LIBERA UNIVERSITÀ INTERNAZIONALE DEGLI STUDI SOCIALI

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Roboadvisory:

a true innovation in asset management

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FinTech universe.

Roboadvisory: a true innovation in asset management

INTRODUCTION

The current historical context presents at socio-economic level the characteristics have allowed the creation of automated consultancy.

Firstly, the expansion of Internet and the placing on the market of technological tools which allow easy the navigation on net, the widespread tendency, especially among millenials, to connect accessing services and markets. Population shift towards the products of managed savings as an alternative to traditional solutions that currently offer minimum returns. The aging of population which makes it necessary to draw up plans to accumulate savings to supplement the pension provided by institutional bodies. The growth of fintech, from transactions to payments, to financial advice and investment management.

The goal of the project is to analyze the phenomenon of the Roboadvisor to identify the innovative aspects and the possibilities of development of automated financial advice in the fintech universe

In the first chapter we will draw an overview of the current situation of asset management, the trends that contribute to the evolution of financial advice and the regulation that governs it, on the new methods of communication and the diffusion of Fintech, determined by technological innovations.

The second chapter will focus on the Roboadvisor from the definitions to the analysis of the different models outlining the general characteristics. The main international and national players will be examined, as well as two elements in the management of an Roboadvisor: the target of the customers and the related profiling criteria, the characteristics of the ETFs, the passive management instruments used.

The third chapter will focus on Moneyfarm, the first Italian roboadvisor. It will be analyzed the different aspects of this company, the investment processes from customer profiling to the construction of portfolios.

These analyzes will be conducted through the research and study of data and information obtained from institutional sources, networks, journalistic articles. In particular, in the case of Moneyfarm, personal attendance at the conference on the presentation of the new portfolios in 2018 and an interview with Moneyfarm's commercial director will allow us to have a more deeper vision.

In the conclusions will highlight the advantages and limitations of the Roboadvisor will emerge from these analyzes, as well as from the debates arising on the algorithms and the hypothesis of a fully automated consultancy, finally the prospects for the development of this consultancy model.

Chapter 1

Overview

1.1 Asset management : Rate of growth

According to the Bank of Italy data, over one third of the Italian financial wealth is in liquid instruments, current accounts, BOTs, bank deposits, with minimum or in some cases negative rates of return In this historical context, Italian government bonds, like the German ones, have a negative return, which means that they have less capital than invested.

An inflation to the minimum is added to this situation. The financial market has so far offered diversified solutions but today the low level of low yields makes the diversification almost useless.

In such a scenario, it is essential for investors, to make their savings come true, to find alternatives that still have these characteristics: transparency, minimum risk of capital losses, liquidability in case of need.

For these reasons, according to Mauro Panebianco, PwC partner:

In recent years, the wealth of Italian households has shifted towards asset management products to cope with near-zero returns on investments that have always been favored by Italians, ie government bonds and bank bonds[14]

Currently only 30% of the financial assets of Italian households are managed today, compared to a European average of 41%.

However, the scenario is changing. There is a growth in financial package products: asset management, funds of funds, life insurance products.

The financial markets have focused investments between highly specialized and passive sectors. In fact, savers have above all specific needs: to preserve capital and/or social security objectives.

The growth in the annual growth rate of assets managed in Italy was + 14,9%, from € 1194 billion in 2012 to € 2085 billion at the end of 2017, due to the greater spread of insurance products and pension funds.

In the map below (Table 1) the data of the asset management industry and open

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14 Panebianco M. in “ Pwc, managed savings towards a slowdown in growth" *www.milanofinanza.it*

funds show the increase in one year.[15]

La mappa dei risparmio gestito

In milioni di euro

	Raccolta netta			Patrimonio gestito
	Dicembre 2017	Novembre 2017	Da inizio anno	Dicembre 2017
INDUSTRIA DEL RISPARMIO GESTITO				
Gestioni collettive	5.629	6.903	78.096	1.064.288
Fondi aperti	*5.368*	*6.821*	*76.720*	*1.013.332*
Fondi chiusi	*261*	*82*	*1.376*	*50.956*
Gestioni di portafoglio	- 3.297	925	19.426	1.021.237
Retail	*- 64*	*27*	*3.965*	*130.152*
Istituzionali	*- 3.233*	*898*	*15.461*	*891.085*
Totale	2.332	7.828	97.522	2.085.525
FONDI APERTI (DETTAGLIO)				
Azionari	-102	331	8.165	223.594
Bilanciati	1.018	1.492	17.749	97.820
Obbligazionari	2.818	1.125	29.525	414.775
Flessibili	2.012	2.762	21.928	240.228
Hedge	22	67	- 298	4.273
Fondi monetari	- 401	1.043	- 348	32.641

Fonte: Assogestioni

Table 1 Source Assogestioni

Investors' interest worldwide has moved to the countries of the SAAAME area and an increase is expected in the AuM **(***Asset under management- the market value of all funds managed by a financial institution*) at higher rates compared to the rest of the world.

This is due both to the growth rates of their double-digit GDP that in recent years have surpassed those of the c.d. developed, both to the birth of a new emerging middle class. The world middle class, in fact, between 2010 and 2040 will increase by 180% and in 2015 ASIA has already replaced Europe as the region with the highest percentage of middle class compared to the world total

[15] " La mappa del risparmio gestito"
http://www.infodata.ilsole24ore.com/2018/01/24/

1.2 Sector trends: evolution of financial consultancy.

For about ten years there have been changes both in terms of customers and communication methods: new technologies able to disintermediate the relationship between customer and bank, a younger clientele more inclined to the direct management of their investments, all factors that will contribute to sustaining the growth.

In order to adapt to these changes, the banking sector must revise the traditional business model to better serve all customers at lower costs, including the younger customers, who are inclined to manage their investment directly.

According to Panebianco "*The technology, the regulation, the generation of Millennials and the aging of the population*" are the factors of change that will lead wealth managers to propose personalized and digital solutions, as well as services such as succession planning and the management of tax issues. All these factors, according to Panebianco, will increase the trend in package financial products in Italy, approaching the European average, so much that the PwC, as shown by its study "The Asset Management industry in 2020", predicts that in 2020 there will be a potential increase in assets under management and that the assets managed in Italy in 2020 will be 2,536 billion euros with an average annual growth rate of + 5.5%.

Let's examine these factors and the consequences that they determine.

The main technological changes, due to the use of social media, social networks, cloud computing, data analytics and omnichannel, make it necessary to respond to the needs of an increasingly interconnected customer.

The aging of the population and the generation of Millennials, the users of the future, entail the proposal of new, safe and simple investment models, that are personalized, convenient, accessible: new pension solutions, new ways to interact with millenials.

The savings industry, which up to 2012 managed 36.5% of the financial wealth, could increase its business reaching a 46.5% share.

Such increase could be determined by High-Net-Worth-Individuals (HNWI) and Mass Affluent customers, by the implementation of pension funds and Sovereign Wealth Funds (SWF).

With regard to *pension funds,* the aging of the population with the consequent increase in the number of pensioners, has already led to lifecycle pension funds products going from 1% in 2005 to 22% in 2011. The defined contribution pension system will lead to a further increase in savings for investments in the form of pension schemes and it will force operators to generate supplementary income. Operators will have to address the needs of baby-boomers (born between 1945 and 1964 who will retire in the coming years. They will have to decumulate and transfer wealth, using the savings accumulated over time, to supplement pensions, to cover the costs of medical care supporting retirees as the state will no longer provide support as in the past, but they will also have to help new generations. It is expected that in 2020 the AuM share of pension funds held by North America ($ 30 trillion) and Europe ($ 14 trillion) will still account for the largest proportion of the total AuM: $ 44 trillion against 12 trillion SAAAME and Asia Pacific. However, the growth of pension funds will occur mainly in Latin American countries and in the countries of the Asia-Pacific region.

With regard to the Sovereign Wealth Funds (SWF), they constitute a trend that is expected to continue over the next 10 years. These state investment funds have been created in various countries to safeguard the state budget from fluctuations in commodity prices, savings for future generations and investment in social and economic projects. Foreign investments are growing in these funds, especially in the sovereign funds of the oil countries.

Currently SWFs have AuMs exceeding $ 5 trillion and they are expected to have reached $ 9 trillion in 2020 with higher rate growth in Asia.

As for the regulations, the change has already taken place, thanks to the new European directives which guarantee customer transparency, information and limits to the sale of complex products (including Mi-fid II). This obviously involves increases in the cost of compliance and a greater risk of non-compliance with the regulations.

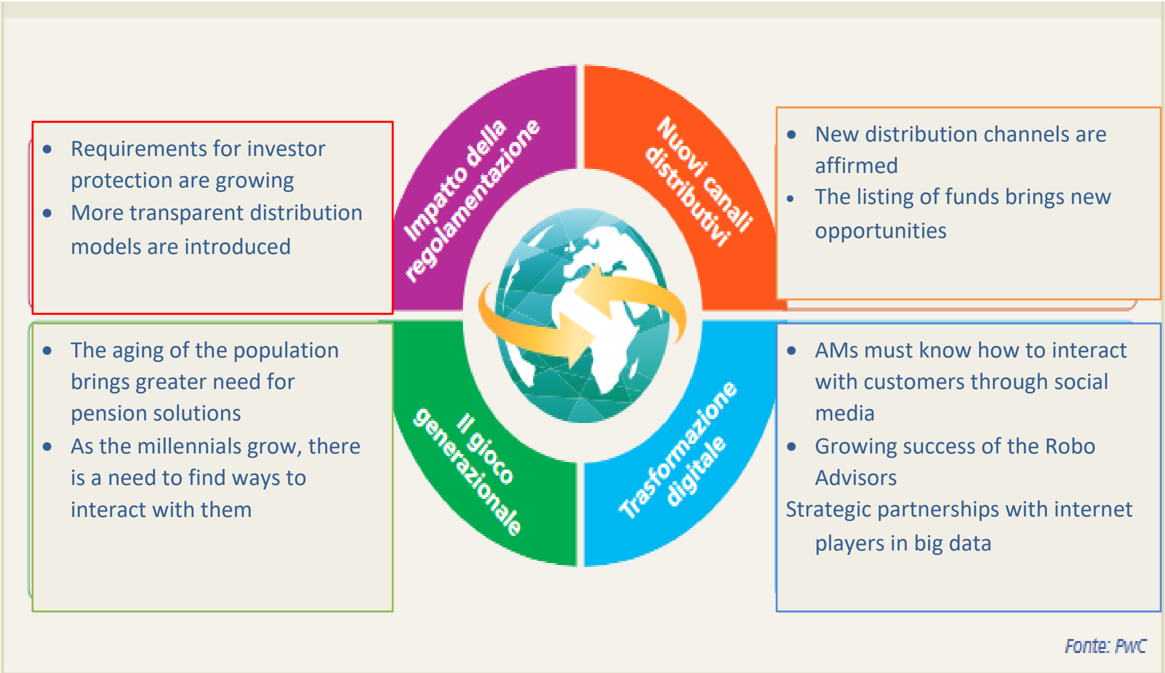
Among the factors of change, the competition determined both by the current minimum rates, the cost of funding and the cost of risk, as well as by the birth of new competitors is not secondary: technology companies could realize partnerships and distribute asset management products to reduced costs.

These are all factors that make it necessary to find alternative models to traditional consulting to lower operating costs, to create new sources of income for investors, to attract new customers with low-cost investment models, to expand distribution networks, to offer products suitable for the needs of investors who seek alternative strategies. On the other hand, according to Pwc's studies, costs in technology and operations will continue to grow over the next 7 years, precisely to meet these new opportunities/needs.

In this sense, a solution is constituted by the Asset & Wealth Management and by the financial consultancy of the robo advisor, a robotized consulting model.

The chart shows the various factors that contribute to the evolution of the financial advisory model of the robo advisor, a robotized consulting model.

Graphic 1



Impact of regulation - The generational game - New distribution channels - Digital transformation

Online wealth managers are able to offer a high quality asset management service at a significantly lower cost than traditional consultants. To limit the inevitable reduction in commissions and the increase in compliance costs, which this model entails, wealth managers will be able to focus on economies of scale that can open asset management services to a large part of the population. This would not be profitable for a conventional asset manager.

1.3 Rules of financial advice

As we have mentioned, the main changes in financial advice have been imposed by the Mi-fid II-2014/65 EU legislation which amended the previous Mifid I (2004/39) directive

Mifid I stands for "Markets in financial instruments directive". For the first time, it classifies customers based on the level of knowledge of the types of investments. With this directive, article 1 of the TUF is amended and the consulting activity constitutes one of the investment services and activities provided by regularly authorized professional intermediaries. In particular, a consultation is defined as

"*The provision of personalized recommendations to a client, at his/her request or on the intermediary's initiative, concerning one or more transactions relating to financial instruments. The recommendation is personalized when it is presented as suitable for the client or it is based on consideration of the client's characteristics. A recommendation is not personalized if it is disseminated to the public via distribution channels*"[16]

Article 1 refers to the basic advice and specifies that recommendations on certain products must be tailored to the customer profile, based on the MIFID questionnaire. In fact, the customer receives a card with the characteristics of the product, the object of the advice and information on the incentives received by the bank, which has previously received from the product houses of the securities when it managed to place them.

The bank must also propose to the client other investment instruments similar to those recommended and suitable for the profile and finally it must summarize in a form the consultancy carried out. During the consultancy the consultant must acquire the so-called suitability test as established by the community rules. In the event that the product requested by the customer is considered inappropriate for his/her profile, the consultant is obliged to communicate it to the client.

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[16] Consob, Consolidated Law on Finance, Legislative Decree 58, 24/02/1998, art 1 definitions.

If the client refuses to provide the information necessary for his analysis, the consultant will not be able to make an appropriate adequacy assessment.

From January 3rd 2018 MiFID II enters into force (Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014).

The main objective of MiFID II is:

"*MiFID II aims at establishing a safer, sounder, more transparent and more responsible financial system that works for the economy and society as a whole*." (UE)

For the purposes of investor protection, Article 24 of MiFID II specifies:

"[...] 3. *All information, including marketing communications, addressed by investment firms to customers or potential customers is correct, clear and not misleading. Marketing communications are clearly identifiable as such.*"

The investment firm must not only inform but it must also inform itself about the level of investment experience of the client, regarding the knowledge of the products, his/her financial situation, the ability to face losses, his/her objectives, the risk tolerance, in order to identify for each product the customers able to support the investment.subdividing them into retail investors and professional investors.

The novelty, compared to the legislation already in force, is the Product Governance: from the conception of the financial product must be identified a target market or what are the customers, in terms of needs, characteristics and objectives, to which the product can be proposed and which no. For the first time, the producers themselves classify the customer segment for their products.

National regulators must eliminate from markets those products that do not meet the transparency requirements.This will mean that intermediaries proceed to a more accurate selection of products because they will have to demonstrate "to be able to understand the nature and characteristics, including the costs and risks, of the investment services and financial instruments selected for the clients and, taking account of thecosts and complexity, to assess whether investment services or financial instruments equivalents can match the customer profile ".[17]

[17] A. Illuminante, MiFID 2 what changes for the customers of the banks with the product governance "ADUC association for consumer rights, 12/12/2017 in www.aduc.it

All costs must be communicated to the customer, both of the commissions and of the bureaucratic expenses both at the time of purchase and during the management.

Also for portfolio turnover, as required by Article 54 of the regulation, the benefit-cost ratio must be demonstrated

The intermediary (Bank, Sim, etc.) must explain to the client the level and the type of advice in a clear and transparent manner, the degree of autonomy and independence that is able to guarantee and the compensation that the client must give.

The intention of the European Commission **to make the independence of counseling compulsory**, that is to say, whoever practices this profession can not request any **compensation/incentives** of any kind, but the only fee considered valid is **the one the client is willing to pay**.

We report in the table below what the law provides and what changes[18]

What the norm provides	**What changes**
Independent incentives and advice	
1 . Independent consulting and not independent consulting tipization. 2. Regulation of incentives (forbidden for independent consultants). •	Non-independent consultants, retrocession commissions will remain permitted but will be separated from management costs, with consequent increase in transparency. • The parameters of independent consultancy are strictly defined (prohibition of receiving incentives, the obligation to offer a wide diversification among supplier
Adequacy	
The producers must identify a target market, or define a customer segment to which allocate a specific financial instrument, already in the process of creating the product. • Producers will have to define a negative target market, or a segment of the clientele to whom the sale of a certain product is barred. • Distributors will have the task of identifying the customer profile based on the criteria of "risk tolerance" and "ability to sustain losses"	Producers will have to create a channel ofcontinuous communication with consequent increase in costs. • Distributors should constantly monitor the adequacy of products for investors. • MiFiDF profiling questionnaires must be updated. • The supervisory authority has the ability to stop the sale of products if they do not comply with the rules. • Producers will have to review the products already placed, with a negative effect on the collection.

18 P. Galvani “moneyfarm MIFID II A directive to save savings” *www.easynewsweb.com/wp.../Report-complete_MiFID-II_Moneyfarm.*

Transparency and costs	
All costs must be expressed in absolute terms and not only in percentage terms. • Ex ante information, ex post and on request will bemandatory. • It will be necessary to specify in advance whether the advice is offered on an employee or independent basis. • Quarterly communications to customers. • Ad hoc information in the event of poor liquidity, loss and leverage thresholds. • Excluded and non-chargeable research costs, unless disclosed in advance.In the case of switch analysis costs and benefits	Increased spending on reporting, research and customer contact. • Transparency: it will no longer be possible to conceal the various cost items behind a single indicator. • Customers will be informed if the advice they are receiving is independent or not
Training	
The ESMA will establish standards of competence and will have the task of verifying the qualifications of intermediaries	Need to make an adjustment of the requirements required by the legislator by 2017 by major domestic players through the forecast of training courses and subsequent evaluation for staff who perform commercial functions. • Increase of costs • "specialized" figures could be included, also to justify the price increase of the channels not traditional

Tab-2

This would mean in a few words that a new remuneration system based on direct fees/ compensation paid by the customer will be obtained by financial advisors.

Through this new rules, the scope of the directive is extended to non-regulated financial instruments, including transactions such as "over the counter" and "commodities" and the subjects currently operating in various financial centers.

The main changes in transparency before and after the sale will be:

- Extension of transparency requirements before and after "trading";
- Request for companies operating on OTC markets to report exchanges in specific post-trading reports;
- Timely publication of post trading data.

MiFI 2 focused on financial products, on customers, on costs, to make the investor more aware of the characteristics of the product.

1.4 Technological innovation and fintech

There is no doubt that a great deal of technological innovation is underway. The Internet continues to spread quickly and the World Wide Web accessible to everyone continues to change people's behaviors.

More than half of the world's population connects to the Internet with a mobile phone and has been shopping online in the last thirty days.

We report a series of data collected from the reports of We Are Social and Hootsuite "Digital in 2017: in Italy and in the world" [19]

The world is 3.77 billion of users connected to the Internet, (50% of the world's population).

More than 2.8 billion people use social channels at least once a month, and + 91% use mobile devices and social platforms every day. On average for 2 hours and 19 minutes. About 8% of the world's population started using mobile devices during 2016: means a new user every 18 seconds.

In Italy are connected to the Internet 39,210,000 people (4% more than the previous year), increased by 17% the number of those who access social platforms from mobile devices for a total of 28 million, which corresponds to a penetration of 47%). 52% of the Italian population accesses social platforms, monthly, the global average is 37%, while the first is the UAE, the country with a penetration of 99%; 48% of the Italian population uses the Internet through the latest generation of mobile phones and makes purchases of products or services. 21% use mobile banking services.

The financial sector, strongly influenced by digitalization and to adapt to the social changes highlighted by the data reported in recent years, has transformed the traditional financial technologies.

The emerging innovation is "Fintech".

This term defines the provision of services and financial products through the most advanced Internet-based technologies.

The first banks that invested in fintech between 2013 and 2017 are Goldman Sachs (37 billion dollars), Citi banks (25 billion) and J.P. Morgan (14 billion).

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[19] “Digital in 2017: in Italy and in the world, wearesocial.com/it/

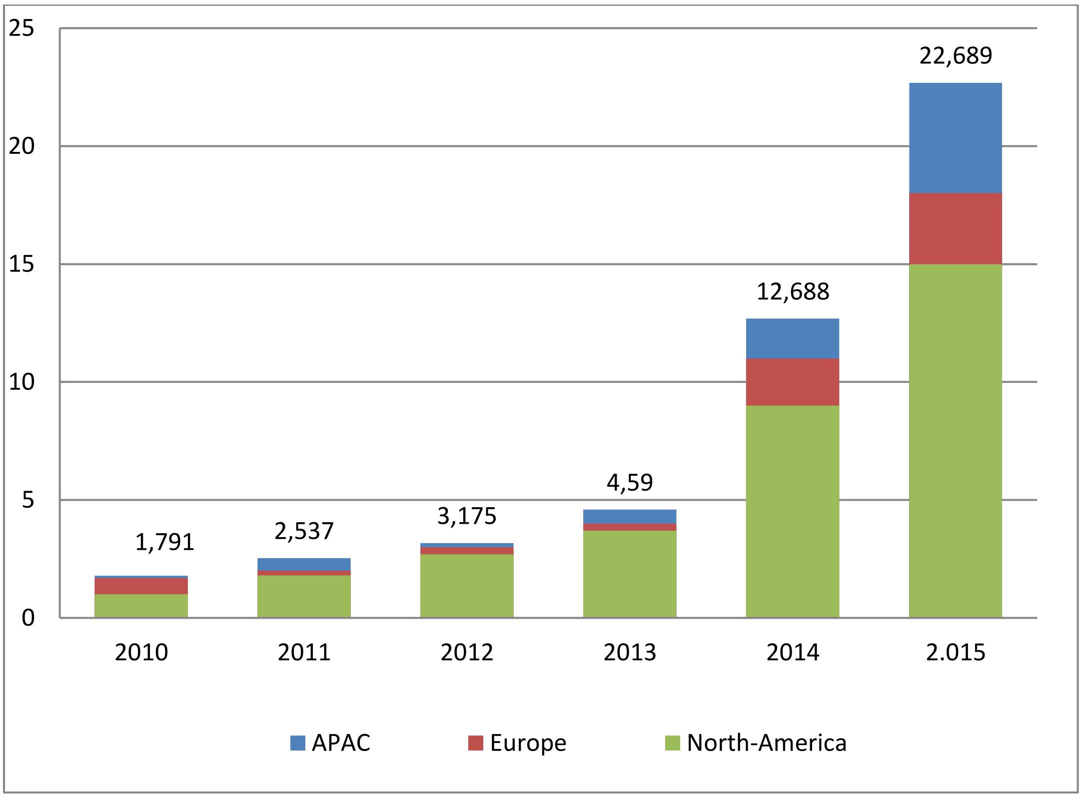
Each one is focused on one sector: JP. Morgan on payments, Citi banks security and commerce. Goldman Sachs Loans and Regtech (regulation and technology).

As we can see in the graph below (Graf. 3):

"*The value of global fintech investment in 2015 grew by 75% to $22.3 billion, driven by deal-flow across continental Europe and Asia-Pacific (APAC); the year-on-year growth affirmed the sector's position as the hot ticket item in financial services*"[20]

come possiamo osservare nel grafico sottostante (gra.2)

Global Fintech Financing Activity (2010 – 2015)



Graf 2

[20] Accenture analysis of CB Insights data: Investments in Asia-Pacific .
https://news.europawire.eu https://

The Italian banks are still behind. The delay is due to various factors: limited availability after years of economic downturn, high costs to implement technological innovations, the level of digitization of Italy lower than in Europe.
The director general of Abi Giovanni Sabatini, to the Finance Committee of the Chamber for the Cognitive Survey on the development of technology in the financial field, explained: "*precisely the ease and immediacy with which today you can have access to operators Requires that there be more education*"

"*The Italian banks already present the relationship with the Fintech among their priorities*",
"*more than 70% of the Italian banks analyzed have already worked to develop relationships with start-ups and Fintech*"
"*The Italian scenario is made up of 136 Fintech that have launched 145 initiatives*" [21]

The vice-director of the Bank of Italy, in his speech to the Chamber, has pointed out that while Fintech investments in Italy are not more than 5% of those in Europe "*A recent survey of The Bank of Italy shows that almost all banks classified as significant by Vigilance, representing eighty percent of total banking activities, are launching Fintech projects. Two-thirds of the sample banks started total investments of 120 Million euros, aimed at innovating the model of activity, increasing income margins, improving customer services. They mainly concern the development of information services to customers on the operation of current accounts, payment services, electronic identity management and remote recognition; They foresee the adoption of transversal technologies, such as artificial intelligence and the exploitation of unstructured data*." [22]
Fintech is an innovation in the financial sector that can improve the economy. Savers can have low-cost quality services companies can integrate their management with

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[21] Sabatini G.(Abi): il Fintech rende più urgente una maggiore educazione finanziaria Tecnofinanza– Redazione online 05 dicembre 2017

[22] Hearing of Deputy General Manager of the Bank of Italy Fabio Panetta "Investigation on issues related to the impact of financial technology on the financial, credit and insurance sectors" - Chamber of Deputies Commission (Finance), Rome November 2017

more efficient and therefore more productive banking services, traditional intermediaries can use technology as a support to their work and offer more innovative digital products and services.

The robots-advisors are part of the fintech innovation and digital transformation produced by the Internet in all sectors.

CHAPTER II Robo-advisory

2.1 Definition

Before the advent of robo-advisors it was possible to invest by ourselves, this required skills and time to devote or to consult a consultant or a private banker, who normally required a very high capital to invest and high commissions of management, or it was finally possible to contact your bank or the respective promoter, who, however, having a potential conflict of interest, do not always direct the investor towards the right choice.

The alternative today is represented by the robo-advisor, a new generation of financial consultants, born on the web, able to propose a better investment portfolio or similar to the one proposed by a traditional consultant.

The different names of robo-advisor, automated investment advisor "," automated investment management "and" digital advisory platforms "indicate that they are all products of the fintech application for investment management.

Sironi (2016, p.23) who dealt with the theme proposed:

"Robo-Advisors are automated investment solutions which engage individuals with digital tools featuring advanced customer experience, to guide them through a self-assessment process and shape their investment behaviour towards rudimentary goal-based decision-making, conveniently supported by portfolios rebalancing techniques using trading algorithms based on investments and diversification strategies."[23]

We can define the robo-advisors a wealth management service whose characteristics are:

- the financial planning through digital platforms
- the customer profile based on information provided by him/her on his/her financial assets, on his/her future objectives, on his/her risk tolerance level, his/her knowledge and financial experience

[23] Sironi, P. (2016). Fintech Innovation: From Robo-Advisors to Goal Based Investing and Gamification.John Wiley & Sons, Ltd.

- the automatic construction of the investment portfolio, (asset allocation), based on risk management algorithms, calibrated on the customer profile

It is evident that in the case of a "pure" robo advisor there is no intermediation of a traditional consultant, which is instead present in the case of a robo hybrid advisor.
The customer directly online provides the information and his/her profile is outlined.
The system proposes an asset allocation, providing for future feedback and monitoring over time.
The system, in fact, precisely according to the customer satisfaction, according to his/her profile, monitors the performance of the portfolio over time, also in relation to macroeconomic variables and then it informs the customer through alerts and rebalancing advice.
The customer can use this system only for advice and then contact his broker to make the investment, or he can invest directly through the platform, if the website allows it.

2.1.1 Several models of robo advisor

In the chart below we have four models

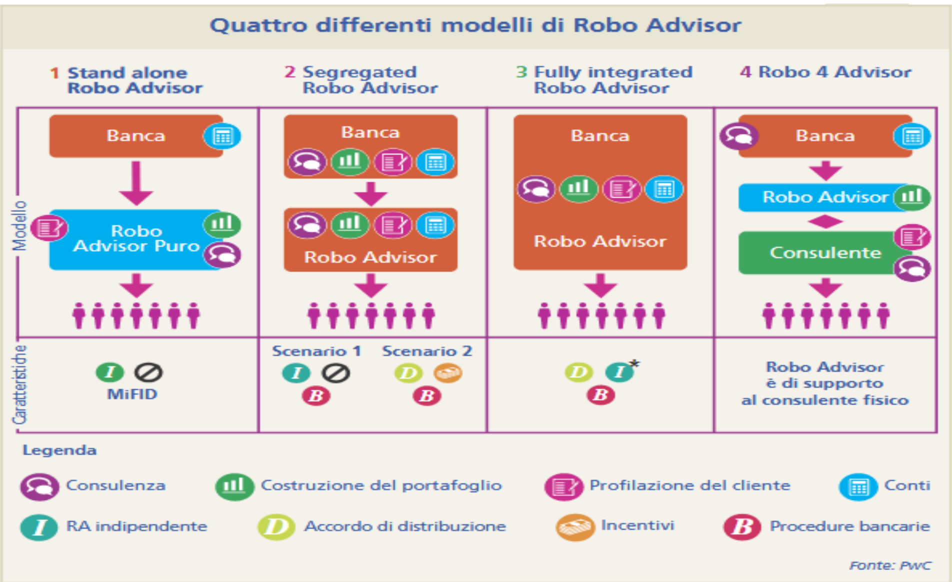


Chart.2

- <u>The Robo-advisers, stand alone</u>, (the independents) are aimed directly to the final consumer, offering a complete view of the portfolio, the financial advices and the automatic rebalancing. They make investments in ETF's, instruments that are easy to manage and monitor, inexpensive so as to be able to demand from customers very low fees compared to those of traditional consulting.

- The segregated model (2) allows the bank to offer its customers the services of a robo-advisor. The bank avails itself in partnership with an existing robo-advisor, usually also operating autonomously.

The bank can offer automated management or the robo proposes solutions to the bank, which in turn proposes them to the customer and inserts them manually if the client accepts them.

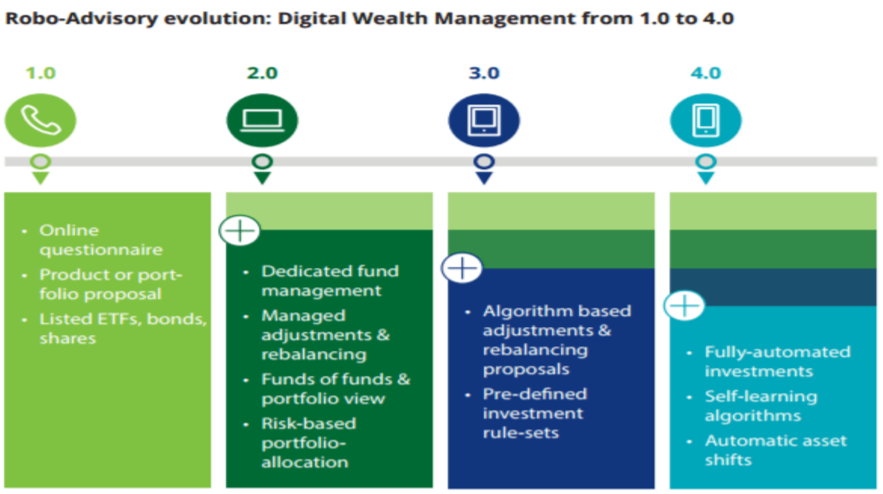
- The integrated model (3) provides for the complete integration of a robo-advisor in the bank. In this case it is the bank that offers management proposals.

Usually the rather small banks, which do not have the time, money and know-how to realize their own solution, resort to a whitelabel service: IT companies allow the bank to use their platform without brand and without taking care of the asset management, in exchange of payment of usage rights. On the other hand, larger banks usually create IT platforms and offer automated management at a low price with the aim of expanding their customers, but also with the risk of creating competition within the bank without actually increasing the clientele.

- The robo4 advisors are direct tools to the final consumer and support the already operational consultants. They are either internal to incumbement of the sector or are in partnership with the same. The consultants elaborate the profile and use the platform only for the construction and management of the portfolio.

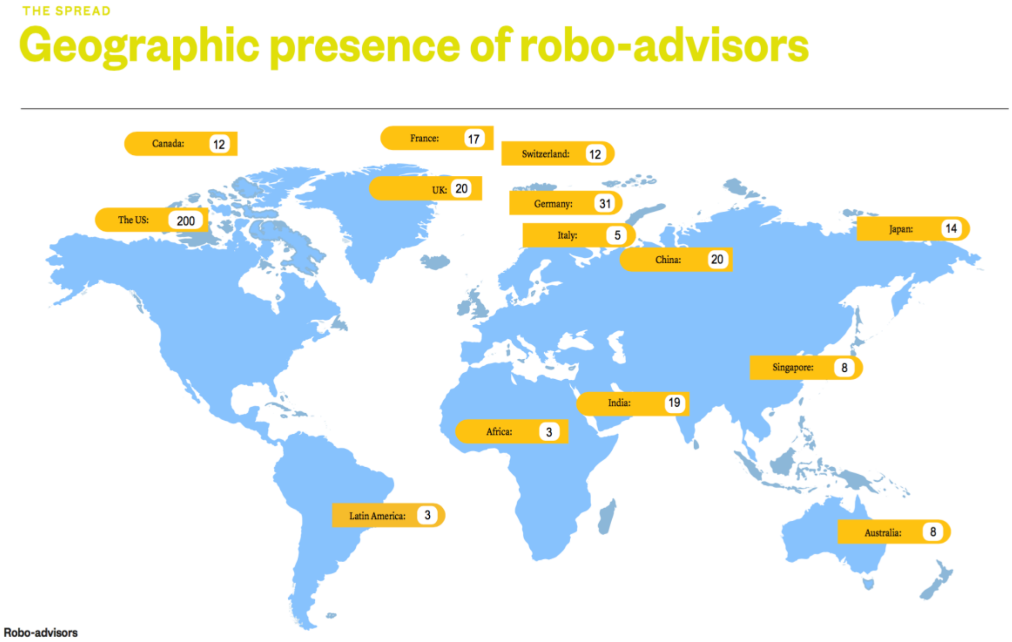
Through the robots, consultants speed up their work, making it more efficient and more profitable for the bank. In addition, they can create a portfolio that includes sensitivity analysis with respect to possible market shocks, thus beyond the Markowitz theory.

We can hypothesize an evolution of roboadvisors (graph.3)



2.2 The global players

The Robo-Advisor, still little known in Italy, is a growing phenomenon.



Picture 1

In the United States, according to the latest calculations, online automated consultants currently manage about $ 600 billion. A figure destined to increase. Indeed, forecasts indicate that in 2020 software asset under management should be worth around 2 trillion. Not only. In 2014, the start-ups of the sector have collected, in the US, about 290 million funds from venture capital. And the figure, last year, should be doubled.

Roboadvisory was born in 2008 in the United States, during the great recession triggered by the financial crisis of the subprime of 2007 as a response to the needs of transparency and objectivity of investors.

Over time, the most advanced and complex robo-advisory model has spread throughout the world, in India, in Australia, in Brazil, but especially in Europe.

Substantial improvements, in favor of the customer, such as the periodic and automatic rebalancing of the portfolio, the tax loss harvesting service, with which, by selling the securities that are in loss of value, it is possible to reduce the tax burden on capital gains realized on investments winners in a short time, have attracted large banks and their interest is growing.

The first robotized advisor in the world was Asset Builder, today one of the main players in the sector, despite having only 1200 customers, but 600 million assets under management. In fact, he it has a wealthy clientele, with a minimum of $ 50,000, having an average portfolio size of around $ 500,000 and it is expected that the fees will gradually decrease from $ 250,000 onwards.

Pioneers in the industry were the robo-advisors Betterment and Wealthfront, which offered basic and easy-to-use services. We note that the Bettermen and Wealthfront, which manage 1.7 billion assets, are a type of fully automated robot, aimed directly at Millenial customers, who are familiar with the technology and, in most cases, limited economic possibilities. The proposed financial instruments are simple in order to facilitate investment and the consulting costs are between 0.25% and 0.50% of the asset under management to facilitate cost-sensitive Millenials.

They generally offer a security deposit account, continuous monitoring, periodic and automatic rebalancing of portfolios, the possibility of reinvesting the dividends obtained and the tax-loss harvesting, but they operated only for investments of over $ 100,000.

Specifically, Betterment has 75,000 customers, with an average portfolio size of only 20,500 $, to which it offers advice and direct management, but only a portfolio.

Wealthfront has 22500 customers, under the age of 50 with an average portfolio size of 90,000. Fees are not paid for investments of less than $ 10,000.

Vanguard Personal Advisor Services is the market leader, despite its offer was launched only in April 2015 (after a 2-year trial period).

The service requires a hefty $50k deposit, which excludes many beginning investors

Personal Capital , LearnVest and Future Advisor, constitute the robyadvisory group that combines tradition and innovation. In fact, a financial advisor is also added to the automation, which virtually or telephonically follows the customer. It is a more personalized service, aimed at mass market customers and mass affluents with medium to high incomes. Based on assets and liabilities, the consultant draws up a schedule and manages the personal expenses and the client's budget. The commissions are around 0.30% -0.90% of the AuM and they are nevertheless lower than the traditional costs.

Among these robo advisors we examine the *Future Advisor* one.

Very interesting for the type of offer, considering the aging of the population and the costs of studies for the children. Consequently the need to create supplementary pension funds or to have savings for the studies of the children.

t offers retirement and college savings products with a commission cost of 0.5% per annum for the pension plan and zero commission for savings. Based on an existing client portfolio, it suggests diversification, rebalancing of the investment, highlighting the risk-return ratio.

In Europe, the United Kingdom first launched a Robo-advisory service.

Nutmeg (nutmeg and saving investement limited) was the first fully automated English advisor.

30.11.2017	Robo Advisors in Europe €2,5bn*	AuM in local c	AuM in €m	
1.	Nutmeg (UK)	£ 1 bn	€ 1,1 bn	
2.	Scalable Capital (DE)	€ 600m	€ 600m	*
3.	Moneyfarm (IT)	€ 375m	€ 375m	
4.	Yellow Advice (Mediobanca)	€ 220m	€ 220m	*
5.	LIQID (Quandt Group)	€ 175m	€ 175m	*

* estimate TechFluence

TECHFLUENCE

Chart. 3

Nutmeg finally managed to surpass the €1bn mark and has a significant market share in UK, followed by Scalable Capital and the two Italian players, Moneyfarm and Yellow Advice.[24]

Nutmeg is aimed at savers who can invest even a minimum of £ 500, it requires fees ranging from 0.3% to 0.95%, and it builds the portfolio based on the customer profile. Nutmeg also allows the ISA stocks and shares[25], the investment in funds, bonds or shares of individual companies and the exemption from the capital gain tax.

In addition to ISA stocks and shares, clients can also have a pension plan with a single commission of between 0.3% and 1% depending on the contributions deposited. It is constructed on the basis of the client's current age, the retirement age, the desired future

[24] www.techfluence.eu/investtech.html

[25] Only for the residents every year the Italian State grants a tax relief to the ISA, the invidual savings of a sum of money, which can be deposited in an account, a cash ISA, or you can invest in an ISA stocks and shares.

income. The plan includes an initial minimum payment of £ 5,000, pension fund financing with regular installments, withdrawal options after age 55**.**

"On European level the number of robos now amounts to 98 while the assets under management in Europe amount to €2.5 bn (+ 20% or +€0.4bn compared to en of August 2017). While London remains the largest ecosystem for robo advisors (17 providers), the overall number of robos in UK (20 firms) is only half of the players in Germany. Assets under management on country are similar, but more diversified in Germany. Still the data available on assets under management in Europe is not satisfactory. Unlike in the US robo advisors do not have to publish their AuM to the securities watchdog. e Yellow Advice." [26]

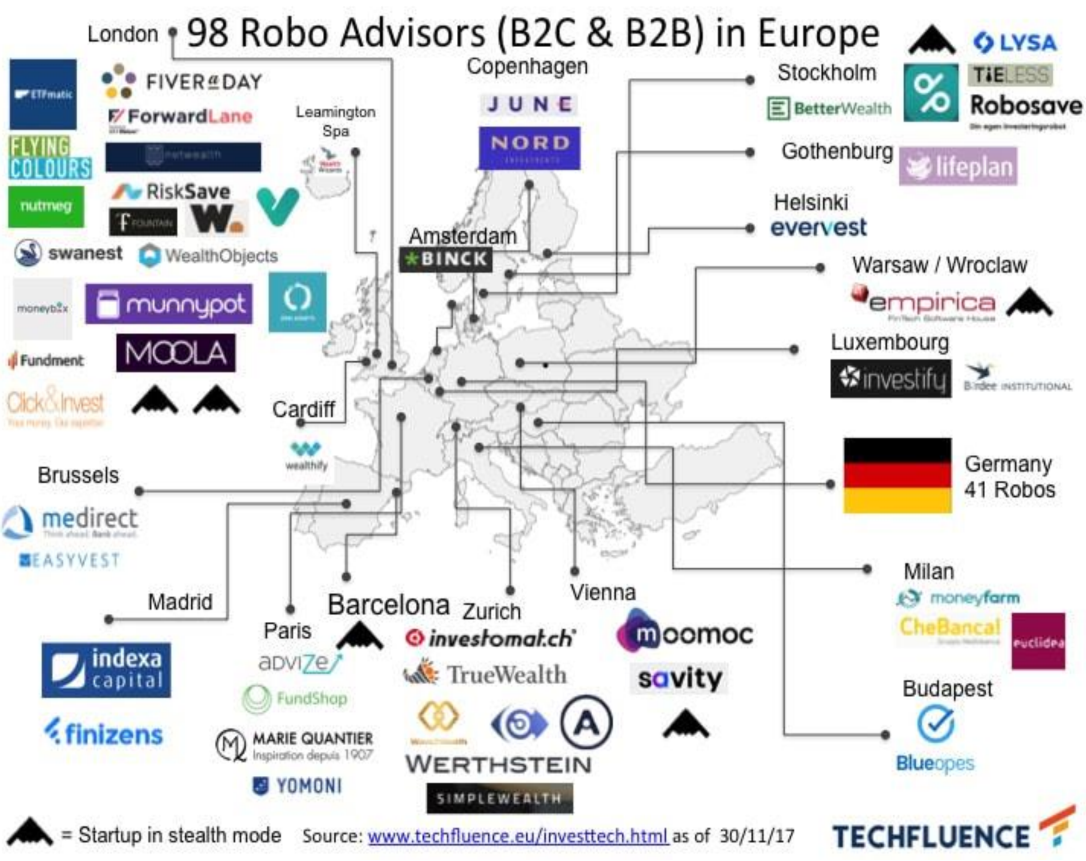


Chart.4

The current leader in Germany is Quirion. It is aimed at investors with a minimum capital of € 10,000. It requires a single annual fee of 0.48%, billed monthly, offering

[26] Map of Robo Advisors in Europe + Updates –Techfluence www.techfluence.eu/investtech.html

indexed funds or ETF's. The offer is based on scientific theories and historical statistical research.

In Italy Moneyfarm, which we will talk about later, was the first advisor.

Yellow Advice is the robo advisor of the Mediobanca Group. A consultant is supported by the robo. It is aimed at investors with a minimum of 20,000 euros and it requires one annual commission of 0.3%. Before accepting the investment proposal, through a simulator, the customer can evaluate the convenience of future performance with respect to his/her risk profile.

RoboBox is an online platform. It is aimed at investors with a minimum capital of 50,000 euros. It offers personalized advice because the customer can choose between Alfa SCF, a trend following investment model with annual costs ranging from 0.7% to 0.5 for investments above 500.000 euro and Ambrosetti AM, an Absolute Return investment model with a annual cost of 0.9%.

Euclidea is aimed at customers with a minimum investment of 10000 euros, which access to the services through the Euclidea website. It requires commissions ranging from 0.7% for amounts up to 99.999 euros, 0.55% for capital from 10,000 to 999,999 euros, or 4% for higher amounts. The portfolio is the result of a combination of asset allocation algorithms and founders.

2.3 Management

From this close examination of the main players, it emerged that different methods of automated management of financial advice were adopted and that it was directed to different types of investors.

Probably the hybrid model is the one that will have greater development because driven by incubment as Vanguard, and the need of pure players to compensate for the low profitability by expanding the mass of investors. This is why the independent financial advisors to the B2C (Business to Consumer) will support B2B (Business to Business). In turn, the banks, which are already digitizing, as we have already mentioned, will develop alternative proposals to the traditional consultant with automated consulting services to expand their clientele.

Let's examine the customer target, the profiling criteria and the investment tools used.

2.3.1. The target of customers

The ideal target of investors for automated consulting is to be familiar with the Web.

Let's consider the different types of users possible.

Millenials are currently the most used to virtual relationships, to use e-commerce, internet banking and have limited resources to access traditional advice. They also think that technology can lower costs and offer better service, so they are the most available customers to a roboadvisor.

Baby Boomers, (born from 1945 onwards) and Genxers, (age between 50 and 35 years) also share this confidence in technology, so it would be appropriate to provide a model suited to their needs. If the former are still less inclined to use the network, the Genxers, already use it to buy products online, they have passed millenials as users of mobile banking and they use smartphones and tablets. Undoubtedly, they are richer than Millenials and they already invest their savings in various products, therefore they may be attracted by the possibility of saving time and money, so they could consider Robo advisors an alternative to traditional advice.

In America the Millennials, Gen X and Baby Boomers have already invested with the Roboadvisors (Chart.5)

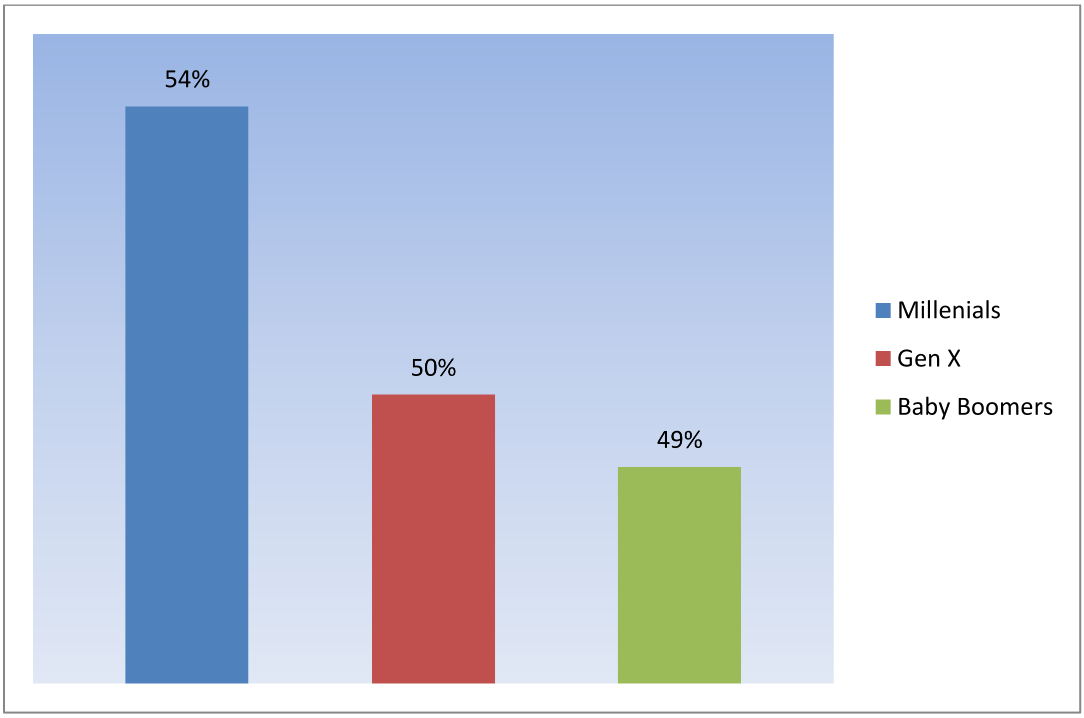


Chart.5

The chart (according to the source indicated in the note) [27]shows how the different generations have joined the change.

We must added the HNWI (high-income clientele), one fifth of which is already projected to online advice.

In Italy there is a noticeable difference in wealth, the level of experience and the knowledge of the financial world between young people and adult people, so that users interested in automated consultancy belong predominantly to the more adult segment.

2.3.2 The profile of the client

In automated or non-automated management, the first phase of each investment is to define the characteristics of the client.

Through a questionnaire, according to the model proposed by the MiFID2 directive, the customer profile is traced: level of experience and knowledge, balance sheet, objectives, time horizon, risk tolerance. The intent is to propose the most adequate and appropriate portfolio to the client's profile. The questionnaire proposes basic questions, to which specific or more detailed questions are added, depending on the answers.

Firstly, knowledge and investment experiences are ascertained: past experience, knowledge of services, known products and financial terminology, habit of updating on securities and markets. In the case of a low level of knowledge and inexperience of the financial market, the presence of a traditional consultant is more appropriate. Even in the case of low average knowledge and limited prior experience, it would be advisable to add a traditional consultant to the roboadvisor. If the questionnaire shows medium to high knowledge, online counseling may be preferable and easier.

Based on the financial situation (net income, real estate assets, financial commitments) we move on to identify the Retail customer with a capital lower than

30000 euros, the Affluent with assets up to 500,000 euros, the Private up to 1000000 euros, and the HNW over 1000000.

Next step are the objectives, the level of risk and the time horizon. As for the objectives, it is necessary to establish whether the client wants to improve the yield slightly or highly or just to preserve the capital. Moreover we establish what level of risk the investor is inclined to, the level of sustainability of losses or if he/she wants to

[27] http://docplayer.net/ 5583406-Ssga-com-spdrs-com-embracing-change-asopportunity-harness-the-power-of-the-robo-advisor-in-your-practice.html

avoid any loss. Age, sex, marital status, education and profession also help to identify the level of risk.

According to Art. 25, par. 2 of the MiFID Directive, the section relating to the client's financial situation shows the client's ability to sustain losses while the investment objectives section aims to highlight risk tolerance.

The time horizon or the period for which someone intends to invest is important; it is obvious that this horizon can be linked to age, to short, medium or long-term needs.

In a short-term perspective, a low-risk investment is preferable and capital protection is used, otherwise the long-term allows for the recovery of losses, if available at risk.

Based on the combination of the answers, the profile is defined.

The prudent investor is the one that aims at the preservation of capital, at an almost certain yield, even if lowly correlated to a very limited risk. The investor with moderate capital growth is considered moderate, with a certain degree of uncertainty in yield proportionate to a low average risk. The dynamic investor is the one that exposes himself/herself to a medium-high risk to obtain substantial growth of capital. Aggressive is stated the investor inclined to a very high risk for a very high potential return.

The proposition of the type of investment is closely related to the profile.

2.3.2. ETFs (Exchange Traded Funds)

Companies utilizing robo advisors, as we have said, are largely focused on ETFs because the management of these tools is easy, transparent and the service allows for low costs.

Exchange traded funds are a particular type of investment funds or Sicavs. They are instruments that replicate the performance of the benchmark index or the price of a specific assert class through totally passive management. The management is passive because it consists in keeping in portfolio the same securities that make up the index to be replicated and with the same weight, while in active management managers buy or sell securities chosen based on their best performance.

In fact, the investor with an ETF, then with only one purchase or sale transaction, replicates an entire market index without buying all the securities of that sector individually. With his/her share, together with that of others, he/she refers to "a basket of securities". In this way diversification is achieved and therefore less exposure to risks.

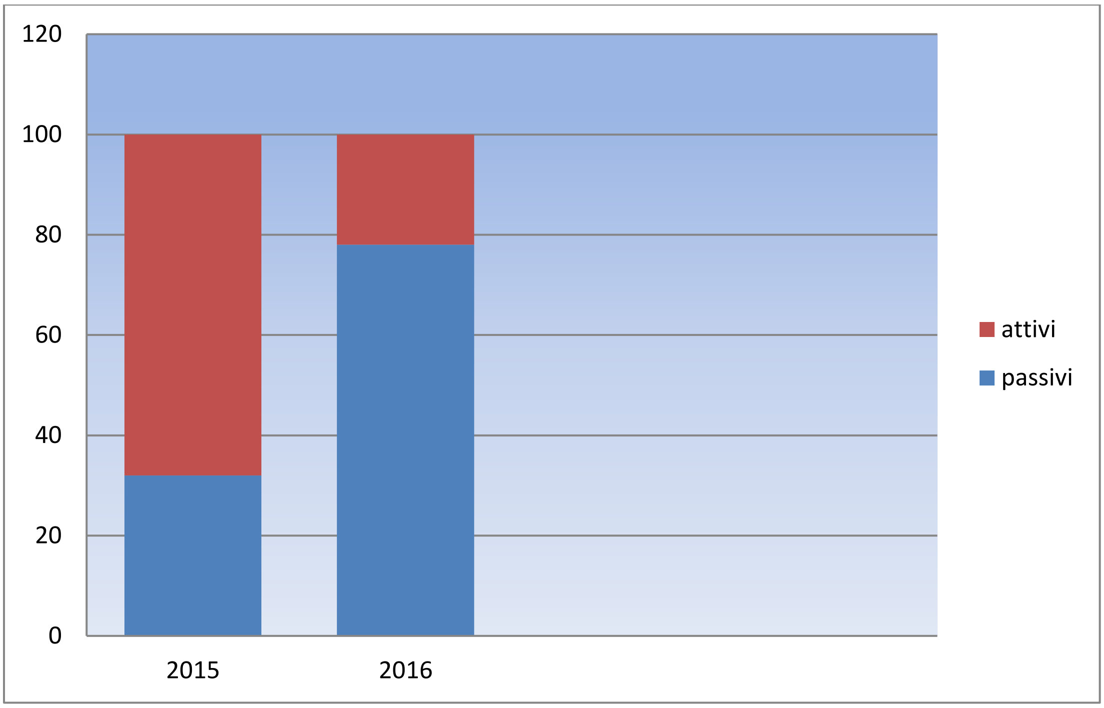
The investor always knows what the securities he/she is investing in and how the fund is going because, as mentioned, it replicates a defined index or basket and the value of the return is equal to that of the index except where the reference currency of the index is different from that of purchase which is always in euro. In most cases, index funds have better results than "active management".

The price of an ETF is always updated on the total value of the fund, measured from the Nav (net asset value). The NAV represents the price that the investor must pay to subscribe new shares and it is equal to the total net value of the fund. ETFs as well as shares are tradable on the stock exchange: the investor can directly access the market in real time to buy or sell a share, therefore they have the same information flexibility and transparency as the shares, as well as high liquidity because the shares can be easily bought and sold.

They have the undoubted advantage of a lower-cost portfolio as passive management or simple replication of the index, automatic procedures, they avoid the cost of research, analysis, and they prepare documentation for each investor. In fact, there are no commissions on entry and exit and performance. The costs are those of intermediation required either by your broker or by the bank, for the purchase or sale on the market. The management fee is paid based on the ETF holding period and it is certainly lower than the common investment funds.

Another advantage is that the investor can periodically and directly collect or capitalize dividends or interests. ETFs are not exposed to an insolvency risk (and therefore do not require a rating) even if the companies that deal with the establishment of the portfolio and management are insolvent. This is because the ETFs listed on the Italian stock exchange have a separate asset compared to the companies that dealt with the management.

ETFs are therefore flexible, secure and they are also accessible to small savers.
In the last two years there has been a significant increase in passive savings instruments, as can be seen in the chart below which shows the percentage of net sales in the European market as a percentage (Passive Activivs), August 2017: (graph.6)



Source: Broadridge FundFile Chart 6

A study conducted by the consulting firm PwC predicted that by 2020 more than 22% of the total assets managed will be associated with passive products, doubling the 11% share in 2012 within a few years.

Let's examine the main characteristics of the active funds to highlight the differences. As we have mentioned, the active funds provide for a manager who trades and chooses the securities he/she believes on, can give a better return.

Unlike passive funds it is possible to negotiate a quota only once a day and sometimes the orders are executed later.

The total cost associated with the manager is higher, generally more than 1%, and management fees and a turnover of 75% -100% per year impact on costs, because the active funds make different variations according to the provisions of the securities, a consequent taxation of the highest capital gain compared to the passive funds.

Finally, they are less transparent because only the investor can check the situation of the securities every quarter, so the manager in the meantime can deviate from what was agreed with the saver.

For passive funds, critical elements can be:

- the various transactions that in the course of the day can determine a spread on the Nav
- small differences between the ETF value and the reference index, the so-called tracking error.

From this close examination we can summarize what are the positive aspects of using ETFs in the construction of the portfolio for the Robo advisors:

simple strategies of access to a broad market and consequent diversification, flexibility and transparency or daily trading and monitoring, rebalancing of the underlying weights, low costs, efficient tax regime and the possibility of receiving dividends.

CHAPTER III

A management model

3.1 Money Farm

Moneyfarm was founded in Italy, in Milan, in 2011, by Paolo Galvani and Giovanni Daprà as an independent online financial consulting company, a type of service allowed by the MiFID regulations in 2007, authorized and regulated by the Financial Conduct Authority and monitored in Italy by Consob.

The London office was founded in 2016 with the support of Unites Venture. Recently Allianz, a leading company in the insurance sector, has acquired a minority share and a place in the BoD with the aim of supporting the trend of digital asset management.

It is currently the third largest roboadvisor in Europe, after Numteg and Scalabe Capital, with 260 million pounds.

Moneyfarm is not just an automated service, in fact, the central engine of the service is a team of experts (team Asset Allocation, Investment Committee, Board of Directors), who create the model portfolios in which the savings are invested.

The service provides that the customer gives a mandate to the company authorizing the independently management of the savings entrusted and the independently operating on the portfolio rebalancing during the year, according to the objectives, in terms of expected return and tolerance of the risk, shared with the client during the portfolio allocation phase. The client can also add the managed portfolio to an administered portfolio and have a single portfolio or multiple portfolios.

In order to invest with Moneyfarm the investor must register with the platform, fill in a questionnaire that allows the experts to know their behavioral characteristics and objectives, without sending paper documents.

After having defined the client's profile and objectives, the team of experts build the adequate and appropriate portfolio to the client's profile for the level of risk and expected return. A dedicated consultant offers the investor constant support during his/her route. The service is provided online and it includes the purchase and the sale of securities and their management. The savings are in fact managed by the experts which, based on the investment trend, with respect to the objectives and the level of risk, implement the rebalancing and notify the client in real time for each transaction. At any time users can check the progress of their portfolios and the choices of the

company's management team in their private area and, if necessary, they can have clarifications from a consultant contacted via chat or by e-mail or through a toll-free number. The transparency of the service is thus guaranteed.
There are no fees in entry, exit and performance, but only for consulting with a fixed cost. There are no additional costs on the sale of any product, as it happens when you go to a bank advisor, or on the performance to avoid that consultants, in the hypothesis of a higher profit, choose a more risky management.
Fees for consultancy include transaction costs, consultancy fees and account fees, with the exception of VAT (22%) of the monthly invoice and taxes and state stamps.
The service can be interrupted at any time without penalty. The investor requires partial disinvestment or total liquidation of the investment **and makes an outgoing transfer to his current account**.
You can invest a minimum initial amount, so the service is accessible to everyone. You can always increase or decrease the investment, but it is preferable to advise the consultant, as this operation modifies the portfolio linked to the objectives agreed initially.

3.1.1. Management: profiles and classification of customers

The first operation is to profile the customer through a questionnaire, tested on 100,000 people and based on European directives which provide the obligation for intermediaries to carry out both an adequacy test, to verify the correspondence between client's advice and objectives, and an appropriateness test to verify the client's financial experience and his/her information on a specific financial product.
The questions in the Moneyfarm questionnaire measure four areas: cognitive bias, risk aversion, income situation, market knowledge and experience. The questionnaire developed by MoneyFarm aims to protect investors by allowing them to know, through behavioral questions, their preferences in terms of risk and their characteristics.
In the first area measurement errors are measured, due to anxiety, overconfidence, lack of self-control, aversion to ambiguities and emotional factors that can influence choices.
In the second area the risk aversion is measured, ie the ability to withstand the volatility of the results, identifying which is the preferred position of the investor between a certain sum and an expected but risky sum.

In the third area, the patrimonial and financial situation is verified: income, movable and real estate assets, savings, current and future needs (daily and extraordinary expenses, possible debts, the tendency to spend).

In the fourth area the level of knowledge of financial instruments and markets is identify: any previous experience, knowledge of financial terminology, characteristics of financial instruments and factors that determine their prices.

Based on the characteristics derived from the information in the questionnaire, which are always confidential, the customer is classified among one of the 6 investment profiles

- Relaxed
- Scrupulous
- Far-sighted
- Ambitious
- Dynamic
- Enterprising

The investment objectives are defined by considering:

- the time horizon: since the duration of the investment time depends on the compensation for any losses and therefore the level of risk;
- the amount of the investment with respect to the balance sheet:
  the capital to invest or how much the loss of money could jeopardize
  the *welfare* of the person.

Moneyfarm also carries out the verification checks required by the anti-money laundering legislation [28]

3.1.2. Investment process

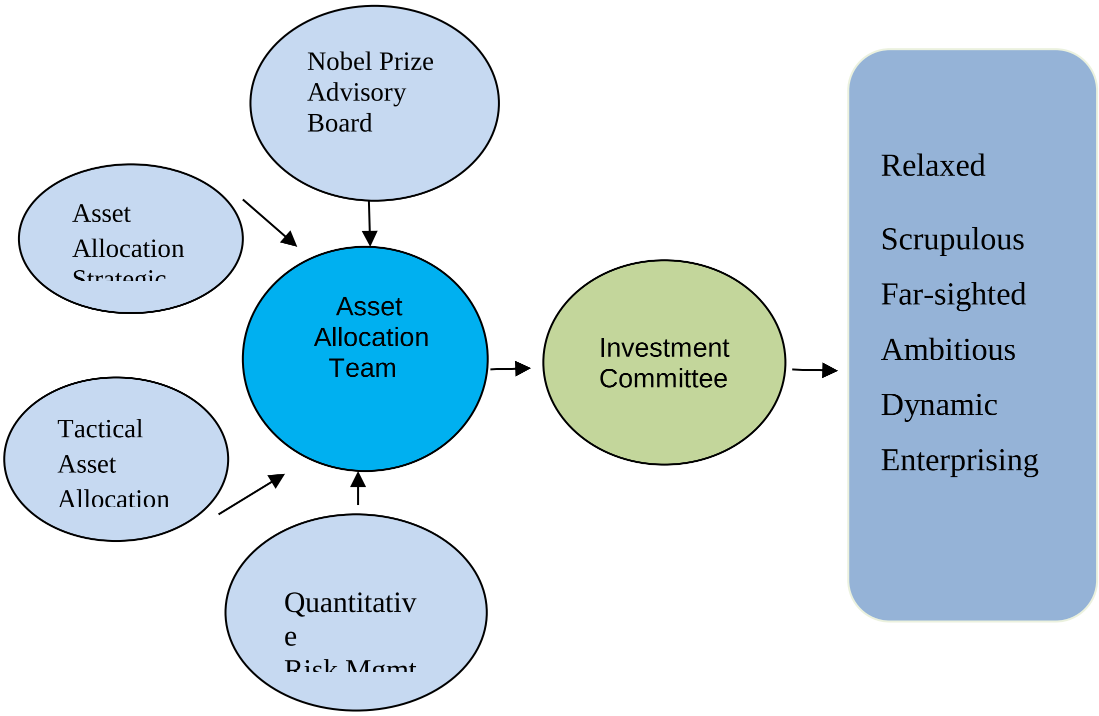
After the profiling, the combination of risk profiles and objectives, using a **grid** created by the Investment Committee and approved by the Moneyfarm Board, we have a

[28] Legislative Decree 21 November 2007, n. 231 - Implementation of the Directive 2005/60 / EC concerning the prevention of the use of the financial system for the purpose of money laundering and terrorist financing as well as of Directive 2006/70 / EC, which contains implementing measures and subsequent amendments and additions.

portfolio to be assigned to the client's characteristics and objectives, with an adequate level of risk according his/her needs. The customer makes the first transfer after assigning the investment portfolio.

The Investment Committee, as we have already mentioned, rebalances and informs the client.

The chart shows the central role of the Investment Committee between the asset location team and the investors.



The Investment Committee decides the creation and it deals with the portfolio management while the Asset Allocation Team deals with the monitoring of portfolios and it proposes tactical operations to the committee. The Risk Management has the task of monitoring the risk of portfolios and, in agreement with the Investment Committee, of defining the risk limits for each individual portfolio.

In case of asset management service you do not have to confirm the rebalancing advice, however you have the possibility to invest in ETF, the costs are unchanged, from 0.7% to 0.5%, compared to the administration, and you reduce taxes (between 25% and 15%).

With regard to the management of managed and administered savings, the tax differences that highlight the tax advantage of managed savings should be clarified.

In case of asset management, the taxation of capital gains and income is based on the accruals criterion, therefore the substitute tax is applied to the management result accrued at 31/12 of each year by the authorized intermediary, delegated to the management**. Any capital gain taxes are applied at the end of each year or in case of disinvestments (partial or total).**

The peculiarity is that in the event that losses should result, these may possibly be offset. In the case of a negative management in the following 4 years, the loss can be reported.

In an Administered tax regime, each individual instrument is subject to taxation. Gains or losses deriving from ETFs, Funds, SICAVs and UCIs are not compensable, because **the gains of ETFs are considered "capital gains"**, while the losses of ETFs are considered "different income" and in Italy only income from same nature can be payed, so that it is not possible to offset gains and losses between ETFs. The capital losses may be carried forward over the next 4 years to offset capital gains deriving from shares, bonds. The intermediary is the withholding agent and therefore he/she calculates and pays the tax due to the tax authorities from the investor.

3.1.3. Portfolio construction

The creation of a Moneyfarm's portfolio or asset allocation is based on these principles: the diversification as it is the main factor in optimizing portfolio risk and return, the choice of low-cost and in any case efficient financial instruments (for this reason passive instruments quoted on the stock exchange are chosen), the analysis of the relations between markets and trends, economic and social, which affect prices, a medium-long time horizon, the risk management which requires continuous control and careful choices.

The Asset Allocation (SAA) strategic for the portfolios assigned to each client, according to the classification level, is based on three elements: "projection of the expected returns of each asset class, risk projection, selection of instruments"[29]

The expected 5-year returns are defined for each asset class, and the risk level and the relationship between the various assets are estimated, analyzing the historical prices of the last ten years. They are optimized with a re-sampling procedure. Six portfolios that differ in terms of expected risk/return, but also in terms of the number of instruments are selected. The portfolios chosen become the strategic portfolios on

[29] MoneyFarm_Presentation
https://www.ordineavvocatimilano.it

which, on a monthly basis or in case of necessity, the Investment Committee makes tactical choices of balancing.

Six portfolios of ETFs are proposed, diversified by geographical area, time frame and securities, all however balanced, attributed to the six different investor profiles: from those who prefer capital preservation to those who wish to capitalize.

For each of the six risk profiles, based on the amount of the investment, two portfolios are built, one that can hold up to 14 ETFs for customers who invest more than € 50,000 and one up to 7 ETFs for those who invest less. Therefore, 12 management lines are proposed.

Through a 'due diligence' process the most appropriate ETFs to the objectives are selected. As we know, ETFs are passively traded mutual funds traded on exchanges that follow the performance of an index (such as the FTSE MIB), an asset class (such as European bonds), a market segment (such as three-year Italian bonds), a region or a sector.

Moneyfarm has chosen ETFs because they guarantee transparency and diversification, they reduce investment costs, they are more liquid that they are easy to sell. The ETF selection process is an integral part of the portfolio construction process.

The selection of the Investment Committee takes into consideration both the type of portfolio and the maximum number of instruments available and it includes these phases;

- choice of Asset Class weights,
- choice of one or more indices that represent that specific Asset Class
- selection of the best index ETF

The criteria for choosing EFTs:

- tracking Error: ie the discrepancy between the EFT performance (gross of fees) and that of the reference index.

- ETF construction: Moneyfarm prefers physical construction ones that replicate the benchmark buying the same securities with the same weight composing the basket of the benchmark index, while the synthetic ones try to replicate the benchmark index using contracts (swap)
- liquid assets

- cost
- reliability of the manufacturer

The assessment committee controls all of these components.

The cost of the ETF is the TER (Total Expense Ratio; overall cost).

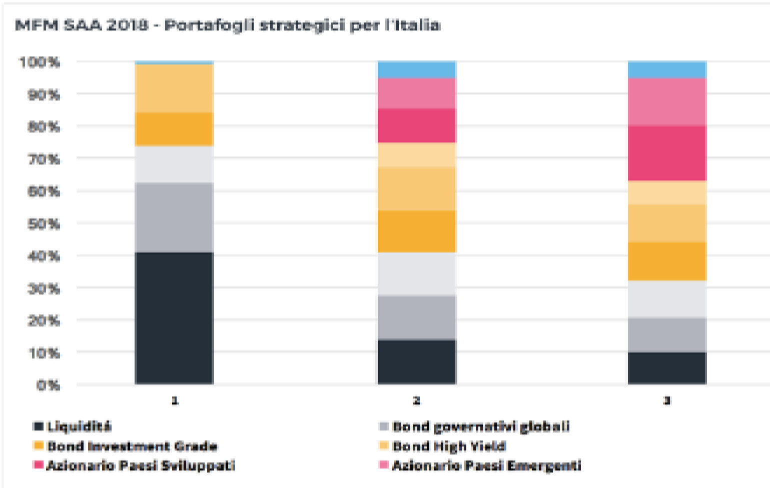
Moneyfarm, in assessing the costs in order to choose an ETF, examines all the costs, that vary according to the liquidity of the reference indicator, to the kind of construction (physical or synthetic), to the commercial strategies of the produced thing, but above all to the Tracking Error.

The considered Moneyfarm's TER portfolio instruments is approximately 0.20%/0.30% depending on the portfolio and on the diversification. To the cost of the instrument, you need to add the transaction expenses. The ETFs are subject to taxation on the capital gain, equal to that of the common investment funds, and the portion, since the 1 January 2014, is the 26% exception for the ETFs that invest in Government Bonds (Bot and Btp) for which the portion is 12,50% .

An innovation is the Pac Moneyfarm, an investment solution with no extra charge, that entails a capital stash plan against an initial small sum through the minimum periodic payment of 100 Euros for amounts lower than 3000 Euros.

We would like to specify that Moneyfarm, in order to identify the best portfolio, fixes a cost-effective Border, made of those asset combinations that, all the inputs considered, offer the best expected output with regards to the level of risk, (represented in their maximization motor by the Conditional Value of Risk). In order to face also the small variations of the inputs, an algorithm was created to make the cost-effective border more resistant, by selecting even those scenarios that were proved to be adverse to the inputs themselves.

The following chart shows what the strategic portfolios for Italy for the 2018 are:



CONCLUSIONS

Seen the overall analysis of the robo-advisors, many are the risen advantages:

- The price of the financial consultation, which wavers between 0.25% and 0.75% of the AUM, is for sure lower than the one referred to the traditional consultation;
- They generate an increase in the competition in financial consultation, and therefore a reduction of costs and fees and supplementary supply services in order to justify the costs of orders;
- They surely avoid the various mistakes made by the consultants who, even if owning a knowledge based on the relationship techniques rather than on the correct technical choices, perform mistakes of data's overestimation;
- They avoid the potential clash of interest: the consultant may theoretically orient the investor on a product proposed by his belonging institution, as also the robo-advisor belonging to a company would do. This doesn't happen with the independent robo-advisor because, as Mr Paolo Sironi, Thought Leader Wealth Management FinTech of Ibm asserts:
  «The Robo-Advisor, removing on one side the product's marketing, and on the other directly acting on the portfolio's management, takes into account the

saver's goals», [30] he is therefore focused on the saver's purposes, that is to say on the long-term output, rather than on the product;

- They have a high technological content, based on more innovative and reliable computer systems, with regards to the ones mostly used;
- They mainly use the ETFs, whose low cost allows further technical investments and the offer of a wider range of products, moreover these are long-term investments at a lower risk because possible losses can be amortized;
- They are addressed even to customers with a moderate capital, who were up to now excluded, since the consultation cost could even be higher than the investment's profit;
- They are easily usable and fast in the output supply and endlessly available 24h a day, every day for 7 days;
- They keep into account the customers' user experience.

Let's specifically examine some of these advantages.

The lower cost of the financial consultation is clear, if we compare it to the property managers' costs: as a matter of fact, these last can reach 1%, to which you need to add the costs of the investment's products, that are detracted from the output (for the active funds, they are on average between 0.65% and 0.89%, while for the passive funds they are approximately 0.10%).

AuM	**Traditional Manager**	**Betterment**	**Personal Capital**	**Wealthfront**
50'000 $	1.61%	0.25%	0.89%	0.25%
100.000 $	1,53%	0,15%	0,89%	0,25%
250.000 $	1,24%	0,15%	0,89%	0,25%
500.000 $	1,20%	0,15%	0,89%	0,25%
1.000000 $	1,145	0,15%	0,79%	0,25%
5000000 $	0,88%	0,15%	0,75%	0,25%
10000000 $	0,65%	0,15%	0,55%	0,25%

[30] Sironi P. Fintech Innovation: From Robo-Advisors to Goal Based Investing and Gamification.John Wiley & Sons, Ltd. (2016).

The feature of an online service attracts young people, who prefer the gaining online information rather than having a direct relationship with a traditional advisor. This is due both to the natural independence inclination of young people, and to the objectiveness and continuous update of the online consultation services. Furthermore, in the platform for young the intuitive design is influential, because this does not only include the site's structure, but also the information display: it is presented in different screens according to the type of customer, in order to offer customized solutions; the terms used are simple and easily understandable by everybody, the contracts are expressed in a simpler way than the bank ones.

The possibility of endlessly easily use the service and a guided management with a continuous re-balance, attracts the customers who want to monitor their investments without spending too much time or being obliged to take frequent decisions.

Someone objects that the customer does not know the mathematic and statistical model used for the asset location, *so the customer thinks that he manages a situation that actually he does not understand. Sure: it is not important to deeply know the mechanisms that lead to the result. But it is essential, for instance, to verify that the method is coherent with the user's profile and the established targets. Moreover, even the human advisor often uses systems that are not to be explained to the customer. True! But in these cases the saver has the possibility of talking with the expert and, if he wants to, he can ask for explanations.*[31]

We answer to such objections saying that the customer anyway feels he is the protagonist, since the service is focused on the user experience and on the user himself. We also have to underline the limitations emerged in the Robo-Advisors analysis:

- They present a limited and standardized number of portfolios;
- There is an exclusive use of the ETFs;
- They determine technological asymmetry between the players;
- They use settings like the MarKowitz model.

Some think that the robo- advisors cannot define the investor's profile, since they do not have a deep knowledge of it, because it is impossible for a robot to know all the investor's needs and targets. Such knowledge may instead emerge during an interview, where also the proxemics is important. The consequence is the offer of a limited

[31] Carlini V.- "Fears on the software of the robot-advisors in case of shock"- Il sole 24 Ore- http://www.ilsole24ore.com/art/finanza-e-mercati/2018-01-28

number of suggested portfolios. It is however true that there is the possibility of contacting a team advisor per e-mail or telephone, but if the needs of an investor are complex, the intervention of a traditional advisor is necessary.
For what concerns the technological asymmetry between the robo-advisors, it is true that some players have limited budgets and cannot guarantee the break-even point and, therefore, they do not invest in technology; while some others, owning higher amounts of money, create more efficient automatic systems.
Notwithstanding the innovative mathematic and technological solutions, many robots still use the MarKowitz model: statistical analysis of the asset's historical series and of the correlations between such asset in order to detect output and risks.
The exclusive use of the ETFs, essentially suggested by the Robots to limit the costs of the consultation and to simplify the service, first of all is not suitable for all customers, and it also causes dependence from third parties' choices concerning the fund's lot, as well as systemic risks in case of puzzling scenarios.
With regards to such fears, Mr Giovanni Daprà, President of Moneyfarm, answers:
«*the supposed risks on the Robo-advisors are to be connected to totally automated technologies». Actually, «as we do either in the asset's allocation and in the relationship with the customer, there is often the human interaction. And this deeply reduces the problems».*[32]
Some others affirm that they do not depend much on the automation but rather on the asset management's offer often based on the same benchmarks.
Many ascribe the risk of excessive sales' flow, generated by an automatic adaptation, to the investors' difficulty of totally understand the system. They consider it as a flaw of the algorithm. To them the experts answer that the algorithms are tested on virtual markets and that they are monitored.
Another incisive debate concerns the security. Even the operators acknowledge that it is difficult to guarantee an absolute security.

Perspectives

No doubt that the evolution of the system will solve the weak points, even if many still fear that the automation is more risky than the human presence.
For the future, despite such fears, we foresee that there will be an increase of the retail customers and that the automated consultation platforms will be used even by the

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[32] ibidem

traditional companies in an independent way or in cooperation with computer companies.
Such choice will be inevitable: the need of being more competitive and to modify the current expensive consultation methods ask for it, either to widen the clientele with a service accessible to everybody, and to present a more modern image with innovative services that are more respondent to the change of habits of an always more interconnected society. Furthermore, the internal use of the automated platforms will make the brokers' and asset managers' job surely faster in constructing the portfolios and in the relationships with the customers, allowing an improvement in productivity.
It is also true that in Italy the Robots' distribution is slower. Moneyfarm acknowledges that in little more than one year in London it has obtained the double amount of customers that Italy has acquired from 2011 to today, even thanks to the existence in the United Kingdom of a regulation about the efficient consultation.
In Italy there is also the certainty, among the financial promoters, that robots can never replace the human advisors, because the investors, despite the recent bank outrages, are not inclined to rely on an automatic system and to give up the suggestions and guide of a trusted advisor. Anyway, they recognise the advantage of the automatic platforms' support for the data's analysis, for the research of the universe in which to invest, for the creation of objective investment models.
So, by now it seems that the investors are more favourable to a hybrid model in which the robot performs a pure support function to a team of experts that fulfils the best portfolios.
On the other hand, this phenomenon, especially in Italy, is still little known, and the information that uses the Internet net or the word of mouth is not very spread, therefore other marketing strategies have to be implemented.
As we have highlighted, in the current economic and social background there is the need of guaranteeing alternative saving forms with regards to the traditional ones, open to little savers too and supplied at low costs. Technology has already created the trend to not intermediate the relationships between bank and customer. Various players have activated open consultation services in favour of different groups of investors. Not last the PAC service, launched by Moneyfarm, an opportunity for young people with a low income.
The continuous and rapid technological innovations are therefore the reference of our times and the new generations make us suppose that we cannot disregard further

evolutions of robo-advisor models that could conquer the faith of the investors and guarantee the investment's solidity.

According to "Statista", in 2018 the estimation of the masses managed by automated consultation should be approximately 373,9 billions of Dollars.

In the future? In 2022 they could reach 1.355 billions of Dollars. And this future doesn't seem to be far.

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