is to best implement its customers in response to market changes. With the platform from aixigo you will be offered a future-proof architecture as well as all technical requirements. Since 1999, aixigo has been successfully supporting asset managers and advisers in major banks and financial services providers with its solutions. The aim is to offer bank customers and bank advisers a process that is easy to understand for both sides and positive consulting experience.

STUDY OBJECTIVES

By interviewing experts in the field of robo-advisory, artificial intelligence and big data, we wanted to get closer to the opinions and trends of professionals.

WE WANTED TO ANSWER SEVERAL QUESTIONS:

- > What are the current and future trends regarding this innovation?

- > What are the best practices retained by the experience of our experts? What are the keys to success and the difficulties encountered?
- > What are the possible evolutions to be expected?
- > What technological dependencies should be considered?

EXPERTS INTERVIEWS AND POINT OF VIEWS

PART 1 – ROBO-ADVISOR GENERALITY

WHO DO YOU THINK THIS INNOVATION IS TARGETED FOR? IN TERMS OF DEMAND



For **José Soares**, "Robo-advisors were built on the promise of offering wealth management expertise to the masses at cheaper fees, but in my opinion it's the high-net worth individuals who have more assets under management (AUM) that could benefit the most, from letting these automated services manage their wealth. In practical terms anyone who is interested to invest is a good target."

His thought is not quite the same as for **Gaëlle Haag**, who prefers to claim that "Based on the value of time, we see an exponential interest from a large range of clients for digital offers able to fit their personal life ambitions and give access to smart financial solutions.

The key, once again, is to give the power back to clients to choose when, where, how and with whom they invest that precious time."; and for **Olus Kayacan**, that prefers to say that for the moment the market is "[...] in launching phase and the target remains mainly the Retail segment." He also explains that "we are at the beginning of the era of Robo-advisors and for the time being it is rather for retail clients. We are witnessing the

beginning of a tremendous trend. [...] It will touch all the segments over time, within the next 3 to 5 years." To resume these points of view,

Olivier Selis argues that "the target of Robo Advisor solutions is the mass market including retail activities, as the core advantage of these solutions is to give access to optimized portfolio management at a reduced cost for both the user and the provider." For him "the highest demand might come from younger generations. Millennials seem to be the most interested, or at least the most fluent in the underlying technologies, and thus their on-boarding is easier."

Olus Kayacan

But as **José Soares**, **Olivier Selis** thinks that "Robo-Advisors are not made to reach new markets. The purpose is more related to widen service offers for existing markets. Most historical players are indeed focusing on the preservation of their local markets as the competition is stronger and new comers are out every day. What is more ubiquitous is to intend to develop a market by providing through expended services."

TAKE AWAY

1. A Robo-Advisor can offer a way to target new retail customers
2. A Robo-Advisor can also be beneficial to the High Net Worth Individuals
3. Robo-Advisory will widen service offers for existing markets and is uberizing Asset Management

ACCORDING TO YOU, WHO SHOWS THE MOST INTEREST IN ROBO-ADVISORY? IN TERMS OF OFFER



Gaëlle Haag thinks that asset management and banks are showing the most interest in Robo-Advisory. For her it is "due to the digital pressure they may currently face. They are looking for unique propositions to broaden their services and get associated to digital services."

Koen Vanderhoydonk rather agrees and explains: "looking at the offer side, I think these are the banks. For example, they could add additional services to the current "execution-only" DIY (Do It Yourself) digital platforms. To keep and attract clients that are not satisfied with such service model and as a result either come and go and become dormant accounts. In this context robo-advisors can bring added value to capture and satisfy such customer base. At the same time a bank can also capture the younger generation and make them customers for life."

But banks are not the only actors that could be interested about Robo-advisors. For **José Soares**,

"private banks, incumbent institutions, insurance companies, asset managers, online brokers and financial services in general" are all good candidates to implement such a solution. For him, "banks are not early adopters of new financial technologies, but because these services provide access to cheaper financial advice, while allowing to take on customers with smaller investment capital, they have forced many incumbent institutions move to provide similar offerings to those seen from digital-only Robo-advisory services."

In terms of offers and to resume, **Olivier Selis** thinks that there is "a strong interest for these technologies from retail banks and asset management companies; these existing actors are looking for new ways to be competitive. But we also observe financial institutions that have decided to undertake new activities, such as Keytrade, that have been running brokerage activities for years, and through the acquisition of a banking license is now providing portfolio management services through optimized and automated solutions." He adds also that different type of new actors can be interested

about implementing a Robo-advisors... "Looking at the market we can observe that Neobanks, for instance, that have based their business model on digital and dematerialization of the relationship with the client will be able to include Robo-Advisor services much quicker than historical actors"

Olivier Selis

over their existing clients. We can also talk about the GAFAs that have entered banking and financial markets providing payment solutions, cash management and so on. The difference with historical actors is that they own massive data amounts and are already familiar with big data management and profiling; thus when they regroup their knowledge on data management and Robo Advisor solutions we can expect to see them expand quickly and have greater results in the near future."

1. Digital pressure is forcing traditional players to renew themselves and offer digital cheaper services
2. Traditional actors like Retail Banks and Asset Managers are the most interested about implementing a Robo-Advisor
3. Competition can also come from new players such as Neobanks and GAFAs who have significant competitive advantages (ease of digitisation, customer knowledge and implementation of big data solutions)

TAKE AWAY

IN YOUR OPINION, WILL THE ROBO-ADVISOR GENERALLY ALLOW YOU TO ACQUIRE NEW CUSTOMERS?

For **José Soares** there is no doubt. "Offering cheaper, better tailored financial services, will improve customer retention, and onboard new clients with lower investment capabilities. However [...] it is becoming harder for financial services to differentiate themselves in terms of cost and services provided, which in return forces companies to spend additional money attracting new customers through marketing and advertising."

Gaëlle Haag tends to have the same point of view. She claims that "in France, statistics are proving that platforms such as Wesave or Yomoni are appealing to an increasing number of clients and that these clients are primo-investors, therefore there is a clear proof that these clients would have not invested using traditional services."

Laurent Marochini agrees «robo-advisors will allow acquiring new customers if they bring a real added value for the customer». In his opinion «there must be a sort of "differentiating factor" in the robo-advisor in order to justify its value and trigger its use.»

For **Jérémie de Saint-Albin**, the observation is the same. "Yes, Robo advisors allows to target a new category of investors who cannot afford the services of private bankers. Robo advisors are a key element to reduce entrance fees required for benefit from asset management advices."



Thanks to the Robo-advisor long list of advantages, **Christian Friedrich** likes to resume the situation by saying that "In principle, a Robo advisor can provide existing customers with a significantly higher level of service at lower production costs. [...] New customers can be won mainly by banks whose productivity threshold is well above EUR 250,000, which means that customers with lower assets cannot work economically. These are usually private banks with a focus on wealth management, whose services are currently inaccessible to the majority of clients. If these banks consistently offer digital services, you can address customers in the retail and affluent segments in a completely new way."

Christian Friedrich

One point of attention is still given by **Sylvain Forté**. "Robo-Advisors are a great tool to acquire new consumers and [...] that is the main use case for Robo-advisor with very clean, simple, ergonomic platforms that allow B2C investors to make investment decisions. Nonetheless [...] Robo Advisor need the strong image of an AM (Asset Manager) or a bank to attract these investors. So for an AM that would be buying a RA solution using it as a white labelled solution [...] it would attract new consumers but Robo-Advisors working by themselves will have more difficulties reaching these customers."

TAKE
AWAY

1. A strong image of a bank or Asset Manager is essential for a Robo-advisory solution to attract new customers
2. The Robo-advisor is essentially aimed at a new category of primo-investor customers who have not invested yet through a traditional channel
3. To win new customers, the solution must be differentiating and bring added value

IN YOUR OPINION, DOES THE ROBO-ADVISOR HAVE LIMITS? IF SO, WHAT DO YOU THINK ARE THE LIMITS OF THE ROBO-ADVISOR?



According to our expert **Olivier Selis**, “the human touch is the limit. A strong relationship is key to retain consumers and it might be what is lacking to Robo-Advisor processes. Except from millennial’s preferences we still note a strong appeal for face to face interactions or even more for professionals availability to answer questions and reassure clients in their investment choices.” For him, we will see emerging soon “hybrid models where on the one hand optimisation and execution will be fully automated and on the other hand an advisory service dedicated to clients that still request for human interactions.”

Koen Vanderhoydonk

insists also emphasizes that “An algorithm is as robust as it has been designed, coded and trained, until it goes wrong.” **Gaëlle Haag** has the same point of view. She supposes that “they (nldr: Robo-advisors) are designed by human beings and thus could reflect the limits of their designers. A robot is neither smart nor stupid, it is built to do what it has been coded for and thus when some technologies such as machine learning are trained with historical data which are, by definition, biased (because they do not reflect a rational truth) they can replicate those biases.” Moreover, **Koen Vanderhoydonk** resumes that “a Robo-advisor cannot replace at 100% a human conversation at the point time. But let’s keep an eye on “Emotional Intelligence” (EI), technology is moving fast. Clients are humans, that appreciate and need a “human touch” in

A robot is neither smart nor stupid

Gaëlle Haag

financially important moments in their life’s (for example when planning their personal retirement).” He also points out “the importance of being able to listen carefully to the need and the situation of your customer.”

For **Sébastien Hazenack**, “you first have to be digital-minded to open an account with Robo-Advisors. So limits here are fundamentally human.” For him, one point of honor will be the User Experience. He says that “the user experience will be drastically enhanced over the coming years.” **Gaëlle Haag** adds that “some Robo-advisory services are still programmed based on

the idea that clients are rational investors and markets are efficient but they are not, albeit these limits can be mitigated using behavioural analysis taking into account cognitive bias, for instance.”

More than Human limits, **Sylvain Forté** talks about reputation: “A Robo-Advisor needs to have a strong underlying reputation in order to attract capital. That is why it is interesting to partner with large Asset Manager.” Moreover, Sylvain Forté continues with the idea that “Robo-Advisors have some real technical limits at this stage. Solutions that are presented are currently quite simple from a quantitative point of view. [...] There is still a lot of work to do to transform Robo-Advisors from investing platforms to investing systems that are based on strong technology and that really aim at outperforming markets.”

1. The human touch is the first limit. A client needs a strong and trustworthy relationship with his advisor
2. The algorithms of Robo-advisors can be biased, mainly because developments created by humans and historical market data can be also biased
3. The reputation and notoriety of the Robo-advisor are important axes not to be neglected

TAKE AWAY

WHO SHOULD BE RESPONSIBLE IN THE EVENT OF A LOSS OR A COMPLETE CRASH/BUG?



For **Sébastien Hazenack**, everything depends on the kind of crash. market crashes or Robo-advisor itself crashes. [...] Robo-advisors should rather do the enabling stuff and leave to the human advisor the final execution. We do not conceive a Robo-advisor as being an invention of a new formula, but rather as way to enable clients to do what they want." He adds that the responsibility depends also of the contract done between the client and the Robo-advisor. "Hence when it comes to responsibility it depends whether the relation is B2C or B2B2C: if the client has established the contract directly with the Robo-advisor – hence configuration B2C -, in this situation if a bug / crash occurs then the responsibility lies clearly with the Robo-advisor. On the contrary, if the customer has established a contract with the bank which uses a Robo-advisor, then in first row it's the bank's responsibility and then in second row the Robo-advisor. In the sense that the bank will claim back to the Robo-advisor."

Sylvain Forté applies the same reasoning: "It is a difficult question, but the AM is always responsible for the losses. If the Robo-Advisor (RA) is implemented as a B2C solution dealing directly with investors, he is indeed responsible but if it is implemented as a white labelled solution it should not be the RA but rather the customers of the white label solution. In the case of a crash/bug which is a little bit different from a loss; the RA should have responsibilities such as insuring the client a minimum percentage of availability which should be very high, so there are constraints but the RA should be mostly focused on the IT part of the responsibility,

infrastructures, for instance, making sure that the servers are available, that the system is running, that the platform doesn't bug, not necessarily on the way investments are made or not."

José Soares doesn't have the same logic regarding responsibility. For him, this is not as simple as it appears. "It's a hard question to answer, and still debatable: it might be the investment managers that design the wallet portfolios, or the research team that determines what an algorithm should suggest based on the customers preferences, or even the human advisors who check if the algorithm is performing as expected, just to give a few examples."

"Robo-advisors should rather do the enabling stuff and leave to the human advisor the final execution"

Sébastien Hazenack

He also adds that "regulation is key, and we are still missing widely accepted common regulation. When this happens, it will most certainly impact start-up Robo-advisors the most. This is because, incumbents

that provide Robo-advisors to their clients, have well-funded compliance teams. That's usually not the case with start-up."

Laurent Marochini highlights the need for robo-advisory companies to have an external audit of their algorithms before they go live. "We have seen too many examples of chatbots going crazy, like when Microsoft's Tay went nuts in less than a day in 2016. Hence we need guardians to foster and promote clients' trust." algorithms before they go live. "We have seen too many examples of chatbots going crazy, like when Microsoft's Tay went nuts in less than a day in 2016. Hence we need guardians to foster and promote clients' trust."

TAKE AWAY

1. The responsibility depends on the contract initiated between the customer and the robo-advisory solution (B2C solution or B2B2C solution)
2. Liability may also depend on the type of crash or loss (market crash or algorithm crash)
3. In any case, liability is not yet regulated. Future regulations may disrupt operations
4. Robo-advisory companies should ideally have an external audit of their algorithms before they go live and periodically

EXPERTS INTERVIEWS AND POINT OF VIEWS

PART 2 – MARKETING & COMMERCIAL STRATEGY

DO YOU THINK COMPANIES SHOULD BE TRANSPARENT ABOUT THEIR USE OF ROBOTS IN THE PRODUCTION PROCESS? IF ROBOTS COME TO SUPPORT PART OF THE ACTIVITY, IN YOUR VIEW, ON WHAT SHOULD COMPANIES COMMUNICATE TO REASSURE CLIENTS ABOUT THE CUSTOMER RELATIONSHIP?

For **Sylvain Forté**, this is not mandatory. For him, "many portfolios are already managed by RA whether it is actually presented as such from a marketing point of view or not; but most quant strategies are RA to some extent. I don't think they should be fully transparent and I'm not sure that B2C clients are looking for this."

José Soares tends to have the opposite opinion and claims that "transparency is a very important word in every industry but particularly important in the financial industry." He adds that "every customer is looking for increased transparency into how his assets are being managed, and how his personal data is being used in the production process."

For **David Furcagj**, the debate is not related to customers and their expectations but "it depends on

the country you're in. There is a noticeable trend to mistrust automatization."

But if companies have to communicate to reassure clients about the customer relationship, **Jérémie de Saint Albin** thinks that "just as for financial experts, companies should highlight the reliability of their robot and their past results."

Jérémie de Saint Albin



"Just as for financial experts, companies should highlight the reliability of their robot and their past results."

financial services and influence their portfolio."

Moreover, **Gaëlle Haag** argues that on Startalers's side they "will emphasize our community and the power given back to users through the tool kit of financial knowledge provided by our on-boarding game"

1. For Robo-advisory services in B2B activity and already implemented, communication to customers is not mandatory and would even be unfavourable
2. Transparency, mainly regarding financial activities, is nevertheless increasingly sought by customers
3. Communication about Robo-advisory services is just as dependent on local culture
4. The communication could focus on the differentiating nature of the solution, on past positive results, on the customization of the customer service and portfolio as well as on the possibility of online training, gamified onboarding...

TAKE AWAY

DO YOU THINK THE GENERAL PUBLIC IS READY FOR THIS INNOVATION?



The first thing to understand to put yourself in the current context for **David Furcajg** is that “there is misinterpretation due to the term Robo-advisor. There is still a trust issue with automation and robots. Robo-advisors should be seen as algorithms, or an app.”

But for **Sylvain Forté**, a “part of the general public is ready for this mostly in the US and in Asia. In Europe to lesser extend but younger people and Millennials seem much more interested in having lower cost rather than having a real person managing their money. Trust is indeed a key element of the decision process and this why I believe Robo advisor in the end will win through asset management and banks and not replace them. They'll help them reduce costs.”

José Soares prefers to think that the real problem is not linked to the general public. He claims that the general public is ready for this innovation but he raises some concerns about its longevity. “Several studies indicate that although millennials and inexperienced investors are prime candidates for digital wealth management services, many existing customers are interested in transitioning from more expensive managed account programs into lower-cost automated alternatives. However, it is still true that it is becoming harder to

differentiate in terms of costs, and services provided. In addition, and I believe this was never raised at any point, the language barrier can be another determinant factor for customers to start using digital technologies vs. traditional human interaction.”

To help this point of view, **Gaëlle Haag** thinks that this technology will perform “if it solves an issue. It is not a question of technology or fear, it is more related to its purpose. So yes in my opinion the general public is ready because the core value of a Robo-advisor

is to answer an issue we are all facing on a daily basis: time management. Using Robo-advisory will be appreciated because it solves a real problem and not because of its underlying technology.

David Furcajg

For **Christian Friedrich**, with a more hybrid approach,

“two key issues can be solved: Financial services are still sold and not bought, and the involvement of a seller in the store can close this gap. On the other hand, the initialization process in particular has many hurdles (signature, etc.), and this problem can also be solved quite easily. Moreover, the customer has thus simultaneously established contact with a consultant and knows a face behind the Robo.”

TAKE AWAY

1. The general public seems ready for this innovation, mainly as in the United States or Asia where the use of Robo-advisors is already widespread
2. The Millennials also seem to be the main target for this technology, since also commonly called «Digital Natives», human relations seem less important
3. The robo-advisor responds to the problem of lack of time. The public will be ready to use a technology as soon as it solves a major problem

EXPERTS INTERVIEWS AND POINT OF VIEWS

PART 3 – ROBO-ADVISOR VS HUMAN

IN YOUR VIEW, WHAT IS THE POINT OF USING A ROBO-ADVISOR?

Robo-advisory is a service offering implemented in banking and asset management industries used to reduce costs and sustain market growth. When asked, **Gaëlle Haag**, emphasizes the utility of robo-advisor through their ability to solve issues. In her opinion "It is not a question of technology or fear, it is more related to its purpose". Using robo advisory will be appreciated because it solves a real problem and not because of its underlying technology.

Currently robo-advisors can provide a number of benefits, including easier onboarding processes, a suite of automated capabilities and minimal investment requirements, compared to traditional alternatives as per **José Soares** observed.

This technology breaks through an historical limit of human-only financial services: time. Robo-advisor are able to collect, store, analysis data and make decision at any time. Investments should be managed as their underpinnings and thus adapted through time and market downturns. Plus, through the use of a digital platform customers have access the robo-advisor 24/7

allowing a close relation between investors and their investments.

The adapting feature to both the investor and financial market conditions is part of the DNA of the technology. That flexibility is seen by David Fourcajg as the opportunity to add technological layers. Big Data and machine learning can be used to adjust the risk profile beyond the traditional contact questionnaire using different kinds of inputs about the user. The point of using a robo-advisor is to offer improved financial services that are not yet available to consumers.

The second edge of robo-advisory over traditional asset management is to support reduction of behavioral bias. "The risk you take as a trader should be based on data, on gain expectancy, and loss probability and not on subjective emotions», according to **David Furcajg**. Algorithmic tools can increase the analytic performance of asset managers and generate higher added value for clients.



1. Robo-advisory reduces costs and delivers higher process automation
2. The core value of a robo-advisor is to provide services that favor performance 24/7: in-depth profiling, data collection and analysis, portfolio balancing...
3. The technology can be used B2B or B2C and mitigates behavioral bias

TAKE AWAY

ACCORDING TO YOU, WILL THE ROBO-ADVISOR HAVE MORE VOCATION TO BE COMPLEMENTARY OR RATHER REPLACING THE FINANCIAL ADVISOR?



In the opinion of **Sylvain Forté** there will be some replacement "due to cost cutting in large banks and asset managers" which he defines as being a common trend when new technologies are disrupting the market. Nonetheless he added that robo-advisors are not expected to "fully replace the financial industry but rather large asset managers and banks will change". Robo-advisory will be incorporated to business models in most acquisitions and "used as a cost cutting tool"; as digitalization has been used before.

Olivier Sélis believes that robo-advisors might continue to evolve and their role will be defined by their investment universe and the level of complexity they are able to handle. Topics such as tax, wealth management or succession law require in-depth knowledge and specific analytical skills; that is why he tends to think that "private bankers are likely to remain key contact in the banking relationship". Indeed, automated solutions that tackle these issues while managing portfolios are not yet available to the market. This is partly why the co-founder of SESAMM sees robo-advisory as "something that will be complementary [to the financial advisor] when there is a customer relationship that must be kept".

"Private bankers are likely to remain key contact in the banking relationship"

Olivier Sélis

Interviewees share the idea that the technology will occupy part of the market and trigger offer segmentation. **Gaëlle Haag** foresees an opportunity for investors that have small amounts of capital to invest, to afford a skilled financial advisor, yet made of algorithms. Robo-advisors will play an important role giving banks access to new markets, enabling tailored offers to be made to smaller investors while keeping control over their cost structures. It seems that **Gaëlle Haag** and **Olivier Sélis** are

seeing eye to eye when it comes to envision the target market of the technology, they describe robo-advisors as a mass-market product, but assume that companies will focus on further development to answer more complex investors' expectations to reach out new layers of the financial markets.

In **Laurent Marochini**'s view, «bankers should work "hand-in-hand" with robo-advisors as opposed to trying to fully replace humans with robots. Robo-advisors should help, assist financial advisors to take the best decisions by proposing them the right products at the right moment. Indeed it would mean that workers might have to adapt and acquire a new set of skills but» it is his deep belief that «there is no digital transformation without human transformation.»

TAKE AWAY

1. Mass market will benefit the most from this technological upgrade
2. Without evolution the technology aims to be complementary and/or used as an ancillary tool in financial advisory
3. There is an opportunity for robo-advisory to develop its investment universe and answer complex investors' expectations
4. One should not neglect education and specific training in order for the staff to get used to work with this new kind of colleagues

HAVE YOU EVER NOTICED A DISCREPANCY BETWEEN THE BEHAVIOR OF A ROBOT AND THE BEHAVIOR THAT A FINANCIAL ADVISOR WOULD HAVE HAD?



As per reminded by **Christian Friedrich**, "robo-advisors used as support tools to enhance decision-making processes can tighten the gap between financial advisors' and robots' outcomes". The use of mathematical tools to improve the quality of advices is at the core of the technology. Behavioral bias are thus reduced, robots "would avoid most of the mistakes that could be made by a financial advisor; this includes mistakes that are purely behave built but also real mistakes such as a fat finger" as **Sylvain Forté** emphasized. For **Olus Kayacan** it is obvious that behaviors are expected to be different therefore, when comparing results obtained by a financial advisor and by a robo-advisor, discrepancies should be observed. He is convinced that using mathematical solution is a way to avoid empirical pitfalls: "the traditional approach is more based on personal experience while the automated approach is purely based on a mathematical process, the latter being obviously superior". The counselor will have new resources such as time and data-based analysis, the way it will used them might trigger a deep change of its job as a financial advisor. Daily activities

will be centered around more complex topics including tax advisory, alternative investment strategies or global wealth management.

In addition to these observations, interviewees noted that robo-advisory enhanced by Artificial Intelligence (AI) could make investment decisions that human beings would not be able to make. Robo-advisory

powered with AI is changing the scope of the technology, it is giving financial advisors access to digital tools analyzing millions of articles and messages from the web to propose allocation decisions based on their data collection.

"Robo-advisors used as support tools to enhance decision-making processes can tighten the gap between financial advisors' and robots' outcomes"

Christian Friedrich

These differences brought the Developing Director of Governance.com, **Olus Kayacan**, to notice that "the financial advisor job is changing and evolving towards an increasing use of robo-advisors" because it unleashes the potential of both data driven analysis and human based advices. In his opinion, adopting the technology is a requirement even if it does not mean to make financial advisors disappear, in order to deliver higher quality advices and improve added value.

1. By design robo-advisors have the advantage to mitigate behavioral bias in financial decisions
2. Financial advisors could use robo-advisory to improve the quality of their advice services
3. Job requirements will be impacted by the evolution of the robo-advisory technology

TAKE AWAY

IN YOUR OPINION, WHAT WOULD BE THE DIFFERENCES IN ASSET ALLOCATION AND RESULTING PERFORMANCE BETWEEN A ROBO-ADVISOR AND A FINANCIAL ADVISOR?



As seen in previous questions, the investment universe of robo-advisor is focused on ETFs, thus allocation proposals will not offer complex investment designs. According to **Olivier Sélis**, thanks to this basic investment model robo-advisory has penetrated the market and stated a pragmatic positioning; but to reach a wider market the technology should "be developed in order to include a greater number of options and propose tailored services depending on the profile of investors". Financial advisor can differentiate themselves through the large range of financial products they propose to balance portfolios. But in some testimonials, as per the one of **Christian Friedrich**, the investment universe accessible is not a key factor of performance. He said that "we [aixigo] see no difference. Ultimately, however, there will be a difference if Mutual Funds with large front-end loads are used instead of the usual ETFs to finance

distribution". The one top of mind advantage of using robo-advisory is cost reduction, although it is not true that robo-advisors are always more performant than asset managers. The net performance at the end of the day is higher whatever happens, just due to cost cutting features but it is not a good indicator of the quality of the robo-advisor design. As SESAMM co-founder **Sylvain Forté** exposed, "robo-advisory does not have a strong advance compared to financial advisor and is not necessarily generating more alpha by itself except for cutting costs".

Sylvain Forté

for cutting costs". But coupled with other layers of technology, such as deep learning or machine learning, robo-advisory will evolve and could be addressed to a wider market.

TAKE AWAY

1. Main allocation discrepancies are based on investments universes made available
2. When studying performance of robo-advisors it should be taken in account the effect of their cost cutting advantages
3. Layers of technology have to be added to walk robo-advisory to its next stage

IF ANY, WHAT ARE THE REASONS THAT MAY LEAD A ROBOT TO MAKE MISTAKE? CAN A ROBOTS BEHAVE IN A RISKY MANNER?



Even if the use of robo-advisory can mitigate behavioral bias and reduce human mistakes some errors can still be made. As algorithms are designed by human beings therefore robo-advisors are only as good as their developers. **Bart Vanhaeren** listed the following reasons for a robot to make mistakes: "too simplistic asset allocation, wrong risk measure usage (volatility), weak universe, poor volume management (number of transactions generated), weak risk profiling, biased financial capacity". It seems that **Sylvain Forté** is proposing a similar analysis although the goal of using a robot would be to make a lower number of mistakes than a human being. These statistical systems should always be monitored by humans and mainly data scientists in order to make sure that systems are properly trained and continue to behave as they should.

He also referred to much more subtle mistakes such as "a machine learning model which has been train on data that does not correspond to the reality or which have been overheating which means overly trained, these are hard to spot but it is also something that is important

for the whole industry". As per the saying garbage in, garbage out, robo-advisory as most data-based systems highly depend on the quality of data and its ability to make the right interpretation out of it.

It is a challenge to picture what could be the future weaknesses of the technology as we do not have a long period of time to analyze. For **José Soares**, robo-advisors taking decisions can be risky and

he tends to believe "the technology is not sufficiently regulated to determine what will happen if there is a mistake in the process". As financial actors implement hybrid models with a balance between machine and human interventions, mistakes could be made by investment managers

that design the wallet portfolios, or the research team that determines algorithm's outcomes based on the customers preferences, or else the engineer who checks if the algorithm is performing as expected. In order to define clear responsibilities in case of bug or crash it seems that data are lacking. Business models have not been yet defined and thus the technology is not sufficiently accepted and widely regulated.

1. The technology is still in an early phase of its development making it hard to forecast behaviors and measure impacts
2. Being designed by humans, a robo-advisor is only as good as its designers
3. Data quality, proper testing and qualified human support are best ways to prevent drifts

TAKE AWAY

EXPERTS INTERVIEWS AND POINT OF VIEWS

PART 4 – FINANCIAL TECHNIQUES

DO YOU THINK ACTIVE MANAGEMENT IS AT RISK?

"How traditional management could justify additional management fees when the one and only goal is to generate profit and results are not aligned with expectations?" - **Gaëlle Haag** asked while answering the question. In **Christian Friedrich**'s opinion, "active management will be maintained and in part strengthened, but the level will shift". Thus, passive products will prevail at the product level meaning they might compose a greater part of the portfolio allocation; and the active control will instead be found at the portfolio level.

Sylvain Forté expressed some worries about active management, he believes that active management is at risk due to massive amount of capital going on the direction of smart beta and passive investments.



"Active management will be maintained and in part strengthened, but [...] the active control will instead be found at the portfolio level"

Christian Friedrich

Beside these noticeable facts, new trends such as greater interest for sustainable products and responsible investments are reshaping financial markets and active management. There are still a very few passive products that meets the appropriate criterion to be considered as sustainable. Considering all sustainable product classified as active products there are still good days to come for active management although it would be more and more difficult to justify pure active management. The common

point between the three experts view is that the use of AI could also result in different positioning and better allocation proposals which could help active management to bounce back.

TAKE AWAY

1. Active management is struggling to find its next business model and should find differentiation factors to remain attractive
2. Sustainable financial products and investments can be the next stepping stone to sustain active management
3. The use of AI is also a lead to explore while rethinking active management

WHAT ARE THE TRACKS OF IMPROVEMENT FOR THE ASSET ALLOCATION OF ROBO-ADVISORS?



Olivier Sélis identified two types of improvements: on the one hand, opening the investment universe and diversifying the possibilities of investments would enable robo-advisors to propose more complex portfolio allocations and thus answer to different types of customers' expectations. Robo-advisors could improve their market penetration using different types of assets class.

On the other hand, market penetration could be achieved if more products such as loans or insurances are included into the offer. It means that the robot would be able to act like a wealth manager, responsible for the global management of the wealth of clients building long term financial strategies to reach clients' objectives. These portfolio management proposals would be based on client

profiling and in-depth customer knowledge supported by Big Data. To deliver such state-of-the-art service, robo-advisory shall be enhanced with AI using deep learning layers designed to collect, classify, analyze and create outcomes. But as underlined by **Sylvain Forté**, functionalities that could deliver value to consumers will be defined by the target itself. "For B2C investors the current investment universe seems sufficient", as **Olivier Sélis** emphasized, the amount of capital invested per client in this specific market will not be important enough to build complex investment strategies. But more sophisticated institutional investors will require an extended investment universe to elaborate appropriate investment solutions and be appealed by the technology.

"For B2C investors the current investment universe seems sufficient"

Olivier Sélis

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1. To satisfy mass market specific asset classes are more relevant and it would not require to include complex asset types
2. B2B clients have sophisticated needs that would require to extend the current investment universe
3. Robo-advisory can also diversify its offer by including other types of products to enlarge its management scope

TAKE AWAY

DO ROBO-ADVISORS ALLOW A BETTER PROFILING OF INVESTORS?

Interviewees agreed to state that robo-advisors could deliver better profiling but only if designed to do so. Their ability to deliver better profiling will depend on the degree of maturity that creators have put into the customer profile analysis. As per what **David Fourcarjg** noticed, "many services use nearly the same questionnaires as traditional banks and thus don't achieve greater results on profiling". When robo-advisors are built on a in-depth scientific and unbiased approach to profile client, then it improves the quality of the portfolio proposals made upon the profiling. But still, great data does not ensure great results. Data has to be used properly to define a 360° picture of the financial knowledge, risk appetite, consumption habits, financial expectations of customers.

In other words, if designed to do so, robo-advisors are able to collect financial and extra-financial data. Collecting different types of data would allow to determine thousands of financial profiles and thus integrate a solid

KYC method to robo-advisory. **Gaëlle Haag** shares that point of view. She stressed out that "banks and asset managers already own lots of data, but they do not currently apply that data to a client's perspective". Data has been serving marketing purposes since companies were able to collect them but not necessarily integrated into smart infrastructures. The massification of robo-advisors is thus a real opportunity for financial

actors to implement pivotal strategies using inhouse data in the interest of clients. Robo advisors are giving the chance for financial actors to provide the masses with customized offers. **Christian Friedrich** also emphasizes that "the profiling is crucial and maybe even more when using automated technologies". It is sometimes hard to seize clients' preferences and goals as they evolve in life that is why the questionnaire should be detailed enough and enable frequent updates by collecting data all along customers' journeys. This approach would ensure that both proposals and final allocation suit the customer.



"Banks and asset managers already own lots of data, but they do not currently apply that data to a client's perspective"

Gaëlle Haag

TAKE AWAY

1. To deliver better outcomes profiling should be reinvented and use both financial and extra financial data
2. Financial actors already own necessary data to propose 360° profiling
3. If robo-advisor are built upon an in-depth KYC method it would be easier to extend the offer afterwards (type of assets or types of products) and re-use the same data to sustain tailored offers

EXPERTS INTERVIEWS AND POINT OF VIEWS

PART 5 – ROBO-ADVISOR PERCEPTION

HOW DO YOU VIEW THE COMPETITION? HOW DO YOU FEEL ABOUT THE ROBO-ADVISOR MARKET?

«The competition is already fierce», **Oliver Sélis** told Initio. “Big players are positioning themselves through strategic acquisition or partnership and newcomers will have a tough time entering the market unless they propose a solution that can make a real difference”.

It is true that many traditional actors have been investing into acquisitions of Fintech to achieve strategic positioning. According to **Sylvain Forté** “the growth of the market is mostly supported by acquisitions and this is not a very sustainable way to grow in the future”. He believes

that there will be a winter for robo-advisor providers once all big companies will have acquired their service. So competition is still in definition the landscape is not yet clear all actors are still positioning themselves.

When measuring competition, it should be noticed that newcomers have to afford expensive licenses in order to operate in the market as B2B players. This also could represent a huge barrier to innovation and market entry leading companies to bypass some barriers. It could be at the expense of clients or by quitting the market as independent B2C player to favor partnership with existing businesses.



Even if there is no established business model, and the path to profit is still undefined for most robo-advisor providers there is plenty of competitors. In the US market, competitors have engaged in a price competition where their only way to generate profit is to use ETFs to benefit from favorable costs structures. In the European market actors still have many open ways to differentiate. Competition also triggers innovation and that is why disruptive offers emerge, with solutions were equity crowdfunding is mixed with robo-advisory, for instance. Which “makes it even harder to differentiate” in Europe in **Gaëlle Haag**’s opinion.

Initiatives such as Ellevest, a financial platform dedicated to women or Finimize that offers a financial news platform, for both regular and crypto markets, must be kept under the radar. As they might be the next companies that could soon pivot to propose more services and opt for a robo-advisory service. In order to enter the market, competitors have to be disruptive enough to appeal investors and to propose a clear added value in the investment journey of consumers.

1. The market of robo-advisor is competitive and the blur around the path to profit is reinforcing price competition
2. Many traditional institutions have already engaged into strategic bulk which means to enter the market competitors have to propose disruptive services
3. To enter the market as a B2C player, newcomers have to create a gap between their offer and what is available in the market. This pressure fosters innovation and may lead existing companies to use robo-advisory to leverage on their differentiating factor

TAKE AWAY

IN YOUR OPINION, WHAT ARE THE OBSTACLES THAT PREVENT INVESTORS FROM GOING AFTER ROBO-ADVISORS?



Historically financial markets have always endured trust issues even more when it comes to innovation and novelty. So, it is common to observe numerous mergers and acquisitions when a wave of innovation swamps the market. Traditional financial institutions are aware that "the market is really attached to its historical habits" as **Olivier Sélis** said. "As soon as it touches money trust is the key to insure client's loyalty", he added. To **Olus Kayacan** "there are always cognitive and emotional limitations with new technologies", that is why he foresees financial institutions will have an important role to play in the education of their customers. The better they explain, the bigger the opportunity.

The ability of financial actors to communicate about their products and respond to customers' expectations will be reflected in the trust into the brand. According to LuxFutureLab CEO, "there is still a strong lack of information, but people are willing to inform themselves" giving companies an opportunity to encourage learning and create a solid relationship through education. "Achieving notoriety and building trust are roadblocks" in the adoption of the technology as **José Soares** said.

The financial management and advisory industry are built on trust, but robots are not able to create trust. Marketing efforts along with functional reliable innovations are ways for financial institutions to strengthen confidence. If smaller players as well as big traditional actors are ready to engage into delivering education, it would ease the way for upcoming

"There is still a strong lack of information, but people are willing to inform themselves"

Olivier Sélis

innovation waves. Newcomers will benefit from past experiences as customers will have new instinctive behaviors towards innovative services. "When there is not enough transparency and clear information about service offering, clients don't feel comfortable enough to engage their savings" as reminded by **Olivier Sélis**.

Beyond this discomfort towards innovation in finance, one of the reasons for the 2008 crisis was the high-frequency and automated trading, which are

both associated by clients to technology. As per demonstrated above, educational biases are shaping customers' preferences. "These financial techniques are oriented on short-term results, compared to a healthier long-term approach of robo-advisors" explained **Olus Kayacan**. Robo-advisory and algorithmic high frequency trading are completely different things but still associated in clients' minds. "The latter enables 20-30% winners and is not an efficient model, while the former is a long-term asset management process" in **José Soares**' opinion.

Other obstacles include limited investment choices (ETFs), and unsuitability for preferences, if the data analysis model incorporated into the robot is too basic. Interviewees used many examples to illustrate that robo-advisors should be at least able to deliver the same level of customization as financial advisors do. If concerned by social impacts when picky investments, clients will expect that this preference is respected by the robot otherwise they might keep their historical relationship with their banks and will not be willing to take the risk to change their habits.

TAKE AWAY

1. As brands are the reflect of the service quality a special attention might be paid on brand value and recognition within the financial industry
2. Clients need to rely on a trusted partner when investing their savings, transparency and communication are both effective to foster customers' loyalty
3. A lack of financial education is misleading the interpretation of innovations' purposes, therefore education is a leverage to reach greater market penetration

WHY DOES COMMUNICATION TO THE PUBLIC ON THIS SUBJECT SEEM TO BE SO DISCREET?



In **Jeremie de Saint Albin**'s opinion asset management is seen a niche service from customers, providing high quality services to clients facing complex financial decisions. Mass communication could affect this image. "Asset Management is perceived as a business providing high added value, carried out by highly qualified personnel, for a prosperous, if not wealthy population" he said, so it sees that discretion as a matter of consistency with asset management traditions. Companies seem to seek a way to advertise their new services without taking the risk to depreciate their perceived value. As per emphasized by **Olivier Selis** robo-advisory is in an early stage of development, even though the underpinning technology is not new, companies are still building their service offers and "need time to provide clients with a full service offering" so "they might be waiting to disclose more information".

Robo-advisory is providing mass market with new investment solutions but it should not be equal to low quality services. If advertisement has to be made it should focus on what makes the service unique and in which way it opens and widen opportunities of investors. As per any product or service what matters is the specific worthiness of it and thus how it brings it to clients and how it can be used to positively influence their living standard. "The right balance might be found between low cost and low services to equip masses", it means that advertising campaigns should be designed

with regards to what asset management means to the public but nevertheless designed to convey the idea that asset management is now accessible for a greater number of investors through robo-advisors. As the service offering is still to be defined, many players keep low profile until they reach to define the different types of services they intend to offer. They will probably all provide customers with a "basic" offer including only the robot and its customer platform; but also more sophisticated offers based on hybrid solutions in which the robot services are coupled with human support to equip clients.

"The point is that historical actor have to find the right balance; they have to price their services and

make sure they develop an offer that matches each segment's specific needs and wishes" as expressed by **Olivier Sélis**.

In the opinion of **Koen Vanderhoydonk**, "the answer is very simple: it is about money. In general, the various robo-start-ups have a pretty limited budget to allocate funds to marketing/advertisement to promote their initiative, at least in Europe". So the timid marketing initiatives are also influenced by the size of the market as it could be seen in the US, advertisement is way louder and it goes with the size of the market and therefore the size of the business case. It turns out that in the opinion of experts the marketing aspect is following the curve of maturity of the product.

1. Asset management is changing with the expansion of robo-advisory however to avoid breaking the relationship with current clients change must be tackled cautiously
2. Companies are not mature enough to propose a clear communication on their services
3. Communication has a cost and thus smaller initiatives towards direct channels (social medias or inhouse platforms) can be preferred to large advertisement campaigns

TAKE AWAY

EXPERTS INTERVIEWS AND POINT OF VIEWS

PART 6 – DIGITAL TRANSFORMATION & CHANGE

HOW DO YOU IMAGINE THE IMPACT THAT ROBO-ADVISORS WILL HAVE IN THE FUTURE?

To answer this question, it is interesting to imagine the future of asset management. For **Christian Friedrich**, Robo-advisors "will gain influence. But it will take another generation for the robots to receive the same appreciation in the front-end that they are currently experiencing in the backend worldwide."

To help robots receive the same appreciation, **Gaëlle Haag** is sure: "if public awareness continues to grow, impacting the volume of sustainable investments, sustainable investments would be open to masses and influence behaviours in favour of green finance and responsible investments and ethical economies. Companies would have no other choice than to follow ethics and act responsibly to attract market investors."

More generally speaking, for **Laurent Marochini**, «we may see the rise of a new kind of paradigm. Traditional financial players are already challenged by sophisticated new comers including robo-advisors and FinTech. Market competitors are unlikely to be predictable when we try to imagine what the future could look like but competitors will come from outside the traditional financial ecosystem. They might be the GAFAs. They might be outsiders that are able to disrupt the market with in depth data management. In other words we might see in the future the rise of new business models different from the ones we are used to today where human bias are mitigated by the integration of data management. To be part of that market financial institutions need to create synergies while branding what makes them unique.»



Two things are really important for the future for **Jérémie de Saint-Albin**: "the first one is to democratise savings management. The second is, as for other businesses that are using IA, to focus more and more on customer relationship management."

To conclude, **Olivier Sélis** is more pronounced: "we are all going to use a Robo-Advisor but it could be either directly online or through bankers that will use them as a tool to control costs. Bankers will be more available to handle customers' specific requests, but bankers of the future will have to upgrade their set of skills to answer to that specific demand. The balance will tilt

in favour of more complex tasks. This change will be a great opportunity for the knowledge transmission processes, as most execution tasks will be automated new employees or interns will be able to work quickly on key topics and thus would benefit from

"We are all going to use a Robo-Advisor but it could be either directly online or through bankers that will use them as a tool to control costs"

Olivier Sélis

that increased complexity. Banking is becoming a specialized sector with higher requirement in education and IT meaning fewer employees with higher skill sets. [...] With time, people will learn to have trust in robots and if today we still observe hindrances to Robo-Advisor adoption we, as people, tend to empower technologies, algorithms in our daily lives. We named it a "robo" while there is no robotic involved, thus imagination bring people to think of the Terminator or R2D2 whereas it is all about producing quality through mathematics and algorithms."

1. Everyone will use a Robo-advisor, either directly or indirectly
2. Banking and financial expertise will evolve and advisors will have to be trained to read and build a Robo-advisor
3. The digitalization and the plurality of robo-advisory offers will gradually lead the general public to learn about the technology, which will democratize savings management
4. The green, responsible and ethical finance will be increasingly present
5. The market is structurally changing with technology and outsiders enabling the emergence of disruptive business models

TAKE AWAY

WHAT DO YOU THINK A ROBO-ADVISOR WILL LOOK LIKE IN THE MEDIUM/LONG TERM (IN TERMS OF FUNCTIONALITIES)?



The first idea that came to **Yvon Moysan**'s mind is that "It could be integrated in Apple's Siri, Amazon's Alexa, Google Home or other personal assistants". The channel is quite important as well as the technology behind.

José Soares well understood that and claims that in the future, "we could see Robo-advisors delivering dynamic advice powered by machine learning, or artificial intelligence, as opposed to a simple portfolio management. Rather than performing the simple algorithmic "if/then" tasks of today, new technology could add substantial value, enhancing efficiency and transparency. Hybrid models are also the future, where robo-advisors could assist human advisors with ideation, delivery, and risk and compliance, relying on AI capabilities like pattern, voice recognition, automated learning and preparation, and running suitability checks, for example.

"It could be integrated in Apple's Siri, Amazon's Alexa, Google Home or other personal assistants"

Yvon Moysan

Gaëlle Haag prefers to say that "it's hard to picture it, but as life is becoming more complex, families also turn into more complex configurations. Financial advisors should take into account a global asset situation and act in favour of a global development, working on different topics such as transmission rights, inheritance law to walk clients through a lifelong investment strategy that will enable them to live decently (how precious when we see how long we are going to live tomorrow). Consequently, needs for active asset planning and wealth structuration will become critical. The idea is to be able to advise clients with a global vision of their wealth without acting as decision takers. [...] The key value for the user is to centralize the management of their wealth and to gain freedom using digital solutions. And this can happen only through AI and a greater understanding of behaviours to anticipate them and increase awareness about trends and market changes."

1. Hybrid models will come into being (thus allowing to keep a human relationship in an automated process)
2. The Robo-advisors will be coupled to personal assistants using different technologies (voice recognition, artificial intelligence, big data, machine learning...)
3. Robo-advisors will be able to adapt their actions and anticipate their customers' financial behaviour according to their lives. They will thus be able to centralize all the family's assets

TAKE AWAY

WHAT CAN THE GENERAL PUBLIC FEAR ABOUT THIS TECHNOLOGY?

David Furcagi claims that the real problem with the Robo-advisor come from the general idea that "most technologies destroy employment. [...] Artificial Intelligence might tend to replace high value-added jobs such as lawyers, auditors and highly skilled professionals. Digital transformation isn't something minor and this industrial revolution is unlike the former ones because it will change the nature of the human kind. Human will tend to machines and machines to human. Machine and human will be combined together. In less than a generation, this is one of the fastest leap into the unknown. One that will revolutionize the human kind. We are facing a Black Swan." For him, the general public fear is about the employment market security.

For **Bart Vanhaeren**, the observation is quite the same. He argues that "If well designed and right risk profiles and investment allocation applied this is a rather safe

product. But psychologically a risk is they may suffer from the 'general fear' against robots and AI..."

In her point of view, **Gaëlle Haag** prefers to speak about education. For her, "it is more about educational hindrances, these gaps in financial education are creating a misleading perception of financial markets and I can tell by experience that even some basic principle such as inflation are tough to seize for some. They feel like markets are like playing the Russian roulette or gambling in casinos, where

hazard is the key factor of success but with stronger support and guidance about knowledge sources, we can change that feeling.

Money is still a taboo in many cultures due to lack of acknowledgement and cultural biases, but there is nothing wrong with talking about money and earnings. Money is freedom."



Bart Vanhaeren

TAKE AWAY

1. The main fear comes from the cinematographic and literary culture highlighting destructive robots and Artificial Intelligence
2. The destruction of jobs in the financial sector and related markets is worrisome
3. The fear of the general public comes not only from the use of robots but also from the financial market and trading alone

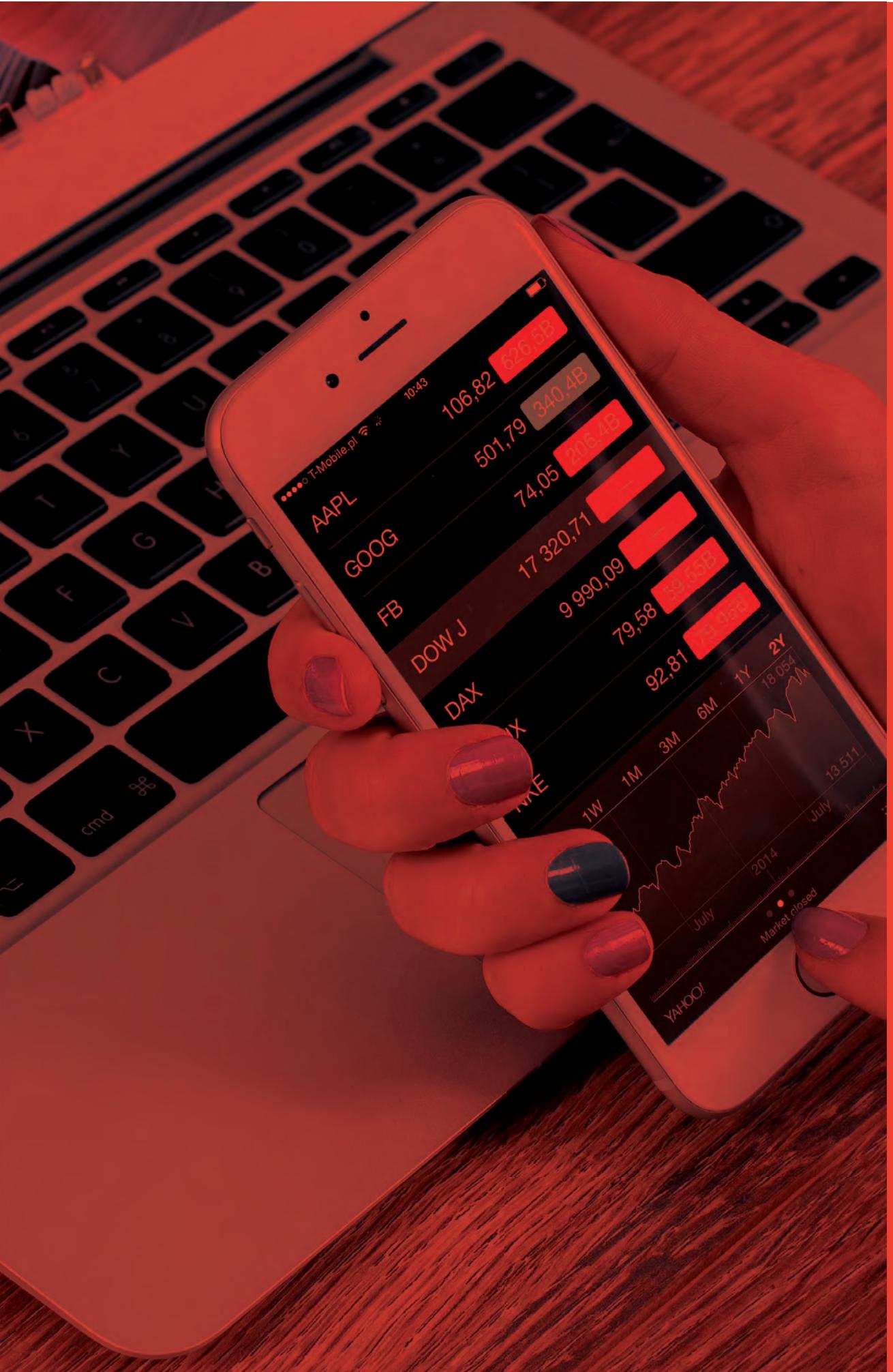


YOU CAN FIND THE FULL
CONTENT OF THE
INTERVIEWS WITH OUR
EXPERTS IN ANNEX 3

PART 4

OUR NUMBERS QUANTITATIVE DATA FROM OUR INITIO SURVEY





BACKGROUND

ABOUT THE STUDY

Have you ever wondered how Robo-Advisors will reshape Wealth Management?

This is exactly the question we asked ourselves a few months ago. Moreover, we have been recently queried from market players about Robo-Advisors and how these new services would impact financial markets. For these two reasons, we decided in July 2018 to go beyond the web and solicit the perception of market players, in order to get a better view of trends to come. With a 15-questions questionnaire, we therefore interviewed 310 people on the subject of Robo-Advisory. The vast majority of the questionnaires were answered online.

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ABOUT THE SAMPLE POPULATION

The study targeted potential investors and investors (37%) as well as professionals of the financial sector (63%), thus gathering a sample of 310 responses. Respondents to the quantitative survey therefore work mainly in Luxembourg (37%), France (23%) and Belgium (12%). The panel also includes respondents working in other countries (28%) mainly in European Union. In addition, 78% of the respondents are male, although the questionnaire was sent out fairly to both women and men. Our panel is composed almost equally of respondents under 30 years old (27%), between 31 and 40 years old (34%) and between 41 and 50 years old (27%). The remaining 12% of our panel is over 51 years old.

STUDY OBJECTIVES

The study set out to gain greater understanding of Robo-advisory, particularly:

- Know the state of the current Robo-advisor market on the European market and more specifically on the Luxembourg market.
- Know the investment behaviours of robot-advisor users.
- Draw a major current and future trend in Robo-advisory, in order to determine how this technology will impact asset management.

BIASES: Our survey was conducted exclusively through LinkedIn and our professional networks. Since LinkedIn is also a professional network, it should be assumed that the panel is only representative of the professional network of Initio consultants, specialised in banking, finance and insurance. Moreover, as the subject may seem technical, it should be assumed that the majority of our respondents know a minimum the term "robo-advisor" since they took part in a survey on this subject on their own initiative.

KEY FINDINGS This part of our white paper breaks down the data collected through the quantitative study. We will find 3 parts on this document. The first one will approach the knowledge of Robo-Advisory through our panel, the second part will talk about the usage done of Robo-Advisors and the third part will explain the future of this technology always according to our panel. In addition you will find some take-aways after each sub-parts.



GENERAL KNOWLEDGE

HAVE YOU EVER HEARD ABOUT ROBO-ADVISOR?

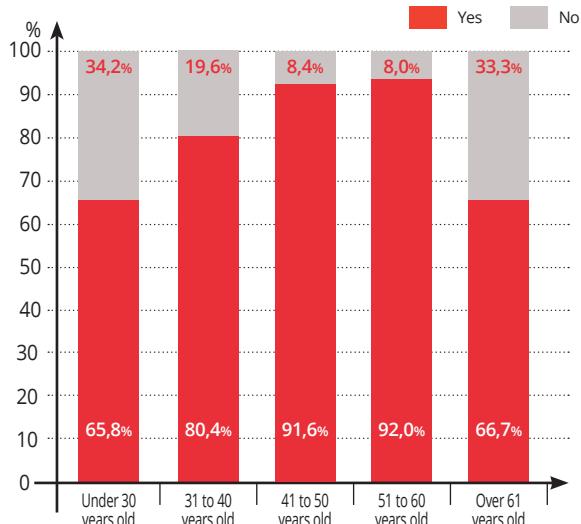
The Robo-advisor is a digital technology that aims to automate certain tasks and make life easier for these users. As with all new technologies, there are barriers to use and it is not uncommon for Millennials to be the first to know and use new technologies. We wanted to check if Robo-Advisors were also part of the Millennial's popular digital innovations.

As seen as exhibit 1, it turns out that the under-30 age group knows the least about this innovation. This is followed more logically by the oldest age group in our panel, the over 61s. The age group that is most familiar with this innovation is the 51-60 age group, with 92% knowledge, followed by the 41-50 age group with 91.6% knowledge of this technology.

Why do we find a Gauss curve for the knowledge of Robo-advisors, where we could have expected an increased knowledge of this technology by the Millennials?

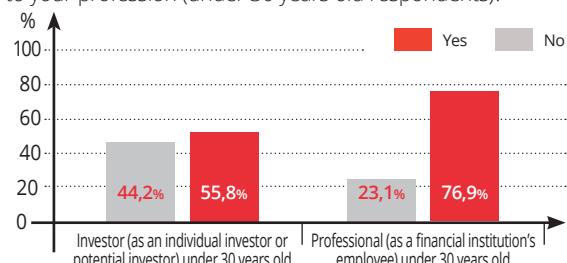
HAVE YOU EVER HEARD ABOUT ROBO-ADVISOR? WHO IS MORE LIKELY TO USE A ROBO-ADVISOR? WHAT CAN A ROBO-ADVISOR DO? SPONTANEOUS NOTORIETY

Exhibit 1: Have you ever heard about robo-advisor according to your age?



Source: Initio How will Robo-Advisors reshape Asset Management Survey 2018.
Depicts responses to the questions "Have you ever heard about Robo-Advisor?" and "How old are you?"

Exhibit 2: Have you ever heard about robo-advisor according to your profession (under 30 years old respondents)?

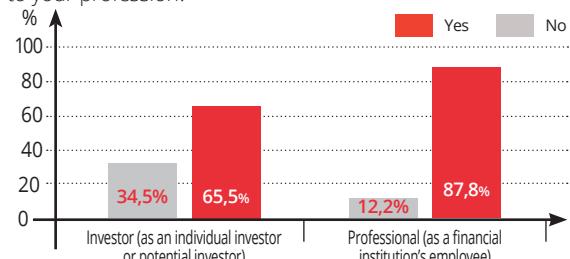


Source: Initio How will Robo-Advisors reshape Asset Management Survey 2018.
Depicts responses to the questions "Have you ever heard about Robo-Advisor?" and "Are you answering this poll as a professional working for the finance industry? Or, as an investor?" and "How old are you?"

According to exhibit 3, the Financial professionals have a better knowledge of Robo-Advisory. Only 12% of the professionals don't know what a Robo-Advisor is versus 35% in the investors category. This observation is interesting to note because the Robo-advisory is not really a new technology. Robo-advisors are primarily algorithms developed for asset allocation and such algorithms already exist at B2B level to support asset allocation decisions. What is essentially new is the ubiquitous use of this service and the development of B2C offers for end customers. This is why this innovation is more recognized by professionals than by investors.

A first hypothesis tends to explain this phenomenon. The Millennials do not yet have the financial capacity to invest money. But regarding the exhibit 2, those working in the financial sector also have a better knowledge of this technology (77% of under 30 years old working as a financial professional know this technology) than those who define themselves as investors or potential investors (vs 56%).

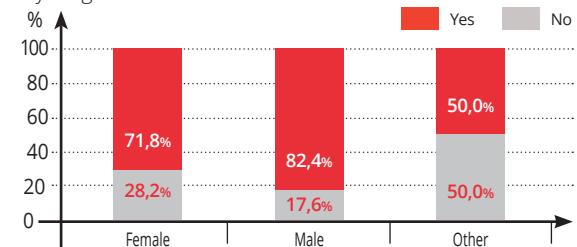
Exhibit 3: Have you ever heard about robo-advisor according to your profession?



Source: Initio How will Robo-Advisors reshape Asset Management Survey 2018.
Depicts responses to the questions "Have you ever heard about Robo-Advisor?" and "Are you answering this poll as a professional working for the finance industry? Or, as an investor?"

Furthermore, it is nevertheless interesting to note that despite the low rate of women who responded to the questionnaire (22%), the majority of women are aware of the existence of this innovation: 72% of women say they have already heard and know the term Robo-Advisor. This is certainly less than men: 82% say they know this technology. We can explain these incredible results by the fact that people tend to answer questionnaire about technologies only if they are already aware of this technology.

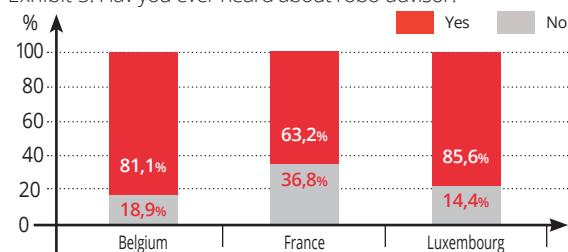
Exhibit 4: Have you ever heard about robo-advisor according to your gender



Source: Initio How will Robo-Advisors reshape Asset Management Survey 2018. Depicts responses to the questions "Have you ever heard about Robo-Advisor?" and "What is your gender?"

"72% of women already heard about Robo-advisor"

Exhibit 5: Hav you ever heard about robo-advisor?



Source: Initio How will Robo-Advisors reshape Asset Management Survey 2018. Depicts responses to the questions "Have you ever heard about Robo-Advisor?" and "Where is your working place?"

Moreover, according to our exhibit n°5, it seems that this technology is better-known by Luxembourg investors and professionals than by French respondents. With respectively 86% knowledge compared to 63%, Luxembourg is at the top of the countries that are most familiar with this innovation, followed by Belgium where 81% of respondents answered that they are familiar with this term.

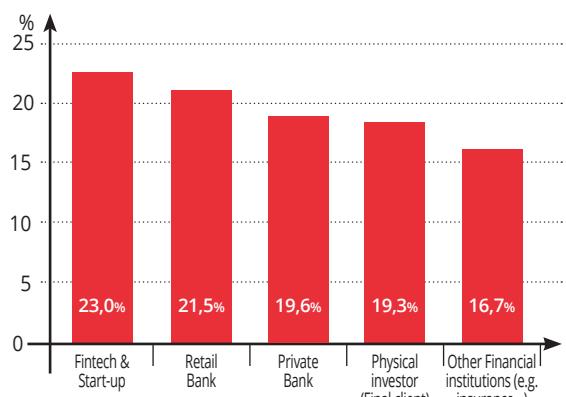
"With 86% of people knowing the term Robo-advisory, Luxembourg is at the top of the countries that is most familiar with this innovation"

WHO IS MORE LIKELY TO USE A ROBO-ADVISOR SERVICE?

This question first of all makes it possible to determine who the potential customers of this innovation are and who the players using this technology are. We had assumed that this digital solution should be used primarily by end investors, given the number of B2C solutions available on the market. Our study somewhat validates this hypothesis on several axes. According to our exhibit n°6, start-ups and fintechs take the first place in the ranking with 23% of responses. In recent years, there has indeed been a leap in Robo-advisory solutions, mainly for end investors (B2C). These start-ups also offer white labels that are then implemented by financial players, mainly retail banks. It is therefore the latter that appear in the second place ranking with 21% of responses.

It is thus surprising to note that asset management has, for our panel, changed sides: It is no longer private banks that seem to be implementing Robo-advisory solutions to meet asset allocation needs.

Exhibit 6: Who is more likely to use a robo-advisor today?



Source: Initio How will Robo-Advisors reshape Asset Management Survey 2018. Depicts responses to the question "According to you, who is more likely to use a robo-advisor today?"

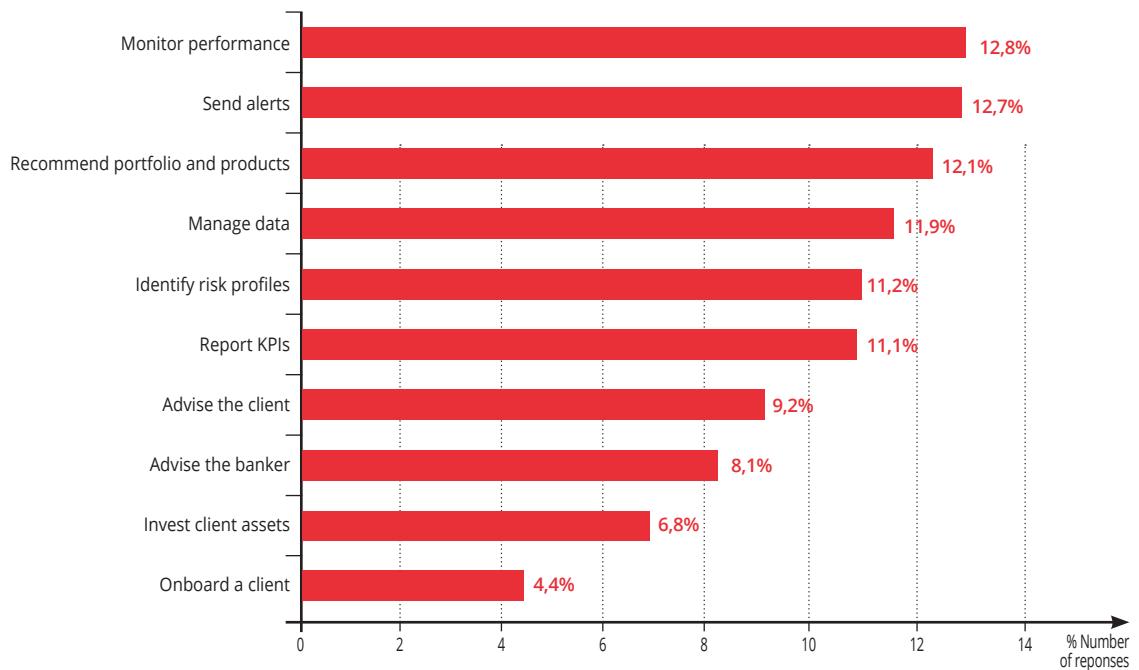
WHAT ROBO-ADVISORS CAN DO?

We have seen in the first part of this white paper the functionalities that Robo-advisors offer. A Robo-Advisor is above all an important asset for the digitisation of a financial institution's offer, mainly private and retail banks. These must meet regulatory challenges and therefore, automation of certain tasks makes it possible to partially meet regulations. This is why Onboarding client is an important part of a Robo-advisory solution. Asset allocation is also the very definition of a Robo-advisor. We wanted to verify the good knowledge of the use of a Robo-advisor through our panel.

What is interesting to note here are the functionalities that a Robo-advisor can perform according to our panel. In first place with almost 13% of responses, we find "performance monitoring", followed by "alerting" and then "product and portfolio recommendations". A

Robo-advisor effectively has the ability to manage all these tasks, and these functionalities are therefore the most used right now by the robo-advisor users. What a Robo-advisor can do and for which it is increasingly developed, is the customer onboarding (this point is quite important with the high number of requests regarding regulatory, KYC...) and customer asset allocation. These two advantages are nevertheless the least mentioned by the panel, with only 4% and 7% of the responses. We can also figure out that the panel think a robo-advisor cannot be so helpful for advising the banker but can be a bit more for the final client. This can be explained by the fact that people tend to think a robo-advisor don't have enough deep knowledge to perform recommendation to a banker.

Exhibit 7: What can a robo-advisor do?



Source: Initio How will Robo-Advisors reshape Asset Management Survey 2018. Depicts responses to the question "According to you, what can do a robo-advisor?"

SPONTANEOUS NOTORIETY: WHICH ROBO-ADVISORS DO YOU KNOW?

One of the questions asked to the 310 respondents in our survey was about the spontaneous notoriety of Robo-advisors and banks using or offering a Robo-advisory service. In the form of open-ended questions, respondents named one or more entities representing a Robo-advisor or a

bank. Below are the results obtained. The first column represents the ranking of each entity quoted, followed by the name of the entity and then the percentage of citation among respondents by the country of work.

Exhibit 8: Banks using or selling a Robo-advisor service

Luxembourg					
#1	BNP Paribas	18,75%	#11	Commerzbank	2,50%
#2	Keytrade	11,25%	#12	UBS	2,50%
#3	BCEE	11,25%	#13	Bank of America	2,50%
#4	Société Générale	7,50%	#14	HSBC	1,25%
#5	ING	6,25%	#15	Allianz	1,25%
#6	Deutsche Bank	3,75%	#16	Swiss Life France	1,25%
#7	JP Morgan	3,75%	#17	B for Bank	1,25%
#8	Goldman Sachs	3,75%	#18	Unicredit	1,25%
#9	Morgan Stanley	2,50%	#19	UOB	1,25%
#10	SwedBank	2,50%	#20	GS	1,25%
France			Belgium		
#1	BNP Paribas	16,67%	#11	ING	3,33%
#2	Goldman Sachs	10,00%	#12	La banque Postale	3,33%
#3	JP Morgan	10,00%	#13	Royal Bank of Scotland	3,33%
#4	Société Générale	6,67%	#14	N26	3,33%
#5	Morgan Stanley	6,67%	#15	DBS	3,33%
#6	Barclays	6,67%	#16	AXA	3,33%
#7	Keytrade	6,67%	#17	Amundi	3,33%
#8	Crédit Agricole	3,33%	#18	Fidelity	3,33%
#9	Crédit Mutuel	3,33%			1,25%
#10	HSBC	3,33%			

Source: Initio How will Robo-Advisors reshape Asset Management Survey 2018. Depicts responses to the questions "According to you, which banks are using a robo-advisor? Please indicate the name(s)"

IN LUXEMBOURG, it is not surprising to see that the most frequently mentioned bank using or offering a Robo-advisory service is none other than BNP Paribas with almost 19% of spontaneous quotes. BNP Paribas made the news by recently acquiring a majority stake in Gambit Financial Solutions (Sept 2017), offering its Robo-advisory solution. Keytrade comes in second place in spontaneous notoriety in Luxembourg with 11,2%. Indeed, the Luxembourg bank recently announced their new digital offer, KeyPrivate, thus positioning itself as a pioneering bank in Luxembourg on the Robo-advisory offer. It is also important to remember that Keytrade's white label solution is none other than Birdee (Gambit Financial Solutions). Second ex-aequo and completing the Luxembourg podium, BCEE (Banque et Caisse d'Epargne de l'Etat) stands out thanks to its SpeedInvest Robo-advisory solution.

ON THE FRENCH PODIUM

appears in first place BNP Paribas with a 16,7% quotes. It is the participation in Gambit Financial Services that currently allows BNP Paribas to ensure its place at the top of the ranking, both in Luxembourg and in France. It is

nevertheless interesting to note that the two second places on the French podium is given to American banks: Goldman Sachs (10%) and JP Morgan (10%) complete the French picture. Goldman Sachs with Marcus, Betterment's white label, which supports the entire digital restructuring of the retail banking division. In the case of JP Morgan, it is thanks to a successful launch and major communication in March 2018 of the JPMorgan Digital Investing service that this bank was ranked third in France.

IN BELGIUM: before the launch of KeyPrivate in Luxembourg, it was initially in Belgium that Keytrade Bank successfully deployed its Robo-advisor. It is therefore without too much difficulty that Keytrade is in first place on the podium of spontaneous notoriety of banks using or offering a Robo-advisory service in Belgium. In second place also in Belgium, we find BNP Paribas. KBC is in third place in the ranking of the most quoted banks.

It is also interesting to note here that the banks on the podium are recognised not as banks using a Robo-advisory service internally, but as banks that provide their customers with a Robo-advisory service.

In Luxembourg, a number of Robo-advisory solutions were mentioned. Of all the people in our panel who answered that they work in Luxembourg, 37 different Robo-advisory solutions were spontaneously mentioned to us. This can also be explained by a multicultural market. It is not surprising given the previous results that Gambit Financial Services is at the top of the ranking. Gambit services are used by two major players represented on the Luxembourg market: BNP Paribas and Keytrade.

In second place is the Robo-advisor Investify. Created in 2015, this German Robo-advisor based in Wasserbillig in Luxembourg has found its place in the country. Offering a B2C offer directly to the general public, the fintech is also offered under a white label to banking customers. They also offer the particularity to choose among different themes to allocate a share of the assets into this theme (ex: water, renewable energies, gold, German Industry, Fintech start-ups...) Moneyfarm

completes this table of the most frequently quoted Robo-advisors in spontaneous notoriety. It is an English Robo-advisor that operates in the United Kingdom and Italy markets.

On the French market, a Robo-advisor tends to stand out with 32% of quotes in spontaneous notoriety on our panel: Yomoni. Yomoni is the French Robo-advisor. This fintech was founded in 2015 and is a pioneer in the French market, with nearly 6,000 customers, thanks to its B2C activity. Wealthfront ranks second in the French ranking; it is an American Robo-advisor created in 2008 with more than \$10 billion in assets under management.

Gambit is at the top of the Belgian ranking with more than 36% of citations in spontaneous notoriety. This is followed by Wealthfront and Easyvest, with 9% each. Easyvest is a Belgian robo-advisor.

***Globally, we find at the top of the ranking,
BNP Paribas, Keytrade and ING.***

Exhibit 9: General ranking, Banks using or selling a Robo-advisor service

General					
#1	BNP Paribas	14,75%	#23	Mbank	1,09%
#2	Keytrade	9,29%	#24	HSBC	1,09%
#3	ING	6,01%	#25	Evi	0,55%
#4	BCEE	4,92%	#26	Natwest	0,55%
#5	Société Générale	4,37%	#27	Fidelity	0,55%
#6	UBS	4,37%	#28	SaxoBank	0,55%
#7	Goldman Sachs	4,37%	#29	Bink Bank	0,55%
#8	JP Morgan	3,83%	#30	Crédit Mutuel	0,55%
#9	Chebanca	3,28%	#31	Widiba	0,55%
#10	Fineco	2,73%	#32	AVIVA	0,55%
#11	Morgan Stanley	2,19%	#33	Intesa	0,55%
#12	Deutsche Bank	2,19%	#34	SEB	0,55%
#13	Moneyfarm	1,64%	#35	BIL	0,55%
#14	KBC	1,64%	#36	DanskeBank	0,55%
#15	Binck BANK	1,64%	#37	Gambit	0,55%
#16	N26	1,09%	#38	UOB	0,55%
#17	Commerzbank	1,09%	#39	ABN Amro	0,55%
#18	Medirect	1,09%	#40	Comdirect	0,55%
#19	Barclays	1,09%	#41	GS	0,55%
#20	SwedBank	1,09%	#42	Belfius	0,55%
#21	Crédit Agricole	1,09%	#43	Wells Fargo	0,55%
#22	Bank of America	1,09%	#44	Nationwide	0,55%
#45	Wellsfargo	0,55%			
#46	Baader Bank	0,55%			
#47	Basel Kantonal Bank	0,55%			
#48	Monzo	0,55%			
#49	Nutmeg	0,55%			
#50	Blackpool	0,55%			
#51	Saxo Bank	0,55%			
#52	Investec	0,55%			
#53	Schroders	0,55%			
#54	Amundi	0,55%			
#55	B for Bank	0,55%			
#56	Bolero	0,55%			
#57	Swiss Life France	0,55%			
#58	DBS	0,55%			
#59	Royal Bank of Scotland	0,55%			
#60	DenizBank	0,55%			
#61	AXA	0,55%			
#62	Unicredit	0,55%			
#63	La banque Postale	0,55%			
#64	Van Lanschot	0,55%			
#65	CaixaBank	0,55%			
#66	Allianz	0,55%			

Source: Initio How will Robo-Advisors reshape Asset Management Survey 2018. Depicts responses to the questions "According to you, which banks are using a robo-advisor? Please indicate the name(s)"

Exhibit 10: Robo-Advisors, rankings by respondent's country

Luxembourg					
#1	Gambit	14,29%	#14	Saxo Bank	1,30%
#2	Investify	10,39%	#15	Neuroprofiler	1,30%
#3	Moneyfarm	9,09%	#16	Active Asset Allocation	1,30%
#4	Keyprivate	7,79%	#17	Fundamental Capital	1,30%
#5	Yomoni	5,19%	#18	Whitebox	1,30%
#6	Betterment	5,19%	#19	ETFMatic	1,30%
#7	Vanguard	3,90%	#20	Highwave Capital	1,30%
#8	Speedinvest	2,60%	#21	Mindquest	1,30%
#9	Scaleable	2,60%	#22	Swissquotes	1,30%
#10	Nutmeg	2,60%	#23	Swanest	1,30%
#11	Schroders	1,30%	#24	Fiveraday	1,30%
#12	Nalo	1,30%	#25	Easyvest	1,30%
#13	Oline Sim	1,30%	#26	Growthney	1,30%

France					
#1	Yomoni	32,14%	#6	Advize	7,14%
#2	Wealthfront	10,71%	#7	Nutmeg	3,57%
#3	Betterment	7,14%	#8	Vanguard	3,57%
#4	Keyprivate	7,14%	#9	Amundi	3,57%
#5	Wesave	7,14%	#10	Blackrock	3,57%

Belgium					
#1	Gambit	36,36%	#6	KBC	4,55%
#2	Wealthfront	9,09%	#7	Fundshop	4,55%
#3	Easyvest	9,09%	#8	Betterment	4,55%
#4	Advize	4,55%	#9	Blanco	4,55%
#5	Medirect	4,55%	#10	Nutmeg	4,55%

Source: Initio How will Robo-Advisors reshape Asset Management Survey 2018. Depicts responses to the questions "Which robo-advisor(s) do you have in mind? Please indicate the name(s)"

Exhibit 11: General ranking, Robo-Advisors

General					
#1	Moneyfarm	8,21%	#27	Blackrock	0,97%
#2	Betterment	7,25%	#28	ETFMatic	0,97%
#3	Yomoni	6,76%	#29	Fintego	0,48%
#4	Wealthfront	5,80%	#30	Pritle	0,48%
#5	Nutmeg	5,31%	#31	Marie Quantier	0,48%
#6	Gambit	5,31%	#32	Acorns	0,48%
#7	Birdee	4,83%	#33	True Wealth	0,48%
#8	Investify	4,35%	#34	Investec	0,48%
#9	Keyprivate	3,38%	#35	Saxo Bank	0,48%
#10	Vanguard	2,90%	#36	Fiveraday	0,48%
#11	Euclidean	1,93%	#37	Simplewealth	0,48%
#12	Wealthsimple	1,93%	#38	Italian SLM SCM	0,48%
#13	Advize	1,45%	#39	Diamant Tech	0,48%
#14	Scalable capital	1,45%	#40	KBC	0,48%
#15	Blanco	1,45%	#41	Robo4advisor	0,48%
#16	Easyvest	1,45%	#42	Amundi	0,48%
#17	Liquid.de	1,09%	#43	Active Asset Allocation	0,48%
#18	Wesave	1,09%	#44	Fund expert	0,48%
#19	Keytrade	1,09%	#45	Schwab	0,48%
#20	Scaleable	1,09%	#46	Fundamental Capital	0,48%
#21	Fidelity	1,09%	#47	Swanest	0,48%
#22	Wealthify	1,09%	#48	Medirect	0,48%
#23	Fundshop	1,09%	#49	Brittle	0,48%
#24	Saxobank	1,09%	#50	Vaamo	0,48%
#25	Growthney	1,09%	#51	Evi	0,48%
#26	Speedinvest	1,09%	#52	Oline Sim	0,48%

Source: Initio How will Robo-Advisors reshape Asset Management Survey 2018. Depicts responses to the questions "Which robo-advisor(s) do you have in mind? Please indicate the name(s)"

GENERAL KNOWLEDGE TAKE AWAY



The under-30s are the least familiar with the term robo-advisors.



Nearly 35% of investors are unaware of the existence of such a technology. Almost half of them are investors and potential investors under 30 years of age.

65



This technology is less known in France than in Belgium and Luxembourg where the term is more commonly used.



Client onboarding and asset allocation are the least known and least popular features of robo-advisors.



Robo-advisors are recognized as monitoring and recommendation tools.

THE USAGE

ARE YOU USING A ROBO-ADVISOR SERVICE? WHAT COMBINATION OF ALLOCATION DO YOU PREFER? HOW DO YOU USE THE ROBO-ADVISOR? HOW IMPORTANT IS HUMAN CONTACT? WHAT ARE THE INVESTMENTS HABITS?

ARE YOU USING A ROBO-ADVISOR SERVICE?

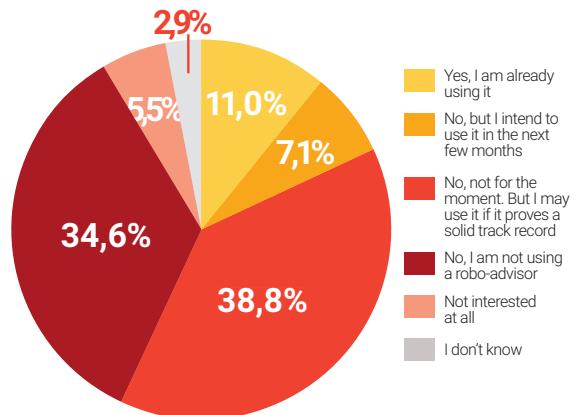
To this question, we assumed that we are in the early adoption phase, as shown by previous analyses. We will therefore check who are the users in advance of this technology and what is the profile of the next users. We will also focus on the investment profile and methods used by the respondent groups.

As seen as exhibit 12, we can say that we are well into the early adoption phase, with 11% of our panel already using a robo-advisor. In addition, 7.12% of respondents who do not yet use a robo-advisor but who will use one in the coming months. 18.12% of our panel is therefore strongly interested in using this innovation. What is also interesting to note is the very high proportion of respondents, 39%, who say they expect proof of the technology's operation to invest through this channel.

We are therefore in an early adoption phase, certainly, but which are beginning to interest the mass-market, only waiting for solid evidence.

What is also interesting to note is that only 5.5% of our panel says they are absolutely not interested in this technology. We can conclude that the rest of our panel is and could be interested in technology, most of them

Exhibit 12: Are you using a robo-advisor service?

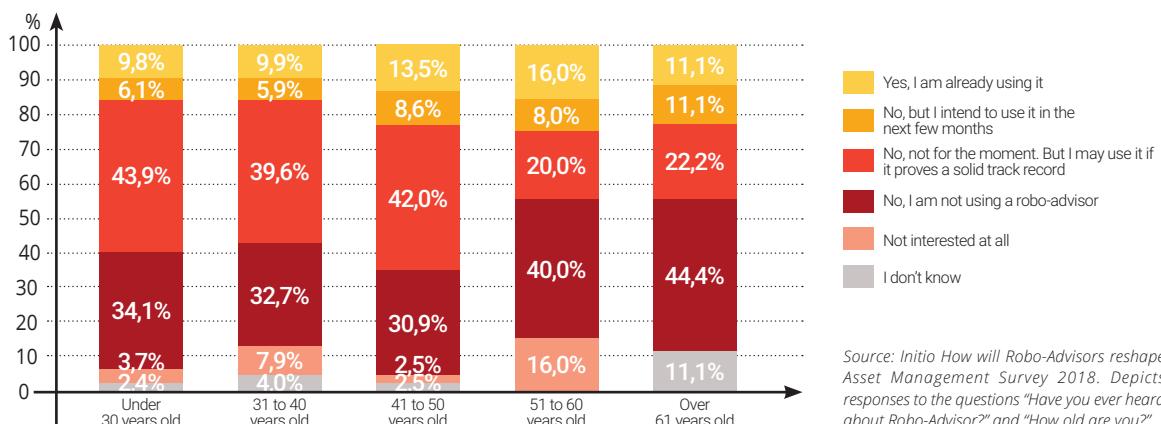


Source: Initio How will Robo-Advisors reshape Asset Management Survey 2018. Depicts responses to the question "Are you using a robo-advisor service?"

in the near future. According to our exhibit n°13, it is interesting to note that respondents in the highest age groups are more likely to use or be strongly interested in using a robo-advisor. From the age of 41, an average of 23% of them already use a robo-advisory solution or will use it in the near future, compared to an average of 15% of those under 40, who are more cautious. This can be explained by higher incomes and a tendency to invest more in the second part of life.

"18.12% of our panel is therefore strongly interested in using this innovation."

Exhibit 13: Have you ever heard about robo-advisor according to your age?



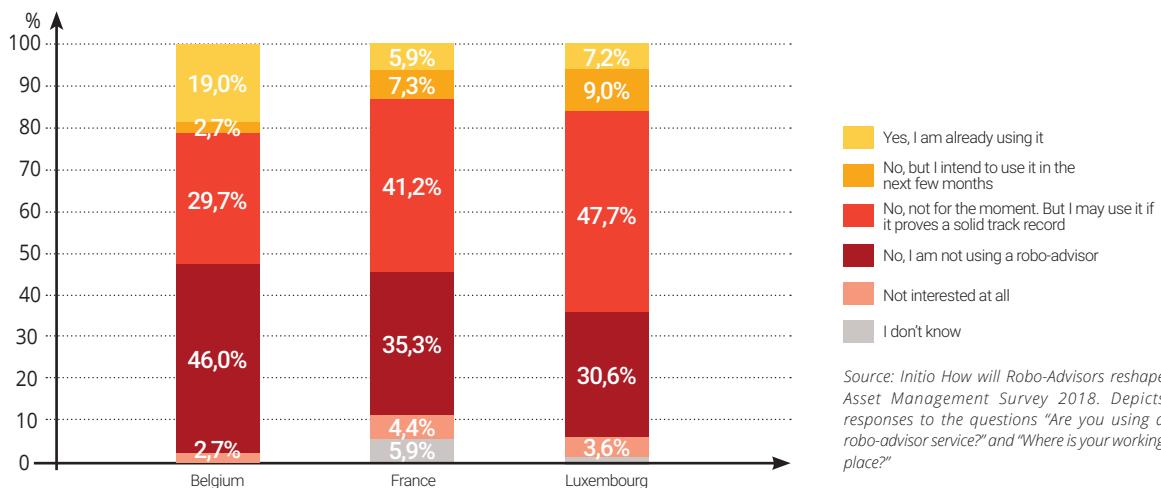
Source: Initio How will Robo-Advisors reshape Asset Management Survey 2018. Depicts responses to the questions "Have you ever heard about Robo-Advisor?" and "How old are you?"

However, it is the under-50 years old groups who are waiting for solid evidence on the results of robo-advisors. Among 41- to 50-year-olds, nearly 42% prefer waiting, compared to an average of 21% among their elders. This trend is the same for younger populations, with a 44% representation among those under 30 years of age who are also waiting for solid evidence regarding asset allocation via a robo-advisor.

Furthermore, as seen as exhibit n°14, Belgium seems to

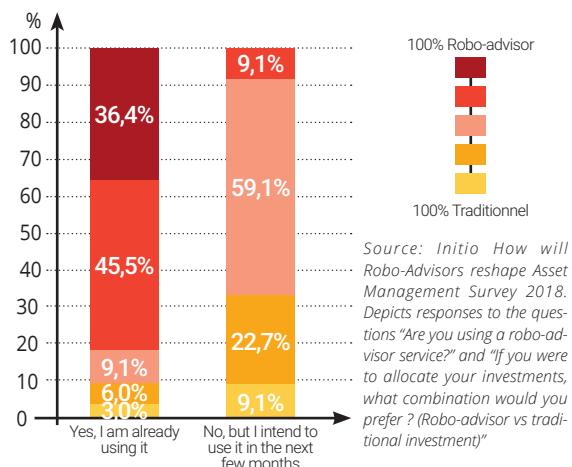
be the most advanced country in terms of the use of a robo-advisory solution. Indeed, nearly 19% of respondents say they are using a robo-advisor or about to use such a solution. This is more than Luxembourg, where 16% of respondents are in favour of using a robo-advisor or using a robo-advisor. It is also in Luxembourg that respondents expect solid evidence to use a robo-advisory solution. 48% of respondents working in Luxembourg compared to 29% in Belgium for example.

Exhibit 14: Have you ever heard about robo-advisor according to your working place?



However, it is the under-50 years old groups who are waiting for solid evidence on the results

Exhibit 15: How are actual robo-advisor users allocating their investments ?



WHAT COMBINATION OF ALLOCATION DO YOU PREFER?

We asked both respondents already using a robo-advisory solution and respondents not using a robo-advisory solution to provide us with an estimate of the percentage of their assets they would be willing to have managed by a robo-advisor. We believe that the robo-advisor extends an existing market, that of asset management and savings, and thus opens the doors to new targets, who would be ready to use a robo-advisor for part of their assets.

According to our exhibit 15 which therefore represents the asset allocations of respondents already using or about to use a robo-advisor, we can observe that respondents already using a

robo-advisor are much more likely to delegate 100% of their assets to a robo-advisory solution. In fact, nearly 82% of respondents already using a robo-advisory service have decided to use a robo-advisor to manage more than 80% of their assets. This trend is a little less pronounced for users who are about to use a robo-advisor in the coming months. Only 68% of them want to allocate more than 80% of their assets to a robo-advisor.

What is interesting to note here is that early adopters, respondents who already use a robo-advisor, are more likely to see the majority, if not all of their assets managed through this digital solution, unlike respondents who do not use robo-advisors as exhibit n°16 highlights. What we see here is that non-users are not against using the robo-advisor to allocate their assets. For respondents expecting strong evidence of the effectiveness of this innovation, nearly 73% still consider delegating more than 50% of their assets to a robo-advisor, and 59% for those who do not necessarily expect evidence. However, a minority would prefer to preserve traditional systems in their asset allocations.

"Nearly 82% of respondents already using a robo-advisor have decided to use it to manage more than 80% of their assets"

Exhibit 17: How do actual robo-advisor users use the robo-advisor service?

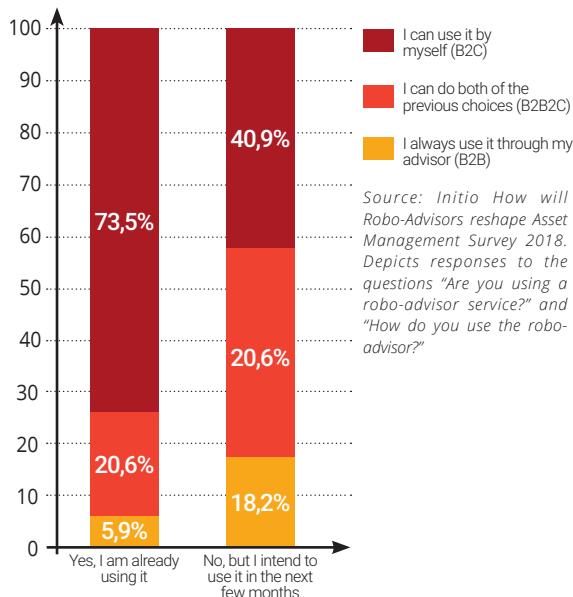
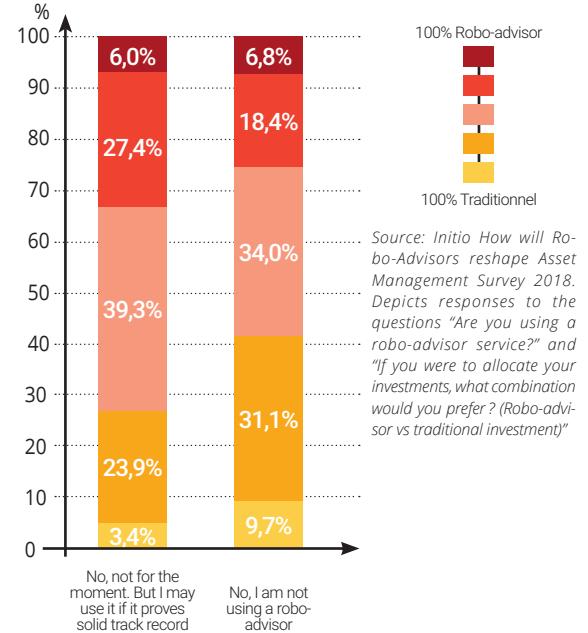


Exhibit 16: How will non actual robo-advisor users allocate their investments?

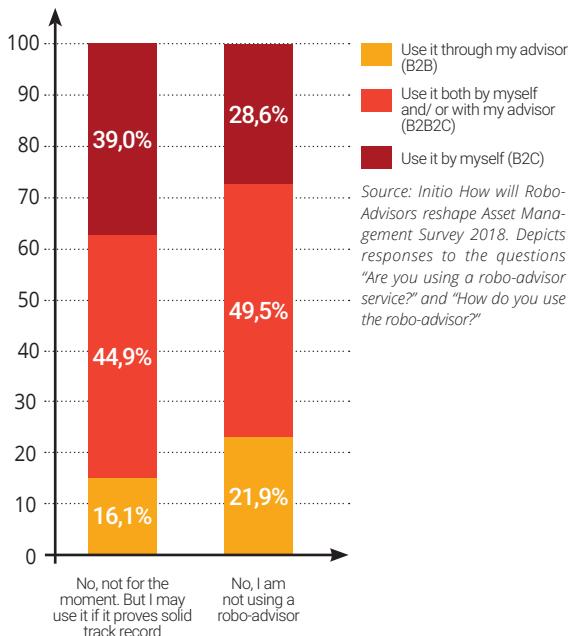


HOW ARE YOU USING THE ROBO-ADVISOR?

But how is the robo-advisory solution used? Are respondents who are currently using a digital solution supervised or are they the only stakeholders other than the robo-advisor? And for respondents who do not use a robo-advisory solution, what would be the preferred method? How do they think about using the robo-advisor?

According to our study and regarding our exhibit 17, it is interesting to note that the overwhelming majority (74%) of current robo-advisor users report using it alone. For 21% of them, it is also possible to use it alone or through an advisor, mainly for solutions belonging to a traditional player. It is following the same logic as the previous one that users who are about to use a robo-advisory solution are still more reserved about using it alone: they are only 41%. They are also 41% to think that they will be able to use the robo-advisor solution also through and with the help of a bank advisor. This trend is also verified by respondents who expect solid evidence of the effectiveness of the robo-advisor and those who are not currently using this solution. For these two groups of respondents, a robo-advisory solution can be used both alone and with a bank advisor (45% and 50% of the opinions respectively). It is also noted that 22% of respondents who do not use a robo-advisor solution consider that this solution should only be used by a bank advisor.

Exhibit 18: How important is human contact for you?



HOW IMPORTANT IS HUMAN CONTACT?

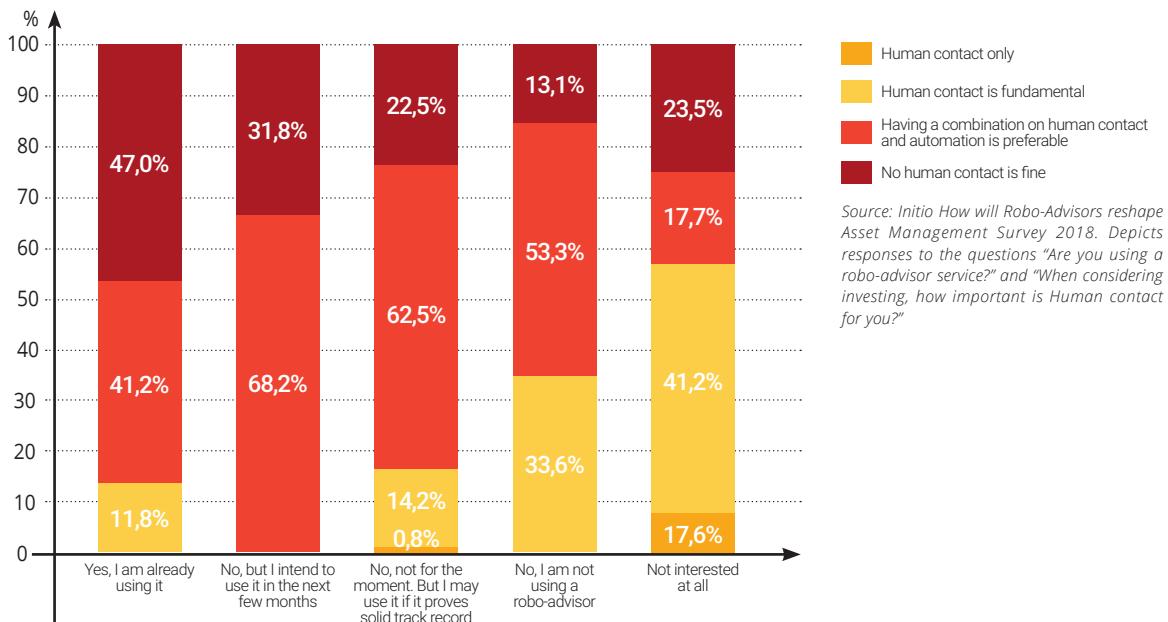
Last but not least, the question of human relations remains an important part of the digitalization of services. In a phase currently focused on digital, robotization and new technology, it is above all important to focus on the obstacles that users may encounter. What is the place of the Human in a robo-advisory solution?

According to our investigation, it turns out that the more likely the user is to use a robo-advisor, the more likely he is to be able to do without human contact, as shown in exhibit n°19. 47% of robot-advisor users report that they can do without human contact, while only 13% of respondents who do not use a robo-advisor without declaring it. There is only one exception to this rule for respondents who are not at all interested in the robo-advisory solution. 24% of them say that no human contact is disturbing. But they are also the only ones to state 59% that human contact is essential, even mandatory.

However, the overall trend noted here is that there is a real craze for a hybrid investment model, where automation and digital would be combined with a human presence. For groups that do

not use robo-advisors, it is even the majority who say that having a combination of automation and human is the preferred scheme.

Exhibit 19: How important is human contact for you?



THE USAGE TAKE AWAY



Non-users of robo-advisors are not reluctant to this innovation but will rather balance risk by preferring to invest only a part of their assets to test the scheme.



Actual users of robo-advisory solutions are confident in their robo-advisor' usage and tends to allocate a majority of their assets into it.

70



The majority favour a human relationship on top of robo-advisors platforms, and we noticed a trend in favour of hybrid models.



Current users of robo-advisors are confident to use it by their own.



Only very few respondents want to keep a human only relationship with their financial advisor.



More than 47% are ready to pursue their robo-only habits.

THE FUTURE

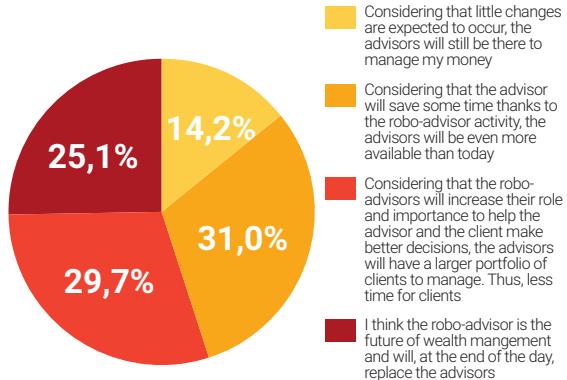
ACCORDING TO YOU, WHICH OF THE FOLLOWING STATEMENTS IS MORE LIKELY TO OCCUR?

WHICH FUTURE FOR THE ASSET MANAGEMENT?

For any technology it is always interesting to ask yourself the question of its longevity. Taking the Gartner evolution curve for example, from one year to the next, it is always interesting to see the evolution of some innovations, such as the disappearance of others. In the case of Robo-Advisory, we are interested to know how important this innovation is to the market. So we asked our panellists about it.

As seen as exhibit 20, it turns that a vast majority, almost 86% of our respondents tends to think that Robo-Advisors will change the Asset Management landscape. Only 14,19% of our panel prefer to answer "considering that little changes are expected to occur, the advisors will still be there to manage my money". In the 86% who think that Robo-advisory innovation will change the asset management landscape, some are more negative about the longevity of the financial advisor.

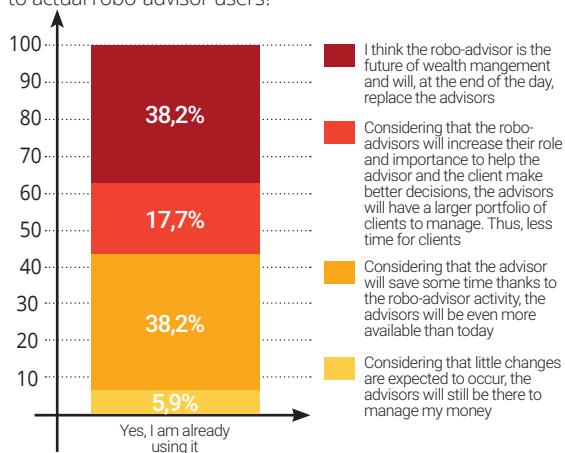
Exhibit 20: What is the future of asset management ?



Source: Initio How will Robo-Advisors reshape Asset Management Survey 2018. Depicts responses to the question "According to you, which of the following statements is more likely to occur ?"

"Almost 86% think that the Robo-advisor will change the Asset Management landscape"

Exhibit 21: What is the future of asset management according to actual robo-advisor users?



Source: Initio How will Robo-Advisors reshape Asset Management Survey 2018. Depicts responses to the question "According to you, which of the following statements is more likely to occur ?" and "Are you using a robo-advisor service?"

Indeed, 25% answered that the Robo-Advisory is the future of Wealth management and will replace the advisors. Nevertheless, for a vast majority of respondents (61%), Robo-advisors will assist financial advisors. Half tend to think that this will allow advisors to have more time to manage relationships with their clients, while the other half prefer to think that the advisor, managing more clients, will have less time for client relationship management.

However, for current users of Robo-advisors, i.e. early adopters, we see a much more marked trend. Early adopters of Robo-advisory solutions are convinced that this innovation will change the sphere of asset allocation. However, they are divided on the evolution of the advisor's position : 38,24% are considering that the Robo-advisor is the future of Wealth management and will replace the advisors, but also 38,24% consider that the advisor will be more available than today because he will be helped by the Robo-advisors to take decisions.

According to our exhibit 22, based on the age of respondents, it seems that for respectively 28.7% and 28.4% of the 31 to 40 and 41 to 50-year old, these age groups are the most likely to think that the technology behind Robo-advisors will one day totally replace physical advisors. Moreover, the biggest part of the "more than 61 years old" tend to think that little changes are expected to occur, and that the advisors will still be there to manage their money.

Moreover, while the Millenials should be the most informed population regarding the evolution of such a technology, it seems that this group is actually divided: Almost 21% of the "Under 30 years old" prefer to say that little changes are expected to occur with this new technology. And a few 18% tends to answer that "the robo-advisor will replace the advisors".

Exhibit 22: What is the future of asset management according to your age ?



Source: Initio How will Robo-Advisors reshape Asset Management Survey 2018. Depicts responses to the question "According to you, which of the following statements is more likely to occur?" and "How old are you?"

THE FUTURE TAKE AWAY



The vast majority of the panel, 86%, believe that this innovation will somehow change the asset management landscape.



The under-30s are the least convinced that this technology will revolutionize the asset management landscape.

73



For a large proportion of current robo-advisor users, robo-advisors will gradually replace or assist the bank advisor in these tasks, thus allowing him to assume a much more relational role than today.



The average active age groups (from 31 to 50 years old) tend to think that the robo-advisor will replace the bank advisor in the more or less long term.



PART 5

BEST PRACTICES 10 COMMANDMENTS



1.

PICK YOUR CUSTOMER TARGET DILIGENTLY AND ADJUST YOUR BUSINESS MODEL ACCORDINGLY

The cost of acquisition for new clients is indeed very high if the concept behind the robo-advisor is not absolutely self-promoting through growth hacking. In order to entrust someone with one's precious savings, the reputation, track record and robustness coupled with existing large customer base of long-established financial institutions is of course difficult to compete with. Many robo-advisors that wanted to launch their services and exist as pure stand-alone players realized that pivoting to B2B was their best option since strong brand recognition is almost a must to convince people to subscribe.

That is why, a standalone pure player strategy seems to be a bit tricky for robo-advisor only company. The best thing to do here is to work in partnership with traditional institutions that would bring in the clientele. Partnering seems, in this situation, to be a win-win scenario both for banks and fintechs.

But to construct best partnerships, the most important is to grow quickly and propose rapidly a finished product. We already know that we will see

an exponential and universal usage of robo-advisory. The market is already saturated in some areas and the first full blown expansion of robo-advisory is already behind us, entering a more mature phase with more sophisticated and robust products surviving.

In addition, one of the important things is the good knowledge of your customers. By knowing your customers, you will have access to all aspects of your strategy. Are you going to deploy your robo-advisory solution on the mass market with a simpler technology, or are you going to bombard the HNWIs and offer a very tailor-made solution? Do you think it would be better to make the robo-advisor complementary to your bankers or a substitute? All these questions are answered by the type of customers you have but also the one you want to develop.



WHAT TO HAVE IN MIND?

- > As a start-up, adjust the business model: prefer B2B or B2B2C
- > Partnering up seems to be a win-win scenario. Standing alone as a pure player can be tricky
- > Grow quickly (be the one and the leader because it will have an exponential and universal usage of Robo-Advisor in the future)
- > Propose tailored solution and/or mass-market solution according to your clients' typologies.
- > Build a complementary or a substitute Robo-advisor according to your clients' needs.

2.

COMMUNICATE AND EDUCATE

In order to gain customers' trust, the latter need to understand the model. Asset Management and Asset Allocation rely on different complex notions. Most of the general population, as we may have seen especially since the 2008 crisis, have rather a good general knowledge but still the comprehension of what is behind certain derivative products or even simply the purpose of financial markets is such that it is always worth explaining the investment process in understandable and simple ways.

When the interaction is not with a human but with an interface being the face of algorithms, these explanations are even more important in order for the customer to understand not only how his assets will be invested but most importantly what principles are being applied to reach investment decisions.

The more the user will understand the added value of the models applied, the more he will feel comfortable to entrust the financial entity with his assets. Showing you are knowledgeable and sharing this knowledge is always reassuring. It is perfectly understandable that some investors might feel lost when it comes to placing their money and it is the role of financial advisor not only to provide them with investment recommendations but more importantly to give them the elements that will enable them to understand what is being done with

their money. Users should be fully aware of the risk they are contracting. It can be for example educational platforms integrated in the product, offering videos or experts explanations or it can offer a private framework for exchange, where people can interact with each other on specific thematic.

Modern ways of communication enable to imply the user more than before, since nowadays technologies can enable the users to be more autonomous in their way of educating themselves. Most people are willing to learn more, and it should be one of the duties of investing platforms such as robo-advisors to provide them with easy ways to grow their knowledge in a more or less advanced way, in a more or less playful way. Gamification, with levels, points to score and incentives could be a good way to keep the customers willing to learn more. Chatbots can be an interesting communication device too by offering 24/7 help and details about services.

The more your customers are knowledgeable, the more they will feel your product, your company is there as a support to increase their wealth while helping to manage the risk, not just a way to take their fees regardless of their portfolios performance. This feeling of being a team a looking forward to a common goal is the best way to build a strong relationship with your clients.



WHAT TO
HAVE IN MIND?

- > Explain the model to your clients
- > Use enough external communication and advertisement if you need visibility
- > Use Gamification to educate
- > Use Chatbot to communicate
- > Offer a private framework to exchange with your clients
- > Create personalized communication

3.

ADJUST THE SOLUTION / GO BEYOND MODERN PORTFOLIO THEORY

78

The Investment solution should rely on additional tools and ways to make the most out of available data. Whether in terms of customer profiling or financial analysis, modern technology is supposed to, if correctly deployed, enable new ways to establish predictive models beyond market efficiency hypothesis. Integrating biases highlighted by Behavioural Finance in the robo-advisors models seem like a nice way to integrate emotional and cognitive biases from both the customer, the professional financial advisor and the other investors market-wise.

It is not always pleasant to be reminded that we all are subject to our (more or less but still) bounded rationality. But machines are also there to assist us and ease our decisions by providing us with widely collected and automatically processed data in an objective way and bulky proportion. Let's make our tools ambitious, reliable, sophisticated and performant.



> Always offer the possibility to adjust the solution regarding your strategy

WHAT TO
HAVE IN MIND?

4.

BUILD TRUST

Trust is a key element in the investment profession. Trust is hard to build. And it can be lost in a snap or even due to a misunderstanding. Over the last decade and especially in the aftermath of the 2008 crisis, with all the additional bad press about the profession lately, trust is more than central in the process of keeping the customer base satisfied. As already seen, education and communication are central in building trust.

From the initiation of the relationship to the execution of the agreed upon investment strategy, digital

exchange, information availability should not prevent the customer from being able to reach someone who could answer their question. As in traditional asset management, it is important to maintain a high level of transparency, whether things are going well or going through times of turbulence.

The interactions between users and the service, whether automated, partially automated or dealt with thanks to a human interaction should not be neglected and thought through well ahead.



WHAT TO
HAVE IN MIND?

- > Build trust around the tool and algorithms
- > Build trust around the human expertise behind
- > Build trust around the bank history and savoir-faire

5.

ADD A HUMAN TOUCH

80

Our survey showed there is still a large part of the population that is not quite ready to use a fully automated service for their investment management services requirements.

It is important to keep a human touch somewhere in the process, whether it is at the onboarding or at the hotline / support level. There is nothing more annoying than to be facing a service that is on purpose unreachable when a specific question cannot be answered otherwise. As long as modern chatbots are sufficient in the current state to deal with most of the basic service related questions but cannot deal with specific more complex cases, availability of some kind of human staff is decisive if you do not want all your customers to run away. This human touch can be paradoxically partly taken in charge by some kind of automated avatar. After we saw the emergence of such avatars a decade or so ago, technological progress

that occurred in the meantime makes them more legit since their intervention can be more natural nowadays. Even if some of our survey's respondents have become completely reluctant to human contact in their investment process, this share of the population still remains very marginal and most people need to know that there is someone monitoring and assisting the algorithms in their day to day operations.

Hearing a human voice, able to empathize, reassure, be convincing or even just patient enough to apologize while having to deal with some angry customers is still a crucial part of customers relationships. As a customer, it is certainly more relieving to pass ones serve on someone who actually exists, and this someone is certainly more likely able to reassure and smartly restore calm and confidence than a chatbot. Our relation to money can indeed induce very emotional behaviors that are hard to deal with relying solely on machines.



WHAT TO
HAVE IN MIND?

- > Use the onboarding process to add a Human flavour
- > Offer a Human service in the helpdesk department
- > Think about robo-advisory personification

6.

TAKE GOOD CARE OF ISSUES WITH SUITABILITY

As recently shown with FCA warnings about investment suitability (May 2018) for robo-advisory scenery in the UK (firms offering automated online discretionary investment management (ODIM)), suitability is crucial in the investment process. Given the proliferation of such automated services recently, there is no doubt that, as usual, some of the entrepreneurs launching their robo-advisory services are not the most regardant and are more aiming at being first to market rather than trying to develop a fully tested and reliable product. As always, this kind of behaviour is counterproductive and although sometimes enabling short term profit, often at the depends of the unaware investors, this kind of misspecification and unfinished preparation of the product leads to problematic and tarnishing events.

In order to develop a reliable tool, a strong emphasize on the interaction between investor profile and asset allocation should always demand enough analysis and due diligence in order for such cases not to happen. Serious long-term pretenders should invest enough time, energy and resources to achieve a high level of suitability. In order to do so, onboarding questionnaires should dig into the customers' requirements, in terms of horizon, liquidity needs, willingness to take risk as well as ability to take risk to make a proper assessment of the risk profile of the customer.



> Always have a look at potential issues with suitability

WHAT TO
HAVE IN MIND?

7.

ADD A PERSONAL FLAVOUR

82

It is sometimes harder to increment an existing model than to start it from scratch. We are not quite saying being nihilistic is the best option but instead, while creating and developing ones robo-advisor, it is important to stay open minded and keep in mind that this kind of distribution diversification is an opportunity to improve customer's experience.

The market has seen a lot of robo-advisors invading the place and as competition is fierce, it is even more important to differentiate oneself from the competition

and find innovative ways to imply the customer's own tastes in the investment decision process.

Robo-advisors can allow the customer to express himself plainly and translate these desires into real objective investment targets. Bankers are not always known for their creativity apart from financial engineering, so involving people able to think out of the box might reveal being highly profitable.



WHAT TO
HAVE IN MIND?

- > Add a personal flavour for authenticity and originality
- > Be different

8.

SELECT YOUR INVESTMENT VEHICLES, ASSET CLASSES AND INVESTMENT UNIVERSE CAREFULLY

83

Related to the suitability issues, choosing the investment universe proposed by the robo-advisor is a crucial decision. As with most decisions in life, it is all a matter of dosage.

The idea is to put the cursor at the right place, depending on the customer base targeted, between simple and limited investment universe and more complete, diverse investment universe in order to keep the fees relatively low while fully leveraging of the dynamic and active management abilities of the robo-advisor.

One of the difficulties for investors to trust robo-advisory solutions, as with new drugs available on the market, is to invest in solutions with a not long enough track record to demonstrate their reliability. As with everything and in order to reduce operational risk, the best course of action, even if time and resource consuming, would be to be able to subject the algorithm to rigorous stress tests and see if they behave in an acceptable way.



> **Avoid the not reliable untested model**

**WHAT TO
HAVE IN MIND?**

9.

PAY ATTENTION TO USER EXPERIENCE

84

One of the pitfalls when developing solutions that involve IT developments, quantitative methods and engineering is to release a sound solution in terms of robustness and performance of the features, while leaving aside some of the most important aspects of the solution.

User friendliness, comfort, convenience and pleasant design are obviously the best showcase for a well-rounded product. Even if it may seem unfair, and as we all know, presentation is often a dominant factor over reliability.

As with all things in life, even if sometimes discouraging, the container's appearance is most of the times more important than the content itself. So it is obviously important to achieve a cutting-edge graphic design coupled with simplicity of usage while retaining advanced functionalities.



WHAT TO HAVE IN MIND?

- > Be sure you really know your audience / users
- > Pay attention to involve “the client” in the development process
- > Testing with clients is an essential part of the process
- > Design is an iterative process. Be sure to have an Agile or Design thinking methodology
- > Create a desirable product through branding, image, identity...
- > Create prototypes. Digital products such as Robo-Advisor should include a prototyping stage

10.

TRAIN AND INVOLVE YOUR TEAMS

Automation and digitalization are bringing a whole lot of changes in our lives not only as customers but also as employees. It is obviously important not to neglect all the anxiety that can come out of a robo-advisor solution.

Employees can feel at risk when such projects are launched and it is important to implement solutions to educate and convince that them that these solutions are not there to compete with them or replace them, rather help them and make their jobs easier.

It is clear that we will witness in the coming years a deep transformation of our means of production. The basic and instinctive reaction would be to fear and dread such competitors as employee. But, as our survey showed, the model that seems to retain the

favour of the users would be a co-bot, meaning the combination of a human colleague and a bot colleague. Algorithms and bots in general should be more seen as team players that are going to enable a kind of augmented way of work, generating some time and cost saving efficiencies. These gains will allow employees to increase the quality of their work and save them time to focus on the most interesting aspects of their work.

Besides teams should be aware of how these automated processes work in order to be able to explain some problems if necessary, to be able to improve or fix issues when they arise and be fully aware of what added value these bots bring to the firm's customers.



WHAT TO HAVE IN MIND?

- > **Don't forget that change management is essential**
- > **Know that employees are the first vector of positive and negative advices**
- > **Involve your employees in the strategy, development, communication processes**
- > **Propose internal trainings**
- > **Enhance team engagement**

CONCLUSION: A BRAVE NEW WORLD

The word Robot appeared almost a hundred years ago, in 1920, finding its root from the Slavonic word for worker. One of the major authors who then developed the theme and whose novelist work dealt with Robots is Isaac Asimov. He wrote a series of very realistic, innovative and visionary books and most of the inventions he conceived in his futuristic depiction of the world are incredibly sound and accurate. A few decades later robo-advisors emerge as a real disruptive alternative for implementing one's investment strategies.

The shape of the financial industry has remarkably evolved over the past few years. And it will keep

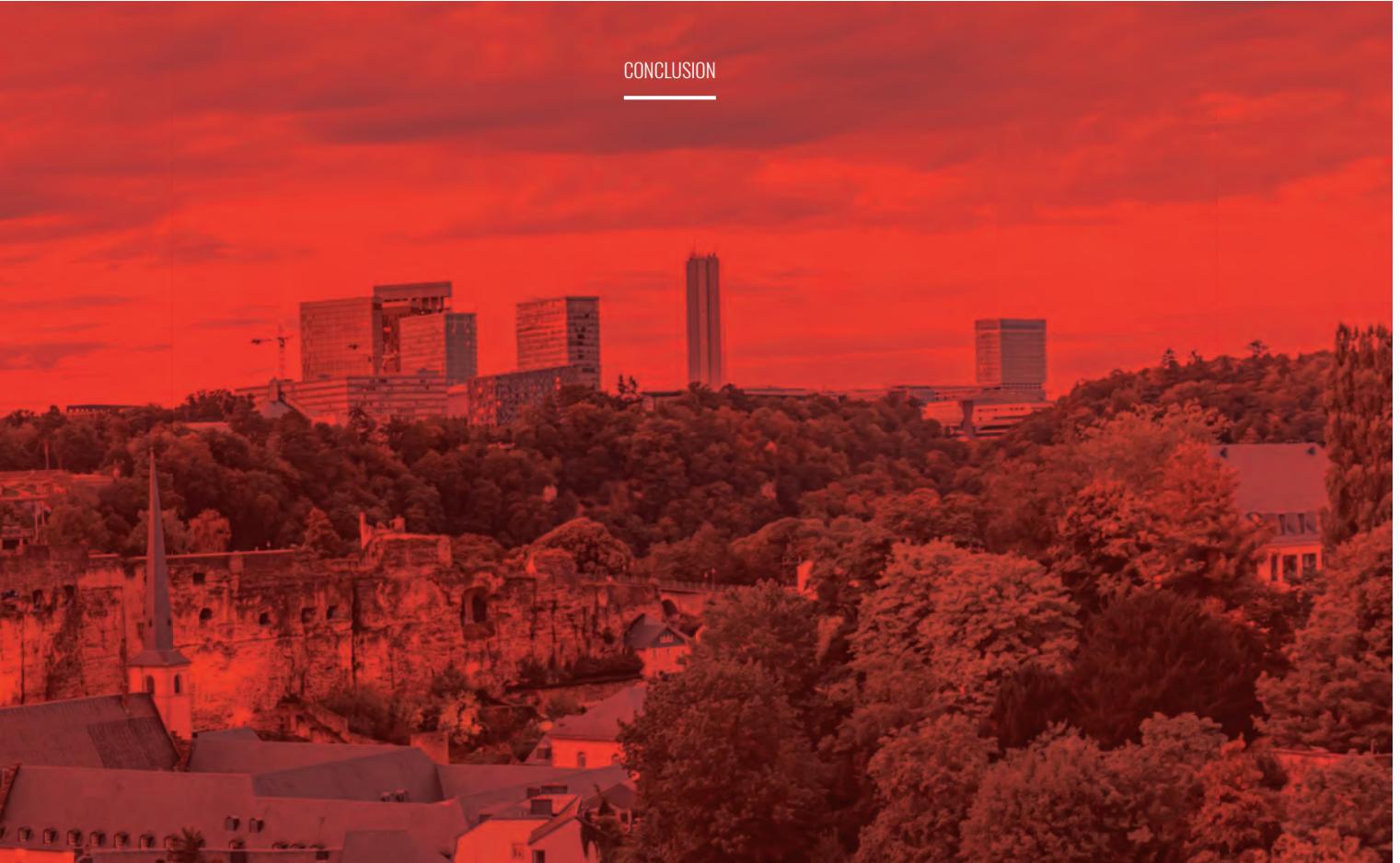
moving towards a more digitalized way of operating while drastically changing the costs structure, the fees models and the relationships with clients.

After the 1st wave switching to computers, then passing on to the network and communications progress through internet, now the 3rd wave of technological revolution is going to impact deeply (and thoroughly) the investment profession and beyond, our way of living and working. Human contact is still praised and valued but the job of portfolio manager will keep changing, relying more and more on surrounding robots and technology. Client relationships will also keep evolving towards more and more digital interface. In some "neobanks", chatbots have an impressive answer rate to the customers' queries (ex: Revolut has a 27% answer rate). Many market players have promptly understood that their interest relies in moving first to reach and propose a leading-edge technology.

Robo-advisors are still in their early phase and the general public's awareness for this innovation is still spreading. There is still a long way before general acceptance and some parts of the population will just never use such services. The move towards fully machine enhanced investment services is more of a long-hauled over-generations transition than a sudden disruptive tilt towards immediate progress. Hopefully human contact and trust are still appraised and valued assets. The hybrid model that most banks

A sign from the late 19th century showing how communication is important to have people adopt new technology





and asset managers are implementing will tend to be the dominant model, although the market for fully robo-advised financial services already exists.

The latter, instead of mostly taking some market share from traditional investment services, will tend to be a new segment that will help complete the offer and help asset managers to attract a new public, either earlier in their life than they used to come over or even just people who would gladly be equipped with more advanced financial advisory services but weren't able to afford them.

But some more old-fashioned players appear to be still reluctant to join a trend that might look somewhat risky, given the investment it demands although presenting both operational cost cutting and marketing benefits. Combining AI, Big Data and specific operational bots like chatbots, the results can be explosive and surprisingly reliable. When we look at what Watson by IBM is capable of, it is hard to think this is not going to inspire and shape some of our choices in the coming years. Interesting period to live in, where yesterday's sci-fi is turning into reality. Life may be easier tapping and swiping over a smartphone rather than talking to someone, but - at the same time - would life have the same flavor without human interactions? "If knowledge can create problems, it is not through ignorance that we can solve them." Isaac Asimov.

Besides, as the illustration above reminds, there has

always been doubts and some kind of reluctance to new technologies from the general public until a proven track record is achieved and benefits can have been tested and asserted. Even if this can prove to be a slowing factor in progress, the lack of flexibility of collective mindsets is also a way of selecting a path not necessarily leading immediately to the worst scenarios, at least in some cases.

Hence financial advisors shouldn't be afraid of robo-advisors and should see in them more of an ally that would bring more business to the table as well as help them to be more cost and time efficient, even helping them achieve higher quality standards in their day to day work. The time of the advisor with only a calculator, a pen and a piece of paper is long gone but robo-advisors represent part of the next step in progressively sliding to the future of financial advisory services. Security and privacy are also major concerns for using online services. It will also be interesting to see which neobank will manage to be the first to combine a robo-advisor with their payment services. At least there is one thing we can be sure of: the world our kids will grow in won't look much the same! Let's make sure their life quality is improved and they will enjoy more confidence and freedom!

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Robo-advisors are digital platforms that provide **automated, algorithm-driven financial planning services** with little to no human supervision. Broadly speaking, a Robo-advisor **digitally onboards** clients while collecting information about them, their financial situation and future goals. Then it uses this data, combined with market data, to offer advice and/or automatically allocate and rebalance clients' portfolios.

A Robo-advisor can also be used as a support to portfolio managers in their decision-making process, providing them with **smart and automated** recommendations, alerts and dashboards.

This innovation's digital nature offers some grasping opportunities. Geographical boundaries are lowered. Robo-advisors thus provide a less costly and **easier access to mass markets**. The end-to-end investment value chain is optimized, hence favoring **business expansion**, offering an **edge over competition** and improving **customer satisfaction**.

Below, some of the key advantages:



Optimized Value Chain Opportunities in Retail Banking – Asset Management – Private Banking – Fund Distribution

- Client Onboarding
- Investor profiling
- E-signature & contracts
- Client reporting
- Digital client self-service front-end
- Client Relationship Management
- Client education

Client advice

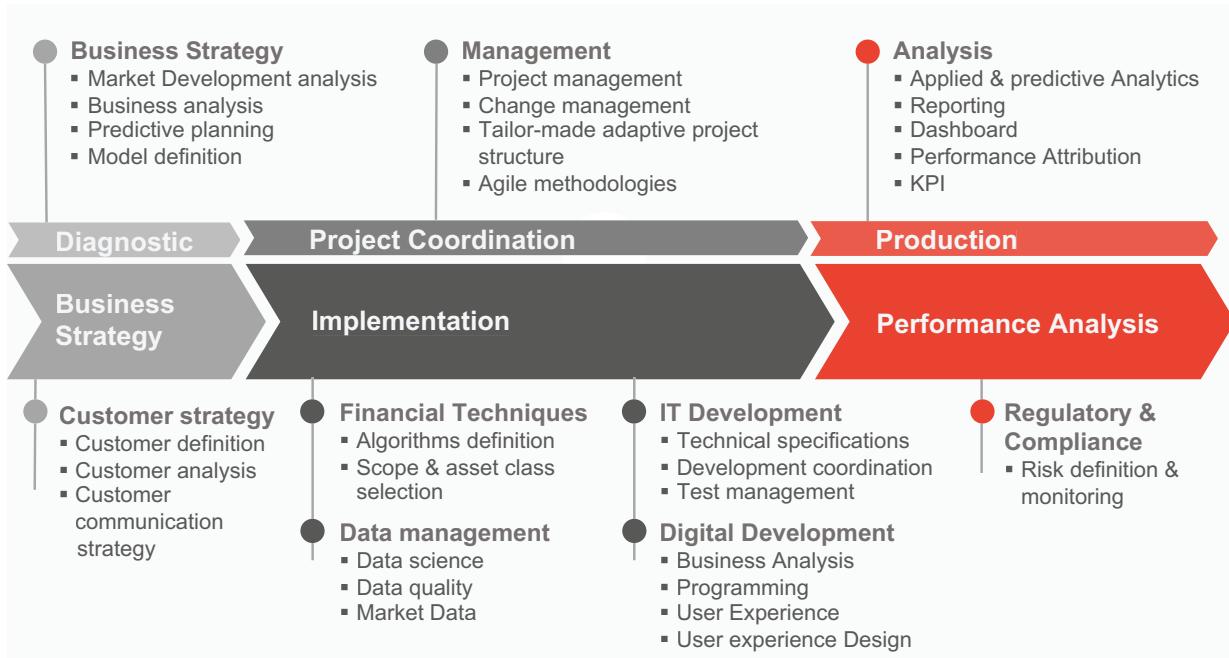
- Portfolio allocation
- Rebalancing
- Cash management
- Portfolio management
- Data reconciliation
- Risk monitoring

Investment Management

- Integrated Accounting
- Billing Transparency
- Tax management
- Regulatory compliance
- AML / KYC

Processing

IMPLEMENTATION PLAN Categorized by area of expertise



THE EXPECTED EVOLUTION



Robo-Advisor



Advanced Robo-Advisor

Techno
Features

<ul style="list-style-type: none"> Web 2.0 Application Automated platform 	<ul style="list-style-type: none"> Quantum computers Artificial Intelligence Big Data Natural language Interface Behavioral Finance
<ul style="list-style-type: none"> Digital Onboarding Simple risk profiling Asset Allocation based on ETF Monitoring and rebalancing Pushed notification and reporting Compliant automated process 	<ul style="list-style-type: none"> Advanced risk profiling Enlarged Asset classes referential Complex strategies Fiscal and patrimonial aspects Advanced financial analysis

"Get ahead of the market by starting your Robo-Advisor developments now!"

WHO ARE WE?

Initio is a consultancy firm specialized in the Financial Industry. Our offering is focused on business consultancy combined with project methodology in order to assist our clients on the whole project cycle. Our team can help you with the development and integration of a Robo-Advisor solution.

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THEY TRUST US

Initio is present in 35 major names in the banking, finance and insurance sector in Luxembourg & Belgium, including:



SAVE THE DATE | **10.10.18** | **6pm**

House Of Startups
Salle BIG BANG | 9 Rue du Laboratoire,
L-1911 Luxembourg

**How will Robo-Advisors
reshape Asset Management?**

Thibault de BARSY
CEO Keytrade Lux.
Ken Van EESBEEK
Sales Director
Sébastien HASENACK
Co-CEO
Olus KAYACAN
Business dev. Director
Koen VANDERHOYDONK
CEO BE/LUX
Frédéric LORAIN
Senior consultant

KEYTRADE BANK LUXEMBOURG
Birdee
investify
GOVERNANCE.COM
.blanco
Initio

Also with Luca BRUNI (Senior Manager at Initio) as moderator
And Alex PANICAN (Head of Partnerships and Ecosystem Development at LH0FT)

An event organized by:

Initio | **the LH0FT** | **aixigo** | **STARTALERS** | **HighWave Capital**

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OUR CONFERENCE

On October 10, 2018, we held our conference «How will Robo-Advisors reshape Asset Management? We welcomed about a hundred participants who came to the **The LHoFT - Luxembourg House of Financial Technology** to listen to our speakers on this vast and very interesting current topic.

Among the highly appreciated presentations, the participation of **Olus Kayacan** from Governance.com, who had presented the Digital Transformation, Regtech and Compliance influence on robo-advisor technology and solutions and **Koen Vanderhoydonk** from **Blanco Services** who had presented that Financial Institutions will need to adapt to the new future by having cheaper and more performant solutions, amongst them robo-advisors. **Sebastian Hasenack** from **investify S.A.** and **Ken Van Eesbeek** from **GAMBIT Financial Solutions** presented us their vision on digitalisation in asset management, how the digital and the physical will co-exist in our near future and the democratization of wealth management in general. **Thibault de Barsy** from **Keytrade Bank** took the time to explain the Keyprivate Business Model and present the "Keytrade's extremely effective solution for those looking for a real alternative to traditional private banking."

One more important moment of this conference was the presentation of our Initio quantitative and qualitative results. We conducted a survey and collected more than 310 responses. Moreover, we asked 13 experts in the finance, digital and robo-advisory field and present the main trends we had.

Frédéric Lorain presented us that Robo-advisors aren't going to revolutionize the core of asset management, but they are a component of a much larger wave of digital transformation that is going to change the business and our way of life. Today's robo-advisors for the most part remain pretty basic and straightforward but tomorrow they will be a mean to leverage the full potential of modern technology.

We finished this great event with the pitch of 3 really innovative start-ups:

Michael Decker from **aixigo AG**

David Furcagj, Ms Applied Economics from **HighWave Capital**

Gaëlle Haag from **StarTalers** who presented their robo-advisor solution.

It's been a fun and interesting event. We hope everybody enjoyed it. We did enjoy organizing it.

You can find a gallery of pictures of the event and an interesting paperjam article following the event.

<http://paperjam.lu/picture-report/how-will-robo-advisors-reshape-asset-management>

<http://paperjam.lu/news/des-robots-dans-les-fonds>

Also, for those who missed it, here is a nice video about what happened:

<https://www.initio.eu/blog/2018/11/15/video-how-will-robo-advisors-reshape-asset-management>





**INTERVIEW WITH
OLIVIER SELIS, CFA**

Olivier is CEO at Lux Future Lab, BNP Paribas incubation and acceleration program in Luxembourg. With almost 20 years of experience in the Group, he developed a solid knowledge of the financial industry, with a particular focus on innovative solutions. He holds a CFA certificate and he is currently enrolled in the Entrepreneurship and Innovation Program at Stanford University.

PRESENTATION OF THE INTERVIEWEE

1. What is your role within your company? Do you speak as a per se expert or a professional in the sector?

CEO of LuxFutureLab since a year. My role is to handle daily activities of the incubator, to define its strategy and to walk our start ups through their development in Luxembourg and abroad.

We are part of the RSE department thus we stick to a non-profit approach, we do not focus on specific sectors but rather support many kinds of start ups from various sectors. We want to help create and develop structure and relevant substance in Luxembourg.

- Additional Question: does your CFA charter help you in your BAU activities?

The CFA I obtained is a great and useful tool to tackle business model analysis and parallel it to the underlying strategy, but most of the time start-ups do not have such complex structures; thus I would say that it is not a requirement to lead an incubator. Financial challenges are not the most critical risk for start-ups, while supporting them we have a greater value when we focus on teams and operational development. That's an edge but not a requirement.

2. What are your current projects in the field of Robo-advisory? What is your own experience with robo-advisors?

Our intention is to develop the most suitable environment for start-ups to grow, by joining the LuxFutureLab these small companies get the chance to access our network and increase their visibility on the market. The LuxFutureLab is also walking these start-ups through an international path; we help them find their positioning supporting for instance the development of initiative directed toward a feminine market or toward green investments for instance.

Within the area of Robo Advisor we worked along with 2 projects, one owned by Gambit (mother company): Birdee which is a great business case and an outstanding

example of success and Highwave Capital which work on behavioural finance and the study of market's sentiment, they are still in a early stage of development.

3. Which country are you from?

Belgium

ROBO-ADVISOR GENERALITY

4. Who do you think this innovation is targeted for? In terms of demand

The target of Robo Advisor solutions is the mass market including retail activities, as the core advantage of these solutions is to give access to optimized portfolio management at a reduced cost for both the user and the provider. As a personal user, I do not use wealth managers to allocate my resources, but rather look for an optimal solution where there is no specific investment requirements and low barrier to entry. The idea is to build a portfolio that I can pass to my children.

As I see the market the highest demand might come from younger generations. Millennials seem to be the most interested, or at least the most fluent in the underlying technologies, and thus their on-boarding is easier.

But in my opinion Robo-Advisors are not made to reach new markets, the purpose is more related to widen service offers for existing markets. Most historical players are indeed focusing on the preservation of their local markets as the competition is stronger and new comers are out every day. What is more ubiquitous is to intend to develop a market by providing through expanded services.

5. According to you, who shows the most interest in Robo-advisory? In terms of offer

We can see a strong interest for these technologies from retail banks and asset management companies; these existing actors are looking for new ways to be competitive.

And start-ups have understood that it is harder than it to be a pure B2C player, the cost of acquiring customers is super high for these small structures and raising interest when you are a new player is not an easy task. All historic

actors are developing their Robo Advisor solutions; by their own or via strategic partnerships.

Looking at the market we can observe that Neobanks, for instance, that have based their business model on digital and dematerialization of the relationship with the client will be able to include Robo-Advisor services much quicker than historical actors that might build a strong deployment strategy to smoothen the impact over their existing clients. But we also observe financial institutions that have decided to undertake new activities, such as Keytrade that have been running brokerage activities for years, and through the acquisition of a banking license is now providing portfolio management services through optimized and automated solutions.

We can also talk about the GAFAs that have entered banking and financial markets providing payment solutions, cash management and so on... The difference with historical actors is that they own massive data amounts and are already familiar with big data management and profiling; thus when they regroup their knowledge on data management and Robo Advisor solutions we can expect to see them expand quickly and have greater results in the near future.

We can imagine, for instance, that when I visit real estate websites, if this data is included to my profiling actors will be able to propose tailored solutions and unique portfolio strategy that would suit not only my financial profile but also my risk profile to build a long term solution including loans, portfolio management and give users the chance to buy the house they were browsing.

- How do you see the situation evolve when we compare the US and Europe, we observe important gaps between prices and entry barriers, services based in the US being on average around 50% cheaper. What is your point of view?

Looking at the US we can see that they are positioned as low cost players and indeed in Europe the biggest challenge will be to perpetuate the identity of historical players while leading disruptive developments. In Europe we have to tackle the underlying changes that arise as the technologies continue to evolve.

6. In your opinion, will the robo-advisor generally allow you to acquire new customers?

The tailored approach offered by Robo-Advisors as well as their digital nature will naturally appeal new consumers. They will also make it easier to target markets that have been neglected until now.

Being flexible and tailored is key to compete and should enable financial institutions to reach niche markets providing specialized services. The Start Up Startalers is focusing on a solution made for women that is delivering investment and savings advice. The idea was to develop a Robo-advisor offering a new experience to their consumers and in my opinion it is key to be identified and to create value for the client.

HlghwaveCapital is also working on a niche market as they position themselves into green investments. The

goal is to propose tailored solution to satisfy very specific customer profiles.

7. In your opinion, does the robo-advisor have limits? If so, what do you think are the limits of the robot-advisor?

The human touch is the limit. A strong relationship is key to retain consumers and it might be what is lacking to Robo-Advisor processes. Except from millennial's preferences we still note a strong appeal for face to face interactions or even more for professionals availability to answer questions and reassure clients in their investment choices. That is why we see emerge hybrid models where on the one hand optimisation and execution will be fully automated and on the other hand an advisory service dedicated to clients that still request for human interactions.

8. Who should be responsible in the event of a loss or a complete crash/bug?

Bankers and the bank, Robo Advisors are only tools made available.

MARKETING AND COMMERCIAL STRATEGY

9. Have you been involved or triggered the acquisition of Gambit ?

The LuxFutureLab have not been triggering the acquisition but in 2015 when Birdee joined us, they benefited from the local network of BGL, then they have been introduced to Fortis in Bruxels to participate to the Hackaton and they won! They thus got the opportunity to compete in Paris (Viva Tech) and acquired visibility there too. That is how finally they got in touch with BNP Paribas Wealth Management leading to the acquisition seen last year.

This story is a great case about what could be the win-win model for all those Robo Advisor start-ups because the competition is fierce and they have to compete real hard to get market shares. Being associated with strong brands able to distribute their solution through their client databases is a real stepping-stone. These kind of strategic partnerships are the best way, in my opinion, for Robo-Advisor solutions to reach final consumers and to upgrade their branding image; meaning increase the level of trust that consumers are associating with their name.

10. If robots come to support part of the activity, in your view on what should companies communicate to reassure clients about the customer relationship?

Robo-Advisors have to be seen as two blocs, the first one being the robo i.e. algorithms used to reduce costs and optimize resource allocations; and the second being the advisory bloc which is more a projection, not

yet implemented. The advisor for now relies more on customer profiling with an increased level of precision. We are in a phase where Robo-Advisors are able to deliver profiling that are sometimes more specific and more efficient than the ones made by historical banks.

11. Do you think the general public is ready for this innovation?

I do not know if they are aware of the meanings underlying the word "Robo-Advisor" so thus they just lack information.

ROBO-ADVISOR VS HUMAN

12. In your view, what is the point of using a robo-advisor?

Reducing costs and automation of processes.

But they also offer greater quality for clients' profiling.

13. According to you, will the robo-advisor have more vocation to be complementary or rather replacing the financial advisor?

Robo-Advisors might continue to evolve but the role of private banker remains a key contact to handle specific topics such as tax, wealth management or succession law. There is no automated solution that tackles yet these issues while managing portfolios. That is why, in my opinion, Robo Advisors are a mass-market product, but we can assume that companies will focus on further development to answer more complex needs.

14. In your opinion, what would be the differences in asset allocation and resulting performance between a robo-advisor and a financial advisor?

The allocation made by Robo-Advisor is focusing on ETFs; that is the basic model. Thanks to this model they penetrated the market and stated a pragmatic positioning but they will tend to develop solutions able to include a greater number of options to propose tailored services depending on the profile of investors.

15. If any, what are the reasons that may lead a robot to make mistakes? Can a robot behave in a risky manner?

I haven't heard about these scenarios yet.

- What is in your opinion the difference between high frequency trading and RAs?

As per my experience I would say that there is a significant difference knowing that high frequency trading aims at exploiting short term market inefficiencies while Robo-Advisors are not built to integrate a high frequency allocations; but rather a long term view matching the "in a good household manner" behaviour. The difference is based on the philosophy behind the two tools, one is looking for short term gains and the other one is made to answer mass-market demands.

FINANCIAL TECHNIQUES

16. a) What are the tracks of improvement for the asset allocation of robo-advisors?

Include more types of products in terms of investment assets class or include more products such as loans and portfolio management proposals based on big data.

b) Most current roboadvisors rely on a limited selection of ETF, as investment vehicles. In the future, do you think it will be beneficial to widen the universe of asset classes managed by robo-advisors or, on the opposite, the current configurations are already optimal?

See above

17. Do robo-advisors allow a better profiling of investors?

With Robo-Advisors we tend to advanced customization and they enable disruptive solutions to pursue profiling including behavioural analysis or big data.

18. What would be, in your opinion, the impact of the generalization of robo-advisors on financial markets?

There won't be a real change of paradigm since you will still have semi-discretionary and fully discretionary allocations. Alone Robo-Advisors are tools not a revolution.

ROBO-ADVISOR PERCEPTION

19. How do you view the competition? How do you feel about the Robo-advisor market?

The competition is already fierce. Big players are positioning themselves, and in my opinion the new comers will have a tough time entering the market unless they propose a solution that can make a real difference. The only way to enter now is to be disruptive enough.

20. In your opinion, what are the obstacles that prevent investors from going after the robo-advisors?

Trust issues mainly. The market is really attached to their historical habits. As soon as it touches money trust is the key to insure client's loyalty and it is reflected in the trust into the brand. There is a strong lack of information but we can see people that are willing to inform themselves and thus the awareness is growing.

21. Why does communication to the public on this subject seem to be so discreet?

Two aspects:

Companies need time to provide clients with a full service offering and they might wait to disclose too much information.

The segmentation of the market, a balance might be found

between low cost and low services to equip masses and more complex offers coupled with human support to equip clients ready to invest to get access to hybrid solutions.

The point is that historical actor have to find the right balance and find a pricing strategy that matches each segment of the market based on their needs and wishes.

The marketing aspect will follow the curve of maturity of the product.

DIGITAL TRANSFORMATION AND CHANGE MANAGEMENT

28. How do you imagine the impact that robo-advisors will have in the future?

We are all going to use a Robo-Advisor but it could be either directly online or through bankers that will use them as a tool to control costs.

Bankers will be more available to handle customers' specific requests, but bankers of the future will have to upgrade their set of skills to answer to that specific demand. The balance will tilt in favour of more complex tasks.

This change will be a great opportunity for the knowledge transmission processes, as most execution tasks will be automated new employees or interns will be able to work quickly on key topics and thus would benefit from that increased complexity.

Banking is becoming a specialized sector with higher requirement in education and IT meaning fewer employees with higher skill sets. That is the purpose of the Digital Bridge plan in Luxembourg, as it asks the question of what the country will do tomorrow knowing that thousands of people have execution jobs and would probably be made irrelevant with automation.

This is a global challenge at our doors and if we do not anticipate potential downturns the country will suffer from a costs structure holding us to be competitive.

With time people will learn to have trust in robots and if today we still observe hindrances to Robo-Advisor adoption we, as people, tend to empower technologies, algorithms in our daily lives. We named it a "robo" while there is no robotic involved, thus imagination bring people to think of the Terminator or R2D2 whereas it is all about producing quality through mathematics and algorithms.

22. What can the general public fear about this technology? What about the professionals?

The fear is due to the unknown and thus cloudy concept of robo-Advisors (see above). A transition phase is required but people will be able to see the advantages to adopt this technology and it is normal to feel threatened but we have to sustain our effort as financial players to support that mind evolution.

CONCLUSION

23. Do you want to add any other point that we didn't cover during this interview?

The profiling solutions are a real opportunity to adopt a new vision on scoring clients as we can cross declarative data with analytics (behavioural data, personal tastes and so on) SESAMM, one of the start-up we incubate is actually working on a solution based on the use of big data and we trust their solution can drive to huge changes.

24. And final question: What would you consider to be the 3 "best inventions" ever developed by human kind?

AI, combustion engine and fusion of atom.



INTERVIEW WITH
GAËLLE HAAG

Gaëlle Haag is the CEO of Startalers. She spent 13 years in the financial industry, first a consultant at McKinsey and last as Group Head of Sales management and marketing at a European private banking group. Her experience convinced her of the need to reinvent the wealth management model to tackle the challenges our society and build a more responsible and inclusive economy. She has created StarTalers to tackle the gender investing gap.

PRESENTATION OF THE INTERVIEWEE

1. What is your role within your company? Do you speak as a per se expert or a professional in the sector?

I'll speak as an expert/founder of StarTalers. But I have also tested robo advisors before such as E-Toro, Birdee, Keytrade Private, Investify and also American robo advisory services such as Betterment or Ellevest which is devoted to women for private purposes.

2. What are your current projects in the field of Robo-advisory? What is your own experience with Robo-advisors?

Startalers is a robo-advisor dedicated to women, we have been working on it for more than a year from the concept for our first product that is currently in testing trial.

3. Which country are you from?

I am Belgo-Luxembourgish.

FEW LINES ABOUT STARTALERS PROJECT:

The strategic objective of Startalers is to become the "Best financial friend of women" with sustainable investments coupled with a playful interface delivering on-boarding process along with financial education.

We will not provide users with delegated management but rather operate as a counsellor that empowers women in their investment decisions. We observed that only 10% of women are investing in financial markets which feeds through to 40% less capital than men when retirement comes. We pursue a social inclusion goal throughout our vision and service proposal, as we think there is a real urgency to act in favor of that inclusion.

The main cause in the difference in investment levels between women and men is the lack of financial

confidence. We observed that women do not feel confident enough to launch themselves into investments. They feel like they do not have control over their decisions and thus they are not willing to bear the risk.

Two factors are conditioning these behaviors: a lack of financial education and the negative perception women have of financial actors.

These findings come from my personal experience, which is mainly how we decide to launch ourselves into a business development initiative.

At first we face a personal issue and we do not find any solution that could solve it; then you encounter more people involved in the same difficult situation, and when you study surveys and dive into researches you find a market that is sharing your issue and is awaiting a new service development.

A key driver of our start up creation is time management. Women have historically been required to carry out many tasks and play multiple roles in society. But in today's society, they also want to secure their future, and must find spare time to increase their knowledge about financial market. This helps them reach a balance between knowledge and perceived risk, allowing them to feel confident enough to invest.

That is why we wanted to offer them an intelligent and adaptive platform able to centralize value delivery and offer a tailored service. We provide educational paths that can be followed at different rhythms and give women access to a customized financial markets advisory service.

Our social role is to soften dependences and open the access to financial tools that can help building a more stable financial future.

Our core demographic target is every woman between 30 and 45 years old, because this is, on average, the moment when women decide to invest in financial mechanisms to build retirement plans or scholarship savings account.

This time is also correlated with their financial situation, career development achievements and natural research for a greater security for tomorrow.

Women enter in motion around this age section but financial education should be part of every woman's path,

from schools to peers groups and also at home. I have two girls and this is a topic that we debate and I am doing my best to make sure that they do not cultivate any kind of taboo about financial in general.

Our robo-advisor is based on a user-friendly on-boarding game. By using gaming, we look for stimulating the reptilian part of the human brain, increasing our chances to see greater commitment from users and avoid the "January resolution" syndrome that often does not last long. Through this on-boarding game filled with financial education we want to walk these women away from the fear of financial markets due to a perceived complexity and to acknowledged and informed investments decision making this can be achieved by encouraging them to ask themselves the right questions.

To sustain a strong relation with our digital users we propose a chatbot service, creating a real experience and relationship between Startalers and users. The chatbot will guide users throughout the game platform to help them earn badges and pass to higher levels. The educational path could vary in time depending on both the level of their knowledge and the time they are ready to dedicate to it.

We developed an innovative approach of Human vs Robo perception. Indeed we observed that trust is so damaged between users and financial advisors that at the end of the day people are looking for simple portfolio management options coupled with a strong transparency. We decided to propose the support of a community providing users with human-to-human exchanges and most importantly: feedback made by users for users. The commercial approach is taken off the table to focus on what is essential for our clients.

Our solution is accessible on Messenger directly or through our website. The goal is to offer different solutions to access our service and make it easier for our users to take the classes and manage their investments, wherever they are and whenever they wish.

StarTalers has 4 differentiating factors:

- Our on-boarding game based on financial education
- Our focus on the human/user community
- Our advisory management offer (as opposed to delegated management)
- Our eco-responsible positioning promoting sustainable investments based on independent R&D

Our business model is based on a pricing strategy that seeks for balance between the added value perceived by our clients and the cost to deliver higher quality services. However, we are still in a testing phase.

Our short-term objective is to create a portfolio management platform where value relies on both the support we offer in financial education and our dedication to fulfil clients' long-term goals through sustainable investments. We want to give the power back to our clients through knowledge.

Our 5 year-objective is to become the top of mind advisory platform for sustainable investments and responsible investors.

ROBO-ADVISOR GENERALITY

4. Who do you think this innovation is targeted for? In terms of demand.

Based on the value of time, we see an exponential interest from a large range of clients for digital offers able to fit their personal life ambitions and give access to smart financial solutions. The key, once again, is to give the power back to clients to choose when, where, how and with whom they invest that precious time.

5. According to you, who shows the most interest in Robo-advisory? In terms of offer.

Asset managers and banks - due to the digital pressure they may currently face - are looking for unique propositions to broaden their services and get associated to digital services.

6. In your opinion, will the Robo-advisor generally allow you to acquire new customers?

Yes. In France, statistics are proving that platforms such as Wesave or Yomoni are appealing to an increasing number of clients and that these clients are primo-investors, therefore there is a clear proof that these clients would have not invested using traditional services.

7. In your opinion, does the Robo-advisor have limits? If so, what do you think are the limits of the robot-advisor?

Yes, they are designed by human beings and thus could reflect the limits of their designers. A robot is neither smart nor stupid, it is built to do what it has been coded for and thus when some technologies such as machine learning are trained with historical data which are, by definition, biased (because they do not reflect a rational truth) they can replicate those biases.

We can also refer to the fact that some robo advisory services are still programed based on the idea that clients are rational investors and markets are efficient but they are not, albeit these limits can be mitigated using behavioral analysis taking into account cognitive bias, for instance.

8. Who should be responsible in the event of a loss or a complete crash/bug?

In a B2C model, a crash or a platform bug would definitely be imputable to the provider. As per today when there are encryption mistakes from financial intermediaries.

In an advisory management model, the client remains the one who decides to whether or not to proceed with the investment, so in the event of losses, the responsibility is clear. In a B2B2C model it would, in my opinion, depend on who is taking the decision on the investment strategy, and as the CSSF does not authorize full integrated investment strategies, there is in any case, a moment when humans are validating decisions.

MARKETING AND COMMERCIAL STRATEGY

9. What kind of actions did you implement to promote your robo advisor?

We decided to focus on "lead marketing" to appeal to clients. We do not want to set business development workforce and fall into the strong historical reference of business developers that are conveying different values from ours.

We intend to leverage Internet referencing, partnership with businesses that are sharing our value-oriented positioning with in-depth commitment toward green responsibility and sustainable products, blogs, women's networks and public relation networks.

10. How do your clients access your service?

Either via Messenger or via our website. We decided on purpose not to launch any application; first because downloading the application represents a too important commitment when it comes to acquiring clients. We also observed a "bored trend" towards applications. And Apps stores are saturated. Giving clients the opportunity to try Startalers without engagement was a key decision in our project. We also chose to develop a chatbot over an application because chatbots still have an incredibly high percentage of conversion (80% opposed to 15-20%) compared to applications.

11. Do you think companies should be transparent about their use of robots in the production process?

Yes, and we intend to support that transparency by sharing our investment choices and partnerships with our clients and prospects. Clients are seeking transparency and that is also a way to justify the cost of a product as well as a guarantee of its quality.

12. If robots come to support part of the activity, in your view on what should companies communicate to reassure clients about the customer relationship?

As far as our business is concerned, we will emphasize our community and the power given back to users through the tool kit of financial knowledge provided by our on-boarding game.

13. Do you think the general public is ready for this innovation? In your view, what is the point of using a Robo-advisor?

Yes if it solves an issue. It is not a question of technology or fear, it is more related to its purpose. So yes in my opinion the general public is ready because the core value of a robo advisor is to answer an issue we are all facing on a daily basis: time management.

Using robo advisory will be appreciated because it solves a real problem and not because of its underlying technology.

ROBO-ADVISOR VS HUMAN

14. According to you, will the Robo-advisor have more vocation to be complementary or rather replacing the financial advisor?

Robo advisor will occupy part of the market and will trigger offer segmentation.

Indeed, for investors that have small amounts of capital to invest the cost of a skilled financial advisor would be unbearable compared to their levels of investments. This is where robo advisor will play an important role giving banks access to new markets where they were unable to propose tailored offers because of their cost structures; and investors will be able to access new layers of the financial market.

FINANCIAL TECHNIQUES

15. Do you think active management is at risk?

Yes it will be harder to justify pure active management, nonetheless for all sustainable products it is still tough to find passive management products, so I would say there are still good days to come for active management. But for traditional management it is hard to support and justify additional management fees when the one and only goal is to generate profit and results are not aligned with expectations.

16. Do robo-advisor allow better profiling? What could be one of the major way to improve current robo advisors?

Yes, because they use the data they are given. Banks and asset managers also own lots of data, but they do not currently apply that data to a client's perspective. Data has been serving marketing purposes for too long, it is thus a real pivotal strategy that banks should initiate to use the same data in the interest of clients. Robo advisors are giving the chance for financial actors to provide the masses with customized offers. Without robo advisors there are no tailored offers for mass market.

ROBO ADVISOR PERCEPTION

17. How do you view the competition? How do you feel about the robo-advisor market?

There are plenty of competitors, the business model is still undefined, and how to make profit in the market is still a mystery for most robo-advisor providers.

Due to that fierce competition, we can see that in the US market, competitors have engaged in a price competition where their only way to generate profit is to use ETFs to benefit from favorable costs structures.

We also see an emergence of disruptive offers where equity crowd funding is mixed with robo-advisory which makes it even harder to differentiate in the market.

On top of this ruthless competition we can refer to the

expensive price companies have to pay to get licensed representing a huge barrier to innovation and market entry. This leads companies to bypass some barriers at the expense of clients.

If I may pick one competitor that has retained my attention I would quote Ellevest because it is a financial platform dedicated to women.

Finimize is also a great example to refer to, they are currently offering a financial news platform, for both regular and crypto markets, but in my opinion they could soon pivot to offer more services and maybe propose a robo-advisory service. "Why should I care" is their slogan and it emphasizes their independent vision upon financial news.

wealth and to gain freedom using digital solutions. And this can happen only through AI and a greater understanding of behaviors to anticipate them and increase awareness about trends and market changes.

20. What can the general public fear about this technology? What about the professionals?

In my opinion, it's more about educational hindrances, these gaps in financial education are creating a misleading perception of financial markets and I can tell by experience that even some basic principles such as inflation are tough to seize for some.

They feel like markets are like playing the Russian roulette or gambling in casinos, where hazard is the key factor of success but with stronger support and guidance about knowledge sources, we can change that feeling.

Money is still a taboo in many cultures due to lack of acknowledgement and cultural biases, but there is nothing wrong with talking about money and earnings. Money is freedom, freedom to quit a job that does not fit, freedom to make choices and freedom to access a dignified end of life.

DIGITAL TRANSFORMATION AND CHANGE MANAGEMENT

18. How do you imagine the impact that Robo-advisors will have in the future?

If I had to share my idealistic vision about the robo-advisor market, I would say that if public awareness continues to grow, impacting the volume of sustainable investments, sustainable investments would be open to masses and influence behaviors in favor of green finance and responsible investments and ethical economies.

Companies would have no other choice than to follow ethics and act responsibly to attract market investors. The law of the market would not only be determined by yield but also by extra-financial factors.

Regulators are, in the mean-time, influencing the market by promoting regulations that provide greater protection for investors such as MiFID2, increasing control over extra financial reports and promoting transparency about revenues from financial activities towards clients.

19. What do you think a Robo-advisor will look like in the medium/long term (in terms of functionalities)?

It's hard to picture it, but as life is becoming more complex, families also turn into more complex configurations. Financial advisors should take into account a global asset situation and act in favor of a global development, working on different topics such as transmission rights, inheritance law to walk clients through a lifelong investment strategy that will enable them to live decently (how precious when we see how long we are going to live tomorrow).

Consequently, needs for active asset planning and wealth structuration will become critical.

The idea is to be able to advise clients with a global vision of their wealth without acting as decision takers. But to reach that optimum we should work harder on education and through education break taboos such as testaments or marriage contracts. There is a real demand for these broadened services through digital platforms. The key value for the user is to centralize the management of their

CONCLUSION

21 Ideally, we would like discuss and reassess this again in 6 to 9 months to see whether your opinion has changed. Would you agree with our idea?

Yes.

22. Do you want to add any other point that we didn't cover during this interview?

We can point out that behind both an RA and a human financial advisor, there is a company. What we try to develop to extend customer satisfaction should also be deployed to sustain employees' well-being at work and build customer relationships on a mutual respect from all three parties: the company, the employee and the client.

23. And final question: What would you consider to be the 3 "best inventions" ever developed by human kind?

NTIC, health-dedicated new technologies and the human soul (I really admire people able to develop solutions intended to deliver a huge value for isolated people such as a micro-insurance developed through blockchain technology to insure farmers in Africa.)



INTERVIEW WITH
SEBASTIAN HASENACK

Sebastian Hasenack is a digital wealth specialist, Co-Founder of Investify – the first fully digital Robo-Advisor in Luxembourg - and now responsible at Solidvest by DJE Kapital AG for Sales and B2B-Cooperation. Before he studied business and national economics and worked as a portfolio and fund manager for a Luxemburgish asset management boutique.

PRESSENTATION OF THE INTERVIEWEE

1. What is your role within your company? Do you speak as a per se expert or a professional in the sector?

I am co-founder of Investify and have responsibility for Portfolio Management and also B2B cooperations. And I speak here as a professional in the sector. We were the first robo-advisor stand alone pure player to get a PSF license here in Luxembourg.

2. What are your current projects in the field of Robo-advisory? What is your own experience with robo-advisors?

Looking at the "current projects" I would say:

- Onboarding new B2B clients
- Developing new B2B cooperations and also technique to onboard white labelling for onboarding additional B2B cooperations
- Current announced is a cooperation with an ethical bank in Germany

Looking at the "experience" I would say that I know pretty much all existing players in the robo-advisory space and we have also working groups with our peers.

ROBO-ADVISOR GENERALITY

3. Who do you think this innovation is targeted for? In terms of demand

We do B2B approach, hence for us the response is banks, but banks work in B2C hence with the final clients.

4. According to you, who shows the most interest in Robo-advisory? In terms of offer

We have of course interest from banks, but we now also see interest coming from corporations that start looking at robo-advisors solutions, i.e. luxurious Real Estate companies. We are very open also to non-financial players...

5. In your opinion, will the robo-advisor generally allow you to acquire new customers?

Of course yes. Easy and smart onboarding.

6. In your opinion, does the robo-advisor have limits? If so, what do you think are the limits of the robo-advisor?

Well, I would say that you first have to be digital-minded to open an account with robo-advisors. So limits here are fundamentally human.

I think that the user experience will increase dramatically in the coming years...

7. Who should be responsible in the event of a loss or a complete crash/bug?

That's quite easy but depends on the kind of crash you mean: market crashes or robo-advisor itself crashes.

We do not work on portfolio allocation in terms of going long in equity or bondy (for that we take hold of Aladdin from Blackrock): robo-advisors should rather do the enabling stuff and leave to the human advisor the final execution. We do not conceive a robo-advisor as being an invention of a new formula, but rather as way to enable clients to do what they want.

Hence when it comes to responsibility it depends whether the relation is B2C or B2B2C: if the client has established the contract directly with the robo-advisor – hence configuration B2C -, in this situation if a bug / crash occurs then the responsibility lies clearly with the robo-advisor. On the contrary, if the customer has established a contract with the bank which uses a robo-advisor, then in first row it's the bank's responsibility and then in second row the robo-advisor. In the sense that the bank will claim back to the robo-advisor.

MARKETING AND COMMERCIAL STRATEGY

8. What kind of feedback do you usually get from your customers in terms of the quality and satisfaction of your services?

Honestly just positive so far. Probably because we have mainly "early adopter" clients and things are still relatively new. It's really good, they all like it. I would say the 2 favourite features our clients are fond of are the themes and our call support reactivity.

We have themes that are very valuable and also telephone support to clients calling. We receive on average 10/20 calls a day from clients and are quick in responding to them. I must admit that so far this call support is indeed working very well.

Our FAQ is regularly updated to include the answers that we provide to our clients. I am not afraid when the market goes down because we are able to communicate very precisely to our clients to explain why, what caused that. One of the main advantage of our robo-advisor is the push notification system that allows us to send our clients precise information delivered in a timely manner.

9. Do you think the general public is ready for this innovation ? Trust is indeed a key element of the decision process when one's money is at stake.

Honestly the public is not ready yet... but things are going in the right direction. Communication is important for opening up the market, but it's driven by largest players, so we'll let them do the heavy-lifting and capitalize.

ROBO-ADVISOR VS HUMAN

10. Have you ever noticed a discrepancy between the behaviour of a robot and the behaviour that a financial advisor would have had?

Robo-advisor is super objective... Looking for example to the risk profile, a robo-advisor is more reliable than humans. Perhaps the clients are more honest about their attitude towards risk for example by interacting with a robo then talking to a "stranger" - like a Banker.

11. If any, what are the reasons that may lead a robot to make mistakes? Can a robot behave in a risky manner?

Some technical issues may, in theory, arise. Robo-advisors may potentially be temporarily outline, the latter triggered by a power shortage for instance.

There may be a hack attack on the robo-advisor, but this is more a security issue not linked to the behaviour of the robo-advisor.

FINANCIAL TECHNIQUES

12. According to your experience, in what proportion is the recommendation of the robo-advisor indeed followed and implemented? How often do investors follow the robo-advisor's recommendations?

Not really relevant for us.

ROBO-ADVISOR PERCEPTION

13. How do you view the competition? How do you feel about the Robo-advisor market?

Robo-advisors market is indeed growing, I would even say super-growing. Yes there's competition but everybody is

looking at a slightly different direction. Hence so far no fear I would say. The big player will do the market opening presently. Deutsche Bank for example is now running TV-Spots with Robin (Robo-Advisor tool of Deutsche Bank).

DIGITAL TRANSFORMATION AND CHANGE MANAGEMENT

14. What do you think a robo-advisor will look like in the medium/long term (in terms of functionalities)?

Well, I would say creating added value to clients, by providing more customised services for the their own benefit. Robo-advisors can optimise the offering.

This being said I also think that robo-advisors in future should also offer a bit of fun to clients, a sort of special experience.

CONCLUSION

15. Do you want to add any other point that we didn't cover during this interview?

No, I do not wish to add anything more.

16. And final question: What would you consider to be the 3 "best inventions" ever developed by human kind?

Well, I would say:
 1) Phone
 2) Wings
 3) and my Piano

Robo-advisor is super objective... Looking for example to the risk profile, a robo-advisor is more reliable than humans. Perhaps the clients are more honest about their attitude towards risk for example by interacting with a robo then talking to a "stranger" - like a Banker.

There may be a hack attack on the robo-advisor, but this is more a security issue not linked to the behaviour of the robo-advisor.



**INTERVIEW WITH
CHRISTIAN FRIEDRICH**

Christian Friedrich is founder and CEO of aixigo AG. aixigo is one of the largest independent providers of software for financial service providers in Germany, Austria, France, Luxembourg and Switzerland. We offer the fastest wealth management platform and enable innovation leaders in digitalising all aspects of the personal investment business. aixigo's aim is to best implement its customers in response to market changes. With the platform from aixigo you will be offered a future-proof architecture as well as all technical requirements. Since 1999, aixigo has been successfully supporting asset managers and advisers in major banks and financial services providers with its solutions. The aim is to offer bank customers and bank advisers a process that is easy to understand for both sides and positive consulting experience.

PRESENTATION OF THE INTERVIEWEE

1. What is your role within your company? Do you speak as a per se expert or a professional in the sector?

COO of Product Management and Consulting. aixigo not only develops Roboadvisors on behalf of our bank clients, but has also independently founded such a Roboadvisor and helped build from A-Z. In this context, we not only have a broad overview of the technical and technical challenges but also many regulatory and sales issues.

2. What are your current projects in the field of Robo-advisory? What is your own experience with robo-advisors?

However, we are currently involved in various robo projects, including the functional enhancements for an independent B2C or B2B2C provider, the roboadvisor of a well-known Swiss private bank or the digital offer of a major French bank.

3. Which country are you from?

aixigo is based in Germany and serves clients from Germany, Luxembourg, Switzerland, Austria, UK and France.

ROBO-ADVISOR GENERALITY

4. Who do you think this innovation is targeted for? In terms of demand

In the Robo consultant, we do not primarily see digital investment advice but rather digital asset management. This service is accepted by customers who already have assets and wish to delegate the management of these assets.

5. According to you, who shows the most interest in Robo-advisory? In terms of offer

Regulation in the course of MiFID2 hampers the profitability of consultant-oriented investment advice enormously. At the same time, the revenue side has come under

considerable pressure from cost transparency. Currently, one has to assume that the average revenue will reduce on average by up to 100 BP. For this reason, alternative «consulting models» become significantly more attractive. In such consulting models, regulatory requirements are largely automated, at the point of sale, sales can be concentrated and at the same time, customers receive a quality of service that they are willing to pay for. All of these requirements can be met by roboadvisor based on true asset management. Therefore, the interest should be where banks and financial services companies advise customers with assets between € 10,000 and € 500,000. Sooner or later, digital asset management will replace investment advice in this segment.

6. In your opinion, will the robo-advisor generally allow you to acquire new customers?

In principle, a roboadvisor can provide existing customers with a significantly higher level of service at lower production costs. In my opinion, new customers can be won mainly by banks whose productivity threshold is well above EUR 250,000, which means that customers with lower assets can not work economically. These are usually private banks with a focus on wealth management, whose services are currently inaccessible to the majority of clients. If these banks consistently offer digital services, you can address customers in the retail and affluent segments in a completely new way.

7. In your opinion, does the robo-advisor have limits? If so, what do you think are the limits of the robot-advisor?

In fact, the «digital consultation» in the sense of a real consultation with all regulatory requirements seems to me to make little sense. Such advice is regulatory complicated and offers the client only a few advantages compared to a stationary consultation. Overall, the tooling is quite complex and quickly unattractive for the customer.

8. Who should be responsible in the event of a loss or a complete crash/bug?

Ultimately, the customer chooses a level of risk appropriate for him and must also be able to live with the

consequences. However, the prerequisite is that the robo provider pursues a sensible, well-diversified investment strategy.

MARKETING AND COMMERCIAL STRATEGY

9. What is the legal framework of your company? License, status, agreement?

Aixigo is a software supplier to banks, fintech and financial service providers. Aixigo does not own Robo and does not have a license.

10. What kind of feedback do you usually get from your customers in terms of the quality and satisfaction of your services?

Working with our B2B customers over many years shows that our customers trust us and appreciate our expertise.

11. What kind of actions did you implement to promote your robo-advisor?

We put our clients in the position to offer a true individual digital discretionary asset management. The keyword here is «individual standardization», d. H. With a Robo by aixigo, a bank can provide attractive digital services in the supreme discipline of wealth management. Our USP lies in the enormous system performance, which allows extensive industrialization for Tier1 banks as well. At the same time, all robofunctionalities can be accessed via an API, so that the bank can independently carry out enhancements to the robofrontends without aixigo. Our goal here is a «buy and built» offer.

12. How do your clients access your services?

The robos are usually operated on premise, ie in the data center of our customers.

13. Do you think companies should be transparent about their use of robots in the production process?

In principle, it should not matter much how the production is done. However, for marketing reasons, it is very interesting to convey whether a CIO approach is pursued with human specifications or an algorithmic approach.

14. If robots come to support part of the activity, in your view on what should companies communicate to reassure clients about the customer relationship?

The attractiveness in the digital business lies clearly in the individualization of the service. Similar to a Carkonfigurator, it should be possible for customers to customize their individual financial services and influence their portfolio.

15. Do you think the general public is ready for this innovation? Trust is indeed a key element of the decision process when one's money is at stake.

Ultimately, in the medium term, a more hybrid approach will prevail, in which the initialization of asset management

in the branch takes place and then a completely digital process takes over. In this way, two key issues can be solved: Financial services are still sold and not bought, and the involvement of a seller in the store can close this gap. On the other hand, the initialization process in particular has many hurdles (signature, etc.), and this problem can also be solved quite easily. Moreover, the customer has thus simultaneously established contact with a consultant and knows a face behind the robo. Hybrid has yet another facet. So I do not believe in fully algorithm-based Robo - rather, a Robo will prevail with a CIO approach where people are responsible for investment decisions. These people give Robo a face.

ROBO-ADVISOR VS HUMAN

16. In your view, what is the point of using a robo-advisor?

The very clear commitment in asset management is less in asset advisory. In this respect, the term Roboadvisor is also a bit misleading. Banal fund brokerage, which was largely unregulated in Germany, will not be a recipe for success.

17. According to you, will the robo-advisor have more vocation to be complementary or rather replacing the financial advisor?

In a hybrid approach, we see a very clear addition to the consultant. The big advantage will be that the robo will take over the regulator's important regulatory duties and be able to focus on the sale again.

18. Have you ever noticed a discrepancy between the behavior of a robot and the behavior that a financial advisor would have had?

Due to the strong regulation of investment advice, the excesses of the past are actually a thing of the past. If consultants are supported by powerful software at the point of sale, they deliver just as objective and high-quality advice as Robos can offer in part. However, many robos fall short of the possibilities, since they ultimately only represent banalities.

19. In your opinion, what would be the differences in asset allocation and resulting performance between a robo-advisor and a financial advisor?

In a CIO approach - which we prefer - we see no difference. Ultimately, however, there will be a difference if Mutual Funds with large front-end loads are used instead of the usual ETFs to finance distribution.

FINANCIAL TECHNIQUES

20. Do you think active management is at risk?

Active management will be maintained and in part strengthened, but the level will shift. Thus, passive products will prevail at the product level, the active control will instead find at the portfolio level.

21.a) What are the tracks of improvement for the asset allocation of robo-advisors?

Nothing

b) Most current roboadvisors rely on a limited selection of ETF, as investment vehicles. In the future, do you think it will be beneficial to widen the universe of asset classes managed by robo-advisors or, on the opposite, the current configurations are already optimal?

At the product level, ETFs and similar products are the tool of choice, but more asset classes are supported. So today we see a big product focus in the asset class «Equity». However, we expect that the supply of passive products in other asset classes will increase.

22. According to your experience, in what proportion is the recommendation of the robo-advisor indeed followed and implemented? How often do investors follow the robo-advisor's recommendations?

I do not think Roboadvisor offers a recommendation, and our experience shows a disappointing acceptance of such recommendations. It is precisely for this reason that we increasingly see the use of robos in the context of asset management.

23.a) Do robo-advisors allow a better profiling of investors?

Yes of course - this is already given from a regulatory point of view.

b) Is improving their profiling abilities one of the major ways to improve current robo-advisors?

A meaningful profiling is crucial for the confidence that the system actually suits the customer.

24. What would be, in your opinion, the impact of the generalization of robo-advisors on financial markets?

If the calculation base of Robos is too similar, there will be many similar recommendations, but less individuality

ROBO-ADVISOR PERCEPTION

25. How do you view the competition? How do you feel about the Robo-advisor market?

The market will continue to clean up. The flood of Robos is already decreasing. There will be a few significant ones left over

26. In your opinion, what are the obstacles that prevent investors from going after the robo-advisors?

Because the robo-consulting is always insufficiently retailable. Thus, you get no Mass. Und if no mass that is, then you have too little credibility. And little trust is just a bad prerequisite for investment

27. Why does communication to the public on this subject seem to be so discreet?

The communication is not that discreet. But the inhibitor for use is very high. And at a high inhibition threshold, the volume of communication will no longer play a role at some point.

DIGITAL TRANSFORMATION AND CHANGE MANAGEMENT

28. How do you imagine the impact that robo-advisors will have in the future?

I think they will gain influence. But it will take another generation for the robos to receive the same appreciation in the front-end that they are currently experiencing in the backend worldwide.

29. What do you think a robo-advisor will look like in the medium/long term (in terms of functionalities)?

Things like speed, flexibility and mass suitability will continue to be extremely important. But the importance of value-added services will increase because you will not be different from others.

30. What can the general public fear about this technology? What about the professionals?

Nobody needs fear. The core task is to gain confidence

CONCLUSION

31 Ideally, we would like discuss and reassess this again in 6 to 9 months to see whether your opinion has changed. Would you agree with our idea?

I think this period is too short. For 12 months or more, I believe that is a reasonable distance.

32. Do you want to add any other point that we didn't cover during this interview?

No

33. And final question: What would you consider to be the 3 "best inventions" ever developed by human kind?

Light, Car, Computer



INTERVIEW WITH
OLUS KAYACAN

After evolving in Institutional Banking and Asset Management for 20 years, Olus has joined Governance.com, an innovative Regtech, to help Financial Institutions simplify their data and GRC process as Business Development Director.
He is now Managing Principal at Capco.

PRESENTATION OF THE INTERVIEWEE

1. What is your role within your company? Do you speak as a per se expert or a professional in the sector?

I am Business Development Director in charge of globally scaling up the commercial development of our Regtech company.

I do not consider myself as an expert but rather a professional of the financial sector.

2. What are your current projects in the field of Robo-advisory? What is your own experience with robo-advisors?

As a RegTech company we follow very closely robo-advisory & robo-advisors and we are mainly active in the KYC/AML space to support the regulatory boundary of robo-advisors.

In my previous experience within the asset management I had some of the founders of Gambit and already at that stage we were following robo-advisors quite actively.

Advisory for their retail clients and make it explicitly accessible

b) Implicit: Private banks and other players who offer this to their clients but do not do massively communicate on it... because they seem to prefer avoiding the commoditization of the service. Still these tools enable them to reduce costs.

5. In your opinion, will the robo-advisor generally allow you to acquire new customers?

Yes definitely. We are approached more and more by retail banks and online brokers. As a regtech company they need us to help them with AML and KYC aspects as well as their Data Management.

6. In your opinion, does the robo-advisor have limits? If so, what do you think are the limits of the robot-advisor?

The system is as good as the conceiver of the system. Yes it has the limits but conceptual-wise and not potential-wise. More and more models will propose to enlarge the available asset classes universe. This added complexity will be dealt with thanks to these new technologies, such as quantic computers.

7. Who should be responsible in the event of a loss or a complete crash/bug?

for me it's not "should be".... EU Regulations clearly state that it will be the broker, or the banker, that holds the responsibility towards the final clients. It is worth noticing that European robo-advisors will be more limited by these regulatory brakes. So it is important for Regtech companies like us to position ourselves.

ROBO-ADVISOR GENERALITY

3. Who do you think this innovation is targeted for? In terms of demand

I would say that for the moment we are in launching phase. I would also say that the target remains mainly the Retail segment.

We are at the beginning of the era of robo-advisors and for the time being it is rather for retail clients. We are witnessing the beginning of a tremendous trend. Institutional and Asset Managers will come as well. It will touch all the segments over time, within the next 3 to 5 years.

4. According to you, who shows the most interest in Robo-advisory? In terms of offer

I see two different trends here:

a) Explicit: The biggest banks already use openly Robo-

ROBO-ADVISOR VS HUMAN

8. In your view, what is the point of using a robo-advisor?

It is a Cost-efficient solution that gives access to the ideal market portfolio with better correlation and variance analysis... All these analysis are better done by bots than by humans. Hence automated portfolio management is superior to human portfolio management.

9. Have you ever noticed a discrepancy between the behavior of a robot and the behavior that a financial advisor would have had?

It's empirical vs mathematical, hence it's different. The traditional approach is more based on personal experience while the automated approach is purely based on a mathematical process, the latter being obviously superior. The financial advisor job is changing and evolving towards an increasing use of robo-advisors. The advisors will be able to improve the quality of their advice and spend more time on the interesting and complex aspects like behavioural finance issues, tax advisory and alternative investments and less time on stock picking.

ROBO-ADVISOR PERCEPTION

10. In your opinion, what are the obstacles that prevent investors from going after the robo-advisors?

It's a new technology, and there are always cognitive and emotional limitations with new technologies:

Financial institutions will have an important role to play in the education of their customers. They should focus on explaining properly their product. The better they explain the bigger the opportunity. Financial institutions should explain the broad lines and the rest is trust. Final clients will have to trust to their banks rather than trying to invest too much time and energy in expanding their own knowledge. Trust is key.

Beyond this point, one of the reason for the 2008 crisis is that there were no robo-advisors at the time. Prospectus were too complex, not read, not processed, not explained. There are the limits of human processing. With bots doing these kind of tasks, there will be an exponentially more efficient treatment of information.

Roboadvisory and algorithmic high frequency trading are completely different things. The latter enables 20-30% winners and is not an efficient model, while the former is a long term asset management process.

CONCLUSION

13. Ideally, we would like discuss and reassess this again in 6 to 9 months to see whether your opinion has changed. Would you agree with our idea?

Yes of course.

14. Do you want to add any other point that we didn't cover during this interview?

No, I just think that behavioural finance will be key for the future of robo-advisors. I think the main ways for improvement are supporting on regulatory requirements, efficient regtech coverage and focusing on constructive models.

15. And final question: What would you consider to be the 3 "best inventions" ever developed by humankind?

I'd rather rephrase with 3 best recent inventions:

- a) quantum computers
- b) robotic evolution
- c) blockchain

A final consideration: what is important to me is what allows for a sustainable and exponential growth. You should read Exponential Organizations by Youri Van Geest.

DIGITAL TRANSFORMATION AND CHANGE MANAGEMENT

11. How do you imagine the impact that robo-advisors will have in the future?

Exponential.

12. What can the general public fear about this technology? What about the professionals?

Professionals need to assume and develop efficient models. The ones who will stick to obsolete models will tend to disappear. Professionals need to regain the trust back from the public and customers.



**INTERVIEW WITH
KOEN VANDERHOYDONK**

CEO Belgium & Luxembourg at Blanco Services, he has over 15 years of experience of successfully growing and managing B2B businesses in the global financial landscape. He has a passion for innovation in the banking industry and he is a #FinTech and #RegTech influencer with a large international follower's base.

PRESENTATION OF THE INTERVIEWEE

1. What is your role within your company? Do you speak as a per se expert or a professional in the sector?

CEO for Belgium and Luxembourg. A combination of both actually: per se expert as well as professional of the sector

2. What are your current projects in the field of Robo-advisory? What is your own experience with robo-advisors?

Koen had several moments in his career where he worked very closely with starting roboadvisors. When looking globally, most of the existing solutions today are rather passive and do not support active management. Although recent technologies are used they are reactive to certain triggers in the market and do gather anticipation to market situations ie macro-economic, social etc...

I think the answer and future is to be found in the middle, hybrid solutions that put together traditional private banking with the automation power of robo advisory.

In terms of experience on the ground I have seen the birth of various robo-advisors but there was often a bit of oversimplification on the running of a financial service... Others did avoid the trap of oversimplification, but the regulation did not properly allow to scale their activities (local regulations and back-office particularities) into multiple countries. On the other hand, you have to get the right size in your business (ie scalable) but this is very difficult due the limited size of the local markets.

Blanco's ambition is to break the silos of countries and the existing boundaries that limit the scope of existing robo-advisors.

generations to come should not be neglected since they are the future.

2. According to you, who shows the most interest in Robo-advisory? In terms of offer

Looking at the offer side, I think these are the banks. For example, they could add additional services to the current "execution-only" dyi digital platforms. To keep and attract clients that are not satisfied with such service model and as a result either come and go and become dormant accounts. In this context robo-advisors can bring added value to capture and satisfy such customer base. At the same time a bank can also capture the younger general and make them customers for life.

In your opinion, will the robo-advisor generally allow you to acquire new customers?

I think yes. Early adopters and the new generation in particular.

3. In your opinion, does the robo-advisor have limits? If so, what do you think are the limits of the robot-advisor?

The black swan! An algorithm is as robust as the moment it goes wrong. Also, how much human a robo-advisor can be.... Well, I personally think that a robo-advisor cannot replace at 100% a human conversation at the point time. But let's keep an eye on "Emotional Intelligence" (EI), technology is moving fast.

Clients are humans, that appreciate and need a "human touch" in financially important moments in their life's (for example when planning their personal retirement). At blanco we believe in the importance of being able to listen carefully to the need and the situation of your customer. You may call it traditional private banking, but this becoming more difficult due to margin pressure and regulatory changes.

We do not want humans to be disintermediated by Robots, but we want instead humans to be assisted by Robots.

4. Who should be responsible in the event of a loss or a complete crash/bug?

All depends on the kind of contract / agreement the client has put in place. If the contract was established with its financial institution (i.e. a bank) than the bank should be

ROBO-ADVISOR GENERALITY

1. Who do you think this innovation is targeted for? In terms of demand

Well, at the end it is targeted for clients. If we want to drill down, it speaks more the language of the Millenials although Millenials have not yet the economical means of the baby boomers. This being said Millenials and next

held responsible in case of crash/bug. On the other hand, if the contract was established directly with the robo-advisor, then logically the responsibility should well remain with the robo-advisor itself.

But this is very sensitive topic and that's why our banking industry is regulated and has high capital requirements. To ultimo protect the customer, but I also believe the industry that thrives on assets such as trust, safety and security. We are a complex and very interesting eco-system in which robo-advisory is here to stay. Let's collaborate all together to make a better future.

ROBO-ADVISOR VS HUMAN

- 5. According to you, will the robo-advisor have more vocation to be complementary or rather replacing the financial advisor?**

Definitely complementary !

- 6. If any, what are the reasons that may lead a robot to make mistakes? Can a robot behave in a risky manner?**

As mentioned before: the black-swan. An algorithm is only as good as the moment it goes wrong. Of course, a robot advisory can have a risky manner, but this should be a surprise to the user but rather corresponding to his risk appetite.

but can you blame people after the financial crisis in 2008? As a sector it's our duty to gain trust again.

The good news, we can do it... by collaborating and delivering solutions that solve actual needs of our clients. Together we have an opportunity to prove that technology, a honest attitude and customer focus is the winning formula.

For professionals, robo-advisor is a blessing and an opportunity to provide added value for their customers.

CONCLUSION (TLM)

- 10. Ideally, we would like discuss and reassess this again in 6 to 9 months to see whether your opinion has changed. Would you agree with our idea?**

Yes, sure !

- 11. Do you want to add any other point that we didn't cover during this interview?**

Not really.

- 12. And final question: What would you consider to be the 3 "best inventions" ever developed by human kind?**

- Genomics,
- Electricity,
- Internet.

ROBO-ADVISOR PERCEPTION

- 7. Why does communication to the public on this subject seem to be so discreet?**

The answer is very simple: money. In general, the various robo start-ups have a pretty limited budget to allocate funds to marketing / advertisement to promote their initiative, at least in Europe. In the US it is another story because the size of market (and therefore the business case) is bigger.

DIGITAL TRANSFORMATION AND CHANGE MANAGEMENT

- 8. What do you think a robo-advisor will look like in the medium/long term (in terms of functionalities)?**

AI will continue to develop and get better in finding use-cases. Adding more human emotions to robo-advisors "artificial emotion" may change the landscape. Last but not least the continues improvements in conversational technologies.

- 9. What can the general public fear about this technology? What about the professionals?**

I do not think there's any need for fear here.... Yes, there's reluctance in adapting robo advisory by the general public



INTERVIEW WITH
YVON MOYSAN

Yvon Moysan is a Lecturer in digital marketing, Academic Director of a Master degree in apprenticeship in digital marketing and Innovation and a member of the Crédit Agricole Nord de France Digital Banking & Big Data Chair at IÉSEG School of Management. He is also the CEO of Saint Germain Consulting, a consulting company in digital marketing, focusing on the banking and insurance industries. He graduated from Harvard and ESSEC and has more than 15 years of professional experience in digital marketing (BNP PARIBAS, HSBC France, AXA worldwide headquarter, etc.).

PRESENTATION OF THE INTERVIEWEE

1. What is your role within your company? Do you speak as a per se expert or a professional in the sector?

As both: as a Professor in digital Marketing at IESEG School of Management, I speak as an expert in the field and as consultant at Saint Germain Consulting, I speak as a professional.

2. What are your current projects in the field of Robo-advisory? What is your own experience with robo-advisors?

Publications (Revue Banque)

3. Which country are you from?

France

ROBO-ADVISOR GENERALITY

4. Who do you think this innovation is targeted for? In terms of demand.

Mainly customers that do not have enough money to access to private banking services.

5. According to you, who shows the most interest in Robo-advisory? In terms of offer.

Young generation

6. In your opinion, will the robo-advisor generally allow you to acquire new customers?

Yes

7. In your opinion, does the robo-advisor have limits? If so, what do you think are the limits of the robot-advisor?

Some customers still require human presence.

8. Who should be responsible in the event of a loss or a complete crash/bug?

The bank.

MARKETING AND COMMERCIAL STRATEGY

9. Do you think companies should be transparent about their use of robots in the production process?

Yes

10. If robots come to support part of the activity, in your view on what should companies communicate to reassure clients about the customer relationship?

Presence of human.

11. Do you think the general public is ready for this innovation? Trust is indeed a key element of the decision process when one's money is at stake.

Like with many innovations, we have early adopters and then people that follow the trend

ROBO-ADVISOR VS HUMAN

12. In your view, what is the point of using a robo-advisor?

Limited cost compare to a traditional human advisor

13. According to you, will the robo-advisor have more vocation to be complementary or rather replacing the financial advisor?

Complementary in a 1st step and then replace for a part of the population.

ROBO-ADVISOR PERCEPTION

19. Why does communication to the public on this subject seem to be so discreet?

Trust is an issue in this kind of topic. So banks can hesitate to communicate.

DIGITAL TRANSFORMATION AND CHANGE MANAGEMENT

21. What do you think a robo-advisor will look like in the medium/long term (in terms of functionalities)?

It could be integrated in personal assistant like Siri, Alexa etc.

23. Do you want to add any other point that we didn't cover during this interview?

no

24. And final question: What would you consider to be the 3 “best inventions” ever developed by human kind?

Internet, plane, cinema

CONCLUSION

30 Ideally, we would like discuss and reassess this again in 6 to 9 months to see whether your opinion has changed. Would you agree with our idea?

yes



INTERVIEW WITH
JOSÉ SOARES

José Soares is an International Business and a Technology Entrepreneur with more than 18 years of working experience in a variety of industries, including Telecommunications, IT and Financial services. Throughout his professional tenure, Jose has built a reputation for developing strategic partnerships, evangelizing new technologies, and building out channel programs in the public and private sectors.

PRESENTATION OF THE INTERVIEWEE

1. What is your role within your company? Do you speak as a per se expert or a professional in the sector?

I'm the Business Development Officer of the Interdisciplinary Centre for Security, Reliability and Trust (SnT), at the University of Luxembourg. The centre conducts long-term, high-calibre research on Information and Communication Technologies and collaborates with the public and private sectors. Joint research projects are extremely important to us as they allow us to investigate solutions that are applicable and scalable in actual industrial and social contexts.

In the field of Robo-advisors, I speak as a professional in the sector.

2. What are your current projects in the field of Robo-advisory? What is your own experience with Robo-advisors?

I am not allowed to disclose the contents of our joint research projects. What I can tell you is that for over two years, we have been working intensively on new AI and automation technologies with significant change potential for the financial and regulatory sectors, enabling novel products and services but also new types of interactions between customers, firms and third parties. In my own experience – as a user, I have been very conservative, and rather sceptical while assessing the existing technology maturity level. Extremely low interest rates on saving accounts however, encouraged me to try using some existing services from several Luxembourgish and German banks, with a moderate degree of satisfaction.

3. Which country are you from?

I'm Portuguese, though I have been living abroad for over 20 years. I live in Luxembourg for 4 years.

ROBO-ADVISOR GENERALITY

4. Who do you think this innovation is targeted for? In terms of demand.

Robo-advisors were built on the promise of offering wealth management expertise to the masses at cheaper fees, but in my opinion it's the high-net worth individuals who have more assets under management (AUM) that could benefit the most, from letting these automated services manage their wealth. In practical terms anyone who is interested to invest is a good target.

5. According to you, who shows the most interest in Robo-advisory? In terms of offer.

Private banks, incumbent institutions, insurance companies, asset managers, online brokers and financial services in general.

Banks are not early adopters of new financial technologies, but because these services provide access to cheaper financial advice, while allowing to take on customers with smaller investment capital, have forced many incumbent institutions move to provide similar offerings to those seen from digital-only Robo-advisory services.

6. In your opinion, will the Robo-advisor generally allow you to acquire new customers?

Without any doubt. Offering cheaper, better tailored financial services, will improve customer retention, and onboard new clients with lower investment capabilities. However, and I will be able to address that later in the questionnaire, it is becoming harder for financial services to differentiate themselves in terms of cost and services provided, which in return forces companies to spend additional money attracting new customers through marketing and advertising.

7. In your opinion, does the Robo-advisor have limits? If so, what do you think are the limits of the robot-advisor?

They certainly do. Robo-advisors are not human beings, they will not hold your hand and talk to you after a significant capital loss. The human financial advisor is there to help

ease your fears and explain how the investment markets work (still they will have their personal target in mind), besides the human advisor help with many aspects of life beyond just money concerns. Most customers need human interaction and a high-deal of customisation, as many clients have dynamic financial goals.

Another limit Robo-advisors have is that they currently do not scale up their advertising to increase their adoption rate – this is monitored pretty much by a human supervisor.

The other important aspect is that a digital advisor is still unproven technology for many.

8. Who should be responsible in the event of a loss or a complete crash/bug?

It's a hard question to answer, and still debatable: it might be the investment managers that design the wallet portfolios, or the research team that determines what an algorithm should suggest based on the customers preferences, or even the human advisors who check if the algorithm is performing as expected, just to give a few examples.

Regulation is key, and we are still missing widely accepted common regulation. When this happens, it will most certainly impact startup Robo-advisors the most. This is because, incumbents that provide Robo-advisors to their clients, have well-funded compliance teams. That's usually not the case with startup.

MARKETING AND COMMERCIAL STRATEGY

9. Do you think companies should be transparent about their use of robots in the production process?

Yes, transparency is a very important word in every industry but particularly important in the financial industry. In fact, every customer, is looking for increased transparency into how his assets are being managed, and how his personal data is being used in the production process.

10. If robots come to support part of the activity, in your view on what should companies communicate to reassure clients about the customer relationship?

As with my reply to question 7., while Robo-advisors appear particularly strong in the areas of account opening, enrolment and investment management, they seem to lag behind in areas such as customer relationship management, and client servicing. Companies should let their customers know that through Robo-advisors, customers have not only access to a highly effective and sophisticated technology but also to other touch-heavy channels such as face 2 face conversations. In fact, as I mentioned before one of the biggest drawbacks of Robo-advisors is that they currently do not scale up their advertising to increase their adoption rate – this is monitored pretty much by a human supervisor, and companies should have a very meticulous process to monitor the client acquisition rates, and scale up advertising to sustain growth rates.

11. Do you think the general public is ready for this innovation? Trust is indeed a key element of the decision process when one's money is at stake.

I trust they do, but I raise some concerns about its longevity, when new technology is not in place. Several studies indicate that although millennials and inexperienced investors are prime candidates for digital wealth management services, many existing customers are interested in transitioning from more expensive managed account programs into lower-cost automated alternatives. However, it is still true that it is becoming harder to differentiate in terms of costs, and services provided.

In addition, and I believe this was never raised at any point, the language barrier can be another determinant factor for customers to start using digital technologies vs. traditional human interaction.

ROBO-ADVISOR VS HUMAN

12. In your view, what is the point of using a Robo-advisor?

Robo-advisors can provide a number of benefits, including an easier onboarding process, a suite of automated capabilities and minimal investment requirements, compared to traditional alternatives. Through the use of a digital platform customers also have access to a Robo-advisor at any time 24/7.

13. According to you, will the Robo-advisor have more vocation to be complementary or rather replacing the financial advisor?

Still debatable whether they can fully compete with human financial advisors.

I don't see Robo-advisors disrupting market-leading financial institutions. Instead, I expect established financial institutions through the fast-paced growth of major players, to co-opt the technology along with improvements to their user experience, with hybrid models and more flexible customisation options.

14. If any, what are the reasons that may lead a robot to make mistakes? Can a robot behave in a risky manner?

It can be risky, and I tend to believe the technology is not sufficiently regulated to determine what will happen if there is a mistake in the process. This mistake can have multiple reasons, starting with the customer himself. It might also have been the investment managers that design the wallet portfolios, or the research team that determines what an algorithm should suggest based on the customers preferences, or the human advisor who checks if the algorithm is performing as expected. It could be an IT malfunction, or a software bug in particular conditions, but a human advisor will also fail, and I bet this is more likely to happen. I stress out again that in my opinion the technology is not sufficiently accepted and widely regulated.

ROBO-ADVISOR PERCEPTION

15. In your opinion, what are the obstacles that prevent investors from going after the Robo-advisors?

The financial advice industry is built on trust, but robots are not able to create trust (still!).

A personal relationship with a branded, solid financial firm is the way that most wealth planning happened for many generations, and this is as I mentioned before a major roadblock in the adoption of the technology.

Other obstacles include limited investment choices, usually not more than passive funds (ETFs), and unsuitability for preferences, for example: social responsibility when investing, you may not want to invest in oil companies, preferring instead to invest in clean energy.

16. Why does communication to the public on this subject seem to be so discreet?

Digital transformation and change management

17. What do you think a Robo-advisor will look like in the medium/long term (in terms of functionalities)?

We could see Robo-advisors delivering dynamic advice powered by machine learning, or artificial intelligence, as opposed to a simple portfolio management. Rather than

performing the simple algorithmic "if/then" tasks of today, new technology could add substantial value, enhancing efficiency and transparency.

Hybrid models are also the future, where robo-advisors could assist human advisors with ideation, delivery, and risk and compliance, relying on AI capabilities like pattern, voice recognition, automated learning and preparation, and running suitability checks, for example.

CONCLUSION

18. Ideally, we would like discuss and reassess this again in 6 to 9 months to see whether your opinion has changed. Would you agree with our idea?

Yes.

19. Do you want to add any other point that we didn't cover during this interview?

Not at this point.

20. And final question: What would you consider to be the 3 "best inventions" ever developed by human kind?

The wheel and the axle, electricity and the internet.



**INTERVIEW WITH
SYLVAIN FORTE**

Sylvain is an engineer and entrepreneur, passionate about Big Data and Artificial Intelligence technologies. He is the current CEO of SESAMM, an innovative FinTech company that he co-founded which develops trading indicators based on Big Data text analysis (news, blogs, social media, forums). SESAMM's goal is to help asset managers, funds and banks generate alpha in a differentiating and efficient way by leveraging the power of Big Data and behavioral finance.

PRESSENTATION OF THE INTERVIEWEE

1. What is your role within your company? Do you speak as a per se expert or a professional in the sector?

I am Sylvain Forté CEO of SESAMM and I will speak as a professional in the sector.

2. What are your current projects in the field of Robo-advisory? What is your own experience with Robo-advisors?

We are not a robo advisor per se. We are an external technology that aims at providing analytics based on AI including for clients such as robo advisors but also for large asset managers.

Our current projects are to partner up with robo advisors and promote our methodologies using both machine learning and AI in Asset Management. But we do not aim at creating a robo-advisor by ourselves.

We've been in touch with several robo-advisor providers as they are in the same field of Fintech than we are. Our current experience is that these platforms are very attractive for professional investors, institutional investors but also for B2C clients. We believe that current robo-advisors lack some deep technologies in order to make investment decisions. That is why they are mostly targeting clients based on marketing expertise, promoting platforms that are very easy to use rather than extensive high use of technology to make investment decision. That is where we, SESAMM, actually come in.

3. Which country are you from?

I come from France. We also have offices in Luxembourg.

ROBO-ADVISOR GENERALITY

4. Who do you think this innovation is targeted for? In terms of demand.

I do not believe that Robo-advisor should target B2C directly. Most successful Robo-Advisors have been targeting asset managers instead as white labeled solutions, and thus I believe large asset managers are a

really good target for Robo Advisor. This is also true for banks, but banks tend to have initiated acquisition early on and thus they are already equipped.

5. According to you, who shows the most interest in Robo-advisory? In terms of offer.

B2C is not right now the main target for robo-advisors. I'd say in terms of offer the same actors are at play asset manager and banks at lesser extent.

6. In your opinion, will the Robo-advisor generally allow you to acquire new customers?

I'm perfectly convinced that Robo-Advisors are a great tool to acquire new consumers and I believe that is the main use case for robo-advisor with very clean, simple, ergonomic platforms that allow B2C investors to make investment decisions. Nonetheless I also believe that Robo Advisor need the strong image of an AM or a bank to attract these investors. So for an AM that would be buying a RA solution using it as a white labeled solution I believe it would attract new consumers but Robo-Advisors working by themselves will have more difficulties reaching these customers.

7. In your opinion, does the Robo-advisor have limits? If so, what do you think are the limits of the robot-advisor?

The first limit is reputation. A Robo-Advisor needs to have a strong underlying reputation in order to attract capital. That is why it is interesting to partner with large Asset Manager. I also believe that Robo-Advisors have some real technical limits at this stage. Solutions that are presented are currently quite simple from a quantitative point of view. In my opinion, there is still a lot of work to do to transform Robo Advisors from investing platforms to investing systems that are based on strong technology and that really aim at outperforming markets.

8. Who should be responsible in the event of a loss or a complete crash/bug?

It is a difficult question, but the AM is always responsible for the losses. If the Robo-Advisor is implemented as a B2C solution dealing directly with investors, he is indeed responsible but if it is implemented as a white labeled solution it should not be the RA but rather the customers of the white label solution.

In the case of a crash/bug which is a little bit different from a loss; the RA should have responsibilities such as insuring the client a minimum percentage of availability which should be very high, so there are constraints but the RA should be mostly focused on the iT part of the responsibility, infrastructures, for instance, making sure that the servers are available, that the system is running, that the platform doesn't bug, not necessarily on the way investments are made or not.

MARKETING AND COMMERCIAL STRATEGY

9. What kind of feedback do you usually get from your customers in terms of quality and satisfaction of your services?

Really good feedbacks as demonstrated by testimonials on our websites from AM and banking actors.

10. How do you make your service available?

We have an Internet platform, clients can connect directly; we also make available an API (Application Programming Interface) and work for specific project with our clients directly.

11. Do you think companies should be transparent about their use of robots in the production process?

Not necessarily, I believe many portfolios are already managed by RA whether it is actually presented as such from a marketing point of view or not; but most quant strategies are RA to some extent. I don't think they should be fully transparent and I'm not sure that B2C clients are looking for this.

12. If robots come to support part of the activity, in your view on what should companies communicate to reassure clients about the customer relationship?

Again not advising for full transparency at this stage as I believe that people who are usually speaking with clients should keep speaking with them; but that some of the resources when not client facing should reduce the amount of work put into making the investment decision and acquiring new clients. And using the robo-advisor as a help to do this.

So I would advise to keep the customer relationship as of today and to use the technology of robo-advisors to cut the costs where it is possible without the client necessarily knowing about it.

13. Do you think the general public is ready for this innovation?

I do believe that part of the general public is ready for this mostly in the US and in Asia. In Europe to lesser extend but younger people and millennials seem much more interested in having lower cost rather than having a real person managing their money.

Trust is indeed a key element of the decision process and this why I believe Robo advisor in the end will win through asset management and banks and not replace them. They'll help them reduce costs.

ROBO-ADVISOR VS HUMAN

14. In your view, what is the point of using a Robo-advisor?

Acquiring new clients and raising capital but also having a tool that is easy to use and straightforward to understand.

15. According to you, will the robo-advisor have more vocation to be complementary or rather replacing the financial advisor?

To some extent they will be some replacement due to some cost cutting in large banks and asset managers which is a common current trend. I do not think that they will fully replace the financial industry but rather large asset managers and banks will change due to RA and use this tool as a cost cutting tool; as they used digitalization for the same purpose before.

It is something that will rather replace or be complementary when there is a customer relationship that must be kept.

16. Have you ever noticed a discrepancy between the behavior of a robot and the behavior that a financial advisor would have?

Yes, there are two main sources of discrepancies: the first one is behavioral bias. Robots do not have behavioral bias so typically they would avoid most of the mistakes that could be made by a financial advisor; this includes mistakes that are purely built but also real mistakes such as a fat fingers.

In addition to that it is interesting that Robo Advisory enhanced by AI could make investment decisions that human beings would not be able to make such as analyzing millions of articles and messages from the web and making a decision based on this.

17. In your opinion, what would be the differences in asset allocation and resulting performance between a robo advisor and a financial advisor?

Well there is one thing RA have: a tendency to have lower cost so the net performance at the end of the day is higher whatever happens, just due to cost cutting features.

Currently I believe that RA do not have a strong advantage compared to financial advisor and are not necessarily generating more alpha by themselves except for cutting costs but that will evolve in the next few years and this is also what we are working on at SESAMM helping decision making enhanced by AI which could be used in a RA.

18. If any, what are the reasons that may lead a robot to make mistakes? Can a robot behave in a risky manner?

Of course these are statistical systems but the goal for a robot would be to make a lower number of mistakes than

a human being. But it is something that should always be monitored by humans and mainly data scientists in order to make sure that systems are properly trained and continue to behave as they should.

Large bugs, such as servers drop downs and in that case typically we would have a large problem. There are also much more subtle mistakes such as a machine learning model which has been train on data that does not correspond to the reality or which have been overheating which means overly trained, these are hard to spot but it is also something that is important for the whole industry and we are paying a lot of attention to that at SESAMM.

19. Do you think active management is at risk?

Yes I truly believe that active management is at risk right now I do believe that massive amount of capital are going on the direction of smart beta and passive investments but there is some hope for using AI to make final decision which would differentiate active management from pure passive management.

20. What could be one of the major way to improve current robo advisors?

Using AI, plus most RA rely on limited ETFs as investment vehicles

It depends on the target of RA. For B2C investors I do believe that this investment universe is sufficient. For more sophisticated institutional investors using RA it would require to be extended.

21. According to your experience, in what proportion is the recommendation of the robo advisor indeed followed and implemented? How often do investors follow the robo advisor's recommendations?

Depending on the RA some may not be recommendation but rather directly decision. And I would advise to go in that direction. Systematic trading is usually conceived to be systematic and not be an additional tool for human beings. If not properly applied this could lead to a higher risk actually if the RA and the human have to compete to make the final decision.

22. Do robo advisor allow better profiling? What could be one of the major way to improve current robo advisors?

Certainly so, but I don't believe that improving their abilities to deliver better profiling is the best way they can improve. It already exists great tools such as Gambit tool Birdee which was acquired by BNP that might be sufficient for the coming years.

ROBO ADVISOR PERCEPTION

23. How do you view the competition? How do you feel about the robo advisor market?

Growing market mostly due to the fact that asset managers and banks are acquiring companies. I'm not sure that this a very sustainable way to grow in the future

and I do believe there will be a winter for RA once all big companies will have acquired their RA.

24. Why does communication to the public on this subject seem to be so discreet?

The communication is discreet because in France for instance the public is not interested in AM at all and that is why it does not lead to headlines.

DIGITAL TRANSFORMATION AND CHANGE MANAGEMENT

25. How do you imagine the impact that Robo-advisors will have in the future?

They will lead to a higher automation of the industry therefore lowering costs, increasing the investment possibilities for private investors. And they will also lead to a numerous number of people not having jobs anymore.

CONCLUSION

26. Ideally, we would like discuss and reassess this again in 6 to 9 months to see whether your opinion has changed. Would you agree with our idea?

Absolutely.



**INTERVIEW WITH
BART VANHAEREN**

Bart Vanhaeren is CEO & co-founder of Investsuite, a European wealthtech company. Previously, he was 20 years with KBC Group. In his last position he was a Board Member at KBC Securities, where he launched several digital investment platforms. Earlier in his career, he set up KBC Consumer Finance, which he scaled to 2000 people in five countries. Bart holds an MSc in Chemical and Environmental Engineering, a MSc in Financial Economics, and obtained his full MBA at IMD, Lausanne. He wrote two books (Crowdfunding in Belgium, Get Up Start Up).

PRESENTATION OF THE INTERVIEWEE

1. What is your role within your company? Do you speak as a per se expert or a professional in the sector?

CEO & co-founder. I was 20 years in banking, last five as Board Member of KBC Securities, Belgians leading brokerage and investment bank

I launched/founded Bolero (multiple award winning online retail trading platform) and Bolero Crowdfunding

During the last two years I was heading KBC's inhouse roboadvisory program

2. What are your current projects in the field of Robo-advisory? What is your own experience with robo-advisors?

As CEO & co-founder of Investsuite I am responsible for developing a B2B roboadvisory

Did a lot of factfinding and market research with regards to B2B versus B2C models

Whilst I was leading the inhouse roboadvisory program of KBC, I scanned the market and evaluated various B2C and B2B players

I was mentor of a B2C roboadvisory in Belgium

ROBO-ADVISOR GENERALITY

1. Who do you think this innovation is targeted for? In terms of demand

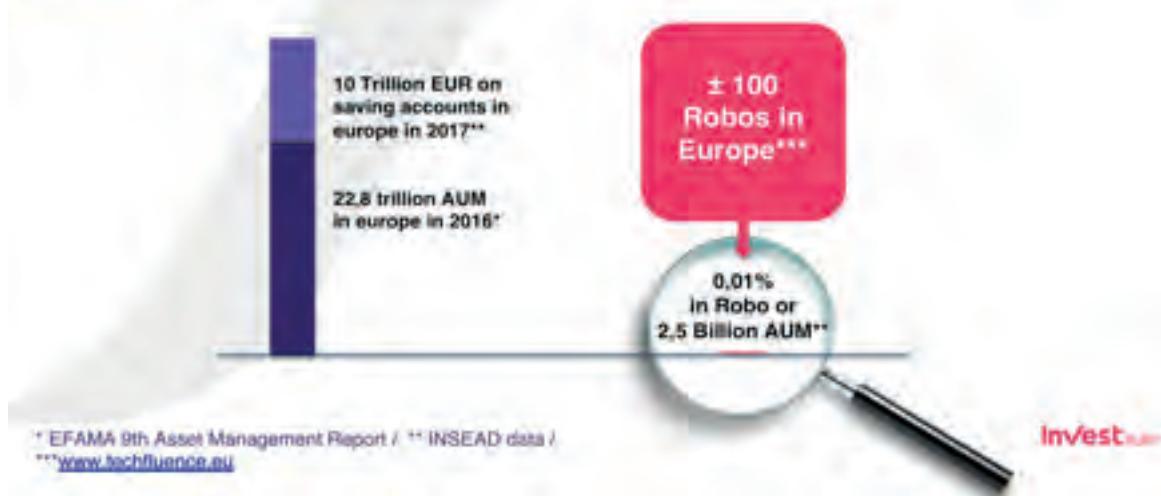
- 1) Retail investment market (23 trillion AUM in EU alone)
- 2) Savings market (10 trillion in EU)
- 3) Clearly a major challenger to the mutual (active) fund management industry

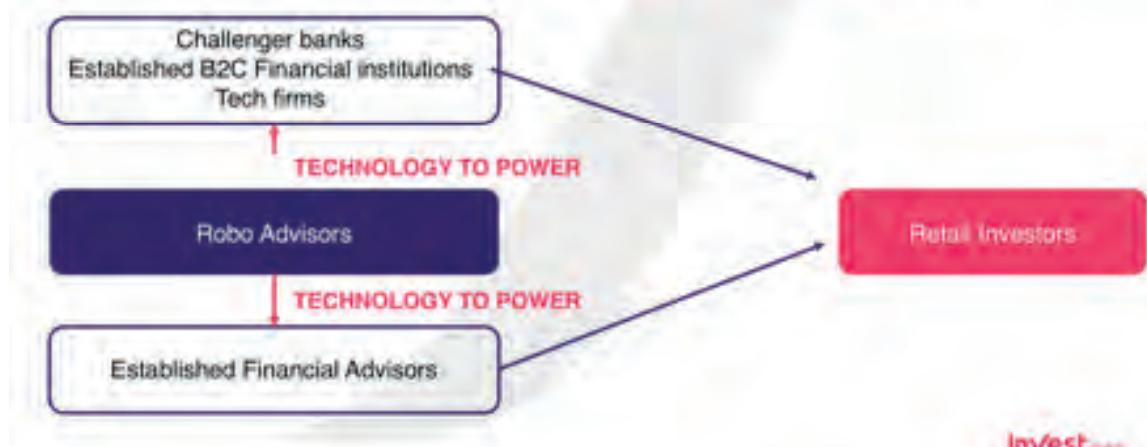
2. According to you, who shows the most interest in Robo-advisory? In terms of offer

End client: mass retail (savings) & lower end private banking (200k – 2 mio EUR AUM)

B2B client: retail banks, private banks, wealth managers and online brokers

SOME PUZZLING FIGURES HOWEVER...THIS POTENTIAL HAS NOT YET BEEN REALIZED BY FAR...



A B2C STAND-ALONE ROBO ADVISOR WILL NOT WIN...**B2B WILL BE THE WINNING MODEL, CHALLENGER/MOBILE ONLY PLAYERS AND INCUMBENTS EMBRACING 'DIGITAL' HOLD THE KEY****3. In your opinion, will the robo-advisor generally allow you to acquire new customers?**

A B2C: NO

B2B is the right business model

4. In your opinion, does the robo-advisor have limits? If so, what do you think are the limits of the robot-advisor?

It is less attractive to 'self execution investors'

It will NOT replace a private banker dealing with complex/high AUM clients

It will have to deal with possible long term liquidity issues with ETFs

5. Who should be responsible in the event of a loss or a complete crash/bug?

Since we are not B2C, the responsible in the eyes of the end client will be the financial institution. In a B2C case, it

will be the B2C player which will require significant backup and security measures to be put in place. Question is if a low capitalised B2C player can handle this?

ROBO-ADVISOR VS HUMAN**1. In your view, what is the point of using a robo-advisor?**

Low cost

Transparency

'Digital experience'

Decent return taking into account risk profile

Clear alternative to savings & mutual funds

2. According to you, will the robo-advisor have more vocation to be complementary or rather replacing the financial advisor?

For mass clients: replacement BUT backed up by call

center and possibility to have human interaction
Private banking: complementary

3. Have you ever noticed a discrepancy between the behavior of a robot and the behavior that a financial advisor would have had?

Not observed BUT the robo excludes emotions and mistakes and is better in risk profile tracking and documenting it.

4. In your opinion, what would be the differences in asset allocation and resulting performance between a robo-advisor and a financial advisor?

The robo has no 'politics' and 'no emotions'....

5. If any, what are the reasons that may lead a robot to make mistakes? Can a robot behave in a risky manner?

Too simplistic asset allocation
Wrong risk measure usage (volatility)
Weak universe
Most robo's still need an investment committee
Too many transactions generated
Weak risk profiling
Not calculating well the financial capacity

1. What do you think a robo-advisor will look like in the medium/long term (in terms of functionalities)?

Advanced scenario analysis
Story telling included
Integrated in digital investment offer
Gaming elements included for younger clients
Smart AI applied

1. What can the general public fear about this technology? What about the professionals?

If well designed and right risk profiles and investment allocation applied this is a rather safe product.
But psychologically a risk is they may fear the 'general fear' against robots and AI...

CONCLUSION (TLM)

1. Ideally, we would like discuss and reassess this again in 6 to 9 months to see whether your opinion has changed. Would you agree with our idea?

Yes

2. Do you want to add any other point that we didn't cover during this interview?

Covered most points, thanks

3. And final question: What would you consider to be the 3 "best inventions" ever developed by human kind?

Electricity
Wheels
Internet

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ROBO-ADVISOR PERCEPTION

1. How do you view the competition? How do you feel about the Robo-advisor market?

We don't see B2C as competition, unless they pivot
B2B: us (Investsuite), Scalable, some French players, Bambu
Inhouse developments by financial institutions themselves

2. In your opinion, what are the obstacles that prevent investors from going after the robo-advisors?

1. Just knowing that this offer exist: B2C have a complete lack of branding and distribution power. Financial institutions are the right channel
2. Trust

3. Why does communication to the public on this subject seem to be so discreet?

Again, because B2C does not work as they don't have the trust of the average investor nor the marketing budget required to distribute this product.

DIGITAL TRANSFORMATION AND CHANGE MANAGEMENT

1. How do you imagine the impact that robo-advisors will have in the future?

Integrated in offer of brokers, banks, wealth managers, challenger banks



INTERVIEW WITH
JÉRÉMIE DE SAINT-ALBIN

Jérémie is a Viatys Conseil Consultant with 10 years' experience. His main fields of expertise are project management, innovation and digital cultural integration. He took responsibilities on each part of the project cycle, from product conception to users' formation, as well as target solution testing. Certified as a Product Owner, trained for the Design Thinking Methodology, he acted on institutional websites, mobile apps or intranet reshapings and on digital transformation issues as well.

PRESENTATION OF THE INTERVIEWEE

1. What is your role within your company? Do you speak as a per se expert or a professional in the sector?

I am a Digital Consultant in an asset management company. In order to increase its brand awareness and give assistance to advisors to sell funds, my client decided to build up his own robo advisor. I intervened upstream of the project, helping my client to define the functional scope of the product.

2. What are your current projects in the field of Robo-advisory? What is your own experience with robo-advisors?

This was the first I had to work on such project.

ROBO-ADVISOR GENERALITY

3. Who do you think this innovation is targeted for? In terms of demand

This innovation mainly targets advisors and distributors.

4. In your opinion, will the robo-advisor generally allow you to acquire new customers?

Yes. Robo advisors allows to target a new category of investors who cannot afford the services of private bankers. Robo advisors are a key element to reduce entrance fees required for benefit from asset management advices.

5. In your opinion, does the robo-advisor have limits? If so, what do you think are the limits of the robot-advisor?

Robot-advisors do have a strong limitation. Their main goal is to calculate and optimise assets, not to be an expert in customer relationship. Thus, offers that include robo-advisors advices have to be completed with human advices.

6. Who should be responsible in the event of a loss or a complete crash/bug?

Bugs are the editor's responsibilities ; financial crash are investor's responsibilities.

MARKETING AND COMMERCIAL STRATEGY

7. If robots come to support part of the activity, in your view on what should companies communicate to reassure clients about the customer relationship?

Just as for financial experts, companies should highlight the reliability of their robot and their past results.

8. Do you think the general public is ready for this innovation ? Trust is indeed a key element of the decision process when one's money is at stake.

More than a question of innovation, it's a question of culture regarding asset management. Robot advisors is democratising access to such services, as for other services, I think more and more people are going to use it.

ROBO-ADVISOR VS HUMAN

9. According to you, will the robo-advisor have more vocation to be complementary or rather replacing the financial advisor?

No, but some practices will change, others will emerge:

In one hand robo-advisor will change the way financial advisors will work, on the other hand, a new population of investors will be keen on accessing 100% online asset management services.

10. If any, what are the reasons that may lead a robot to make mistakes? Can a robot behave in a risky manner?

Robot can have bugs, but I don't think that robots can make mistakes. Robots behaviour regarding risk is the result of the way they have been designed by their creators.

The risk taking level of a robot is determined by humans. Of course, robots can lose.

ROBO-ADVISOR PERCEPTION

11. In your opinion, what are the obstacles that prevent investors from going after the robo-advisors?

To me, the main obstacles are related to the novelty of such a service: people need to know about what it can bring to them, moreover, they are not yet prepared to trust a machine to grow their saving.

24. Why does communication to the public on this subject seem to be so discreet?

In my opinion, this is due image issue

Asset Management is perceived as a business providing high added value, carried out by highly qualified personnel, for a prosperous, if not wealthy population. Not everybody has access to such services.

Providing robot could suggest that AM isn't a so high added value, and deprecate AM image.

DIGITAL TRANSFORMATION AND CHANGE MANAGEMENT

25. How do you imagine the impact that robo-advisors will have in the future?

I see two impact for the future: the first one is to democratise saving management. The second is, as for other businesses that are using IA, lead companies to focus more and more on customer relationship management.

CONCLUSION

30. And final question: What would you consider to be the 3 “best inventions” ever developed by human kind?

Writing, Computers, IA.



**INTERVIEW WITH
DAVID FURCAJG**

David Furcajg is the CEO of Highwave Capital. HighWave Capital is a Robo-Advisor that uses Nobel prize research in behavioural finance to better assess end-investors risk aversion and enhance portfolio allocation and performance.

PRESIDENTIAL OF THE INTERVIEWEE

1. What is your role within your company? Do you speak as a per se expert or a professional in the sector?

I'm the CEO of HighWave Capital, incorporated in Luxembourg in 2018.

2. What are your current projects in the field of Robo-Advisory? What is your own experience with robo-advisors?

HighWave Capital is an early stage company, with a B2B2C set up. We're currently 2 co-founders. I launched this business with my partner because we saw a business opportunity and we had the expertise internally. Robo-advisors will manage trillions of euros in the near future. With my 20-year experience on financial markets and my partner's skills in IT and expertise of the Back and Front End, given the low barriers to entry, we knew we could achieve something great and original. I met my partner at the university where I was teaching Behavioural Finance.

In nearly 100% cases, our competitors are using classic methods to determine risk profiling and allocate portfolios. We deliver a solution that disrupts the industry using Behavioral Finance models. Our R&D relies on Behavioral Finance nobel prizes and we did that for performance reasons.

Our profiling assessment avoids heuristics and bias. It combines machine learning and Behavioral Finance to provide thousands of profiles. We are doing profiling the scientific way beyond MiFid rules! Plus the end user experience is great: how profiling questionnaire is actually a game.

Our portfolio allocation method also relies on market psychology and is able to avoid 100% of financial market drawdowns. We built and re-allocate portfolio using in-house tools that determines market sentiment. As a result, our equity curves outperform benchmark and some classic asset managers. Our view is that we can't talk market finance the same way with two financial market bubbles and a few drawdowns in less than 20 years. Long only strategies and fundamental analysis is not efficient

for such market conditions.

We also made a deep research to be able to tailor made our solution whatever the needs of our prospects: our robo-advisor is fully modular and customizable from back to front-end and can be adapted for B2B as well as B2B2C purposes.

As the user experience is also very important, our solution comes with our in-house conversational agent. A must to enjoy the end customers while reducing costs of our prospects (banks)

3. Which country are you from?

France

ROBO-ADVISOR GENERALITY

4. Who do you think this innovation is targeted for? In terms of demand

Eventually, everybody will be using one, consciously or not. Their use is going to be generalized, without the final customer noticing it.

5. According to you, who shows the most interest in Robo-advisory? In terms of offer

Everyone is impacted, insurance companies, as well as private and retail banks, asset managers and brokers. The private banker will serve different purposes.

6. In your opinion, will the robo-advisor generally allow you to acquire new customers?

Robo-advisors not only reduce costs, they also enable to reach new categories of customers and unlock a potential.

7. In your opinion, does the robo-advisor have limits? If so, what do you think are the limits of the robo-advisor?

The principal limits will be regulatory. Different jurisdictions don't have the same level of regulatory maturity. Let's hope regulation will still play its role while not becoming an impediment. It's all a matter of dosage.

Our questionnaire is scientific and MIFID compliant.

MARKETING AND COMMERCIAL STRATEGY

9. What kind of feedback do you usually get from your customers in terms of the quality and satisfaction of your services?

HighWave Capital is an early stage company but we have prospects in France, Belgium, Switzerland, Luxembourg and in the Netherlands. We know we chose the right model because B2C robo-advisors fintech encounter a kind of double penalty: high cost of acquisition for new customers and a form of technophobia, especially in France. Most of the B2C robo-advisors have pivoted to B2B2C now. We were incorporated in March 2018, accelerated by EYnovation, LHOFT and LuxFutureLab: the Luxembourg startups ecosystem support us. And our prospects like our disruptive approach and know how in behavioral finance.

10. What kind of actions did you implement to promote your robo-advisor?

We're very happy to have come to Luxembourg where there are good businesses relationships, a deep culture for business connections and networking as well as a favourable ecosystem. We feel there is a really strong patriotism and a will to be proactive. Local prospects are middle sized so it's also easier to know everybody.

Our offer is original and unusual. We pitch whenever we can and recently gave press conferences as well.

12. Do you think companies should be transparent about their use of robots in the production process?

It depends on the country you're in. There is a noticeable trend to mistrust automatization.

14. Do you think the general public is ready for this innovation ? Trust is indeed a key element of the decision process when one's money is at stake.

There is misinterpretation due to the term robo-advisor. There is still a trust issue with automation and robots. Robo-advisors should be seen as algorithms, or an app.

ROBO-ADVISOR VS HUMAN

15. In your view, what is the point of using a robo-advisor?

Reducing costs and enabling digital distribution. Also the adapting character of the robo-advisor to both the investor and financial market conditions. There are possibilities to adjust the risk profile beyond the traditional contact questionnaire, using big data or different kinds of inputs about the user for instance.

In my experience, a good trader is a person with the ability to cut his emotions and tend to something cold and make decisions based on calculations. A human trader is subject to emotions when taking positions. But the goal is to keep an objective vision without taking in account emotions that are subjective. The risk you take as a trader should be based on data, on gain expectancy, and loss probability.

I used to compare trading with a battlefield where you go with your models and methods as ammunitions based on probabilistic hopes, and there is always a fatality risk because of a mine, a shell or a lost bullet. Until your back at your headquarters and your position is closed and settled, there is always a risk. Hence to transform your expectancy in a gain, and fulfil your mission, you need to stay focused and cold blooded. That's where a robot may have an edge.

16. According to you, will the robo-advisor have more vocation to be complementary or rather replacing the financial advisor?

The maximum gain of productivity would be a 100% automated management but the human contact make the customer less flighty, more loyal. The balance between automation and human contact could be determined according to the level of assets involved. For instance over 10k€ you start getting access to a human advisor and over 100k€ you have more of the banker availability and so on.

17. Have you ever noticed a discrepancy between the behavior of a robot and the behavior that a financial advisor would have had?

It depends on the type of business model you want to develop. The allocation could be fully automated, semi discretionary with for instance a board monitoring and rebalancing proposals approval or fully discretionary with the robo-advisor being only a decision support system. In the fully automated type, there is no great distinction between a robo-advisor and algorithmic trading, beyond the temporality and frequency of decisions and purpose of the machine.

19. If any, what are the reasons that may lead a robot to make mistakes? Can a robot behave in a risky manner?

Robots are subject to fake news like humans could be. Even if the asset allocation is dealt with automatically, it's still humans who specified the model, so there is often a risk of misspecification.

FINANCIAL TECHNIQUES

20. Do you think active management is at risk?

It's all a matter of equity curve. Beyond that nothing lasts any more. Where our grandparents used to fix and darn their used cloth, there is now a propensity for change and a rotative way of consuming. Nowadays flexibility is beyond what's ever been known.

21. What are the tracks of improvement for the asset allocation of robo-advisors?

Using different models than the traditional Markowitz framework and fundamental models.

23. a) Do robo-advisors allow a better profiling of investors?

Some of them try to do so. But many use nearly the same

questionnaires than banks. At HighWave Capital we provide a scientific and unbiased way to assess profiling.

b) Is improving their profiling abilities one of the major ways to improve current robo-advisors?

Absolutely, many ways to do so. Robo-Advisors are able to collect financial AND extra-financial goals such as a preference for environment. HighWave Capital determines thousands of profiles in terms of risk version and combines it with non financial goals. Our profiling method is actually a powerful KYC!

24. What would be, in your opinion, the impact of the generalization of robo-advisors on financial markets?

There won't be a real change of paradigm since you'll still have semi discretionary and fully discretionary allocations.

DIGITAL TRANSFORMATION AND CHANGE MANAGEMENT

31. What can the general public fear about this technology? What about the professionals?

Most technologies destroy employment. Schumpeter was talking about cycles of destructive creation but today's

cycles are really quick. Our world is changing so fast. AI might tend to replace high value added jobs such as lawyers, auditors and highly skilled professionals. Digital transformation isn't something minor and this industrial revolution is unlike the former ones because it will change the nature of the human kind. Human will tend to machines and machines to human. Machine and human will be combined together. In less than a generation, this is a one of the fastest leap into the unknown. One that will revolutionize the human kind. We are facing a Black Swan.

CONCLUSION

33. And final question: What would you consider to be the 3 “best inventions” ever developed by human kind?

I would say IA. Beyond techniques, you can find genius in art as well. In the modern world, science and technology tend to be overweighted and we forget to fill ourselves with wonder.



**INTERVIEW WITH
LAURENT MAROCHINI**

Laurent Marochini is Head of Innovation & Quality at Societe Generale Securities Services in Luxembourg. Prior to joining SGSS, Laurent worked at BNP Securities Services in Luxembourg as a Middle Office Derivative Products. He joined in 2000 the Credit Suisse Private Banking as Head of Settlement Operations & Client Service and entered the Societe Generale in 2006 as a Risk Manager, and then became Head of Innovation & Quality. Laurent was twice 2nd Worldwide Best Innovation Maker of Societe Generale. He is also Co Chairman of the Working Group Blockchain & Crypto Currencies at ALFI and Member of the Fintech & Digital Executive Committee.

PRESENTATION OF THE INTERVIEWEE

1. What is your role within your company? Do you speak as a per se expert or a professional in the sector?

Head of Innovation, Process and Continuous Improvement. I speak here both as an expert and a professional.

2. What are your current projects in the field of Robo-advisory? What is your own experience with robo-advisors?

Well, I haven't seen myself yet any internal robo-advisors project in itself... at least to my knowledge but it's sure that our Private Banking Department and Front Offices Departments are following closely the topic. I can think about one initiative inside the group, indeed LYNXOR is about to go live with its Robo Advisor in partnership with Primonial and Sogecap.

ROBO-ADVISOR GENERALITY

3. Who do you think this innovation is targeted for? In terms of demand

Well, for me there are two types of robo-advisors:

- a) Those addressed to the end users (hence the final clients) and thus aiming at mass markets and retail banking activities.
- b) Those intended to the financial advisors

And this segmentation is indeed reflected in the different offers proposed by the market participants: Birdee, Highwave Capital and Algoreg which are proposing modular offers with B2B and B2B2C options able to cover both segments.

4. According to you, who shows the most interest in Robo-advisory? In terms of offer

The first question here is to clarify whether the robo-advisor is meant for the end user OR the financial advisor.

Indeed companies are choosing their Robo Advisor

partner by answering that question, as it will define the use of robo advisory. Should it be a tool to support the private banker activities or more a product made available to end-users?

To be competitive Robo Advisors should use their differencing criterion and brand them to build a source of value for users.

5. In your opinion, will the robo-advisor generally allow you to acquire new customers?

Yes. If the robo-advisor has a real added value for the customer. In my opinion there must be a sort of "differentiating factor" in the robo-advisor in order to justify its value and trigger its use.

6. In your opinion, does the robo-advisor have limits? If so, what do you think are the limits of the robot-advisor?

Yes, I think that the "human touch" is important. To give you a concrete example I would not confide 100% of my assets to a machine, nevertheless I would probably confide something like 20%. Yes, at the end it's indeed a matter of trust. I have a "banker" mind-set and also a risk-based approach, hence I'm following the diversification principle and rather balance my assets allocation.

7. Who should be responsible in the event of a loss or a complete crash/bug?

The right answer depends on the kind of context:

- a) Algorithm developed by an external company
- b) Algorithm developed internally by some developers, hence employees of the company

The question here is: can we attack an employee if a mistake is made on the algorithm? I do not think so... but I am not an expert in this field, maybe the question should be asked to somebody from Audit. And actually we are forced to notice that robo advisory as - well as many recent business models - are creating new jobs.

If the use of robo advisor is spreading we would certainly need companies to audit algorithms before they go live, we have seen too many examples of chatbots going crazy (reference to Microsoft): hence we need guardians to foster and promote clients' trust.

ROBO-ADVISOR VS HUMAN

8. In your view, what is the point of using a robo-advisor?

In my view we should work “hand-in-hand” with robo-advisors as opposed to trying to full replace humans with robots. Robo-advisors should help, assist financial advisors to take the best decisions by proposing them the right products at the right moment. Indeed it would mean that workers might be able to adapt and acquire a new set of skills but I deeply believe that there is No digital transformation without human transformation.

9. Have you ever noticed a discrepancy between the behaviour of a robot and the behaviour that a financial advisor would have had?

Not at my level. But I think yes, humans are well different from robots and behaviours are logically different.

e-banking VS robo-advisors VS Google banking. I mean that traditional financial players are already challenged by sophisticated new comers including robo-advisors and FinTech. Market competitors are unlikely to be predictable when we try to imagine what the future could look like, competitors will come from outside. They might be the GAFA's, they might be outsiders that are able to disrupt the market with in depth data management...

In other words I think we might see in future the raise of new business models different from the ones we are used to today.

We will see new business models where human bias are mitigated by the integration of data management and to be part of that market you need to create synergies while branding what makes you unique.

12. What can the general public fear about this technology? What about the professionals?

They could fear not to have the transparency they had before with their personal bankers but again, as already said before, I think that humans should work hand-in-hand with robo-advisors in order to get the best benefit out from this collaboration. Certainly not one against the other.

ROBO-ADVISOR PERCEPTION

10. In your opinion, what are the obstacles that prevent investors from going after the robo-advisors?

Probably a general fear.... Over the years we all saw movies, science-fiction series and this has generated a bit of suspicion, sometimes distrust towards machines and, thus, also robo-advisors. This situation may cause a slowing-down effect.

DIGITAL TRANSFORMATION AND CHANGE MANAGEMENT

11. How do you imagine the impact that robo-advisors will have in the future?

I think we may see the rise of a new kind of paradigm:

CONCLUSION

13. Ideally, we would like discuss and reassess this again in 6 to 9 months to see whether your opinion has changed. Would you agree with our idea?

Yes of course. With pleasure.

15. And final question: What would you consider to be the 3 “best inventions” ever developed by human kind?

I would say:

- a) Bitcoin
- b) Cars
- c) Fork & knife



SPECIAL THANKS

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With 3 years of experience in Finance, Marie-Charlotte had the opportunity to get involved in transversal projects in Private Banking and Investment Banking. As a consultant she managed change within different types of organizations. She volunteered to undertake standardisation projects related to Distributed Ledger Technology deployment and has a sharp expertise in digital education. She is supporting clients on complex challenges such as regulatory adaptations, project management, business operation models adaptation and actively participate to innovation initiatives



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With more than 3 years of experience in banking consulting and 2 years in more marketing and digital strategy fields, Margaux was part of different type of project always related to change management, digital strategy, user experience, analytics, tools implementations and regulatory compliance linked to final user activities. As a Business Analyst and as a Project Manager Officer she worked specifically for projects in Retail banks and Private Banks, in France and in Luxembourg.



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Specialized in Banking and Asset Management, Frederic's 8 years' experience including 4.5 years in Banking and Capital Markets had him build a good knowledge of operational issues. He worked on several development projects providing increased automation, cost reduction, improved risk management and more effective control over operations. He is a CFA Charterholder since November 2018. His experience as a business owner gave him confidence in implementing functional and operational solutions.

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