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Master's Degree Thesis

**Investigation of Asset Management Market &
Evaluation of DP Co. based on PM Standard**



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Abstract

We invest our money in fixed income or stock market, hoping it could grow faster than the depositing in a risk-free bank account. We call it investment, while the money is termed AuM. A “risk-reward” concept emerges when we talk about the characteristic of financial market. There are many asset classes and instruments available on the market, characterizing different level of risk, and most of which are only accessible to professionals. However, despite the long history of financial services, it looks does not change a lot. When putting an eye on other industries, we can easily perceive their development progress. Just to give some examples, mass production and technological improvement lower the price of an automotive, making it affordable to almost all the households; with the iteration of telecommunication network, we can easily communicate with others without any charge. What about finance? As we see a lot of VCs invest in startups who try to disrupt the markets, how could the financial sector itself avoid being disrupted?

Focusing on asset management industry, the thesis firstly spotlights the problems of the asset management industry, finding the pain points of investors and managers. The opportunities part of the AM market follows, which highlights some market trends and current application of disruptive Fintech. As the thesis is mainly developed in an asset management company (DP Asset Management Co.), a traditional financial service provider who recently set a new business toward the crypto market, the following part goes directly to the investigation of the digital asset market, before evaluating the new business model of the company based on ISO 21500 scheme, a guidance on project management. In such a way, the thesis is exploring how a traditional financial industry managing disruption and innovation.

Key Words:

Asset Management; Digital Asset; Crypto Hedge Fund; ISO 21500

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Chapter 1

Asset Management Market

1.1 Introduction of Financial World

Before going deep, it's necessary to understand the realm of financial market.

1.1.1 What Purpose Does It Serve?

Financial market, from the name itself, is a marketplace where anticipants can buy and sell “products”. There are some characteristics that distinguish financial market with others:

- **Asset variety:**

There are many asset classes traded on the financial market, such as stocks, bonds, commodities, derivatives;

- **Anticipants in the market have different roles:**

There are individual investors, financial intermediaries who manage wealth for investors, financial services providers or market makers like banks, brokers, dealers and market makers, as well as regulatory and supervisory agencies.

People buy and sell products for their particular purpose. Taking insurance industry as an example, an insurance contract is basically an agreement of **risk transfer**. To avoid the risks of big loss if something bad happens in the future, we transfer this risk to the company through paying a certain amount of money called the Premium. From the viewpoint of the company, the collected premiums will be invested to provide a source of future claims and a profit. Besides, although these contracts collected by the insurance company are initially non-tradable, insurance company can still pool them

and sell to investor through a process called securitization, reselling the risk back to the investors.

Apart from the function of risk transfer, the market also serves other purposes:

- **Shifting consumption over time:**

People can shift consumption forward by saving, backward by borrowing. For example, pension fund is created to allow people to save money for their retirements. Since in such a way they can avoid losing principle but still beat inflation, it is considered a more attractive choice than saving in a bank account. Although fund managers are required to do investment in a conservative way, there is still a certain degree of risk, which makes sense to the risk-reward tradeoff. Despite this, pension funds are the largest part of the institutional investment community and controlled more than \$41 trillion in early 2018 in the US market.

- **Investing saving to yield higher payoff:**

A savings account that has money in it should not just let that money sit in the vault. People willing to take risk in order to earn a better life, so they use savings to do trading by himself or through financial intermediaries.

- **Hedging risks:**

As mentioned before, it's all about risk transfer: individuals buying insurance, companies hedging interest rate risk for future payment through SWAP or duration matching, investors diversifying their portfolio to mitigate specific risks. As there is a writer, there is a holder, who is willing to take on risks in the hope of making gains and is usually named speculator.

- **Speculating:**

Theoretically, there is no arbitrage opportunity under the assumption of a complete market. The reality is that in spite of the increasingly mature of the market, it's still far from reaching such assumption. Active traders projecting their strategies based on risk tolerance and goals can still make profit, at the same time they are regarded as market

repairers. For example, Traders exploiting arbitrage opportunities from short-term market discrepancy in asset value can in reverse help the market fill the hole.

1.1.2 Institutional VS. Retail

The market looks fair to everyone, but this is not true. Many individuals define the market as a “casino”, which is quite true, but they are not totally the same. Among all day traders, only 80% of all-day traders quit within the first two years, and after five years, only 7% remain¹. In other word, most of them lose money and quit. Thereby the market is not exactly what do mathematicians think of. When you flip a “fair” coin, any effort to collect information to help you decide “head or tail” is meaningless. The only thing you should rely on is lucky. Financial market is different, simply because this is an “unfair” game. Betting 1\$ or 1,000,000,000\$ on a “head or tail” game would not change the probability distribution. In Financial market, with a large amount of money through a delicated strategy, you are able to plot the trend. You can create a false signal to mislead the market and earn profit before people notice that. When the price of a stock is purely determined by the market reaction other than the performance of the company, it means the reality has moved away from its intrinsic purpose. The following part narrows the discussing scope to market investors.

Traditionally, investors are divided into institutional one and retail one. Retail investors, trade securities on his/her own, while institutional investors are organizations that pool together funds on behalf of others and invest those funds in a variety of different financial instruments and asset classes. There are generally 3 ways to do retail investing: individual investors, retail brokers, managed accounts (whereby the account manager makes the buy and sell decisions for the individual). They trade with a small amount of money and with less frequency comparing with the institutional investors, therefore having negligible influence on the market.

Institutional investors include 1) Pension Funds, 2) Open-end Funds and Closed-end Funds (hold by investment company who provide financial services to banks and individuals), 3) Insurance Companies, 4) Hedge Funds and 5) Saving Institutions who

take in deposits from customers and then make loans to others. They represent about 80% of equity market capitalization. With their large size, they take many advantages compared with the individual investors:

- **More information, greater influence:**

Many of them invest a lot of money doing market research to generate Alpha. Due to the large amount of money, every move of them can have great influence on the market. To avoid this, they often intentionally lower the market cap through separating investment.

- **Higher bargain power, lower transaction cost:**

This is the effect of Economic of Scale, with which they negotiate basis point fees for each transaction and require the best price and execution.

- **Access to more securities**

such as forwards and swaps. The complex nature and types of transactions typically discourage or prohibit individual traders, leaving an exclusive room for institutional investors. They also have the ability to gain access to investments normal investors do not, such as investment opportunities with large minimum buy-ins.

- **subject to less regulations:**

Since institutional investors are less likely to do uneducated investment, the authority would impose fewer protective regulations to them.

However, several of the advantages institutional traders once enjoyed over retail investors have dissipated, as we will discuss in the opportunity section.

1.1.3 The Italian Market

The total Asset Under Management of Italian market increased by more than 200%, from €937 billion in 2011 to €2,097 in 2017, representing 3.16% of the global AuM (€66.4).

According to the report from ASSOGESTIONIⁱⁱ, the downward trend in 2018 (Figure

1 - Italian AuM) is due to the bad performance (-3.9%) in year, resulting from the high market volatility. Although this market drawdown looks less significant than that during the sub-prime crisis in 2008, one should be aware of that it is because the later one suffered from a significant asset outflow which amounts to -200 billion, whilst the former one still has 10 billion asset inflow. In conclusion, after the period of prosperity, the market performance suddenly goes down, being far from meeting the investors' expectation. So, simply according to the figure, we should prepare for a negative market reaction in the coming year.

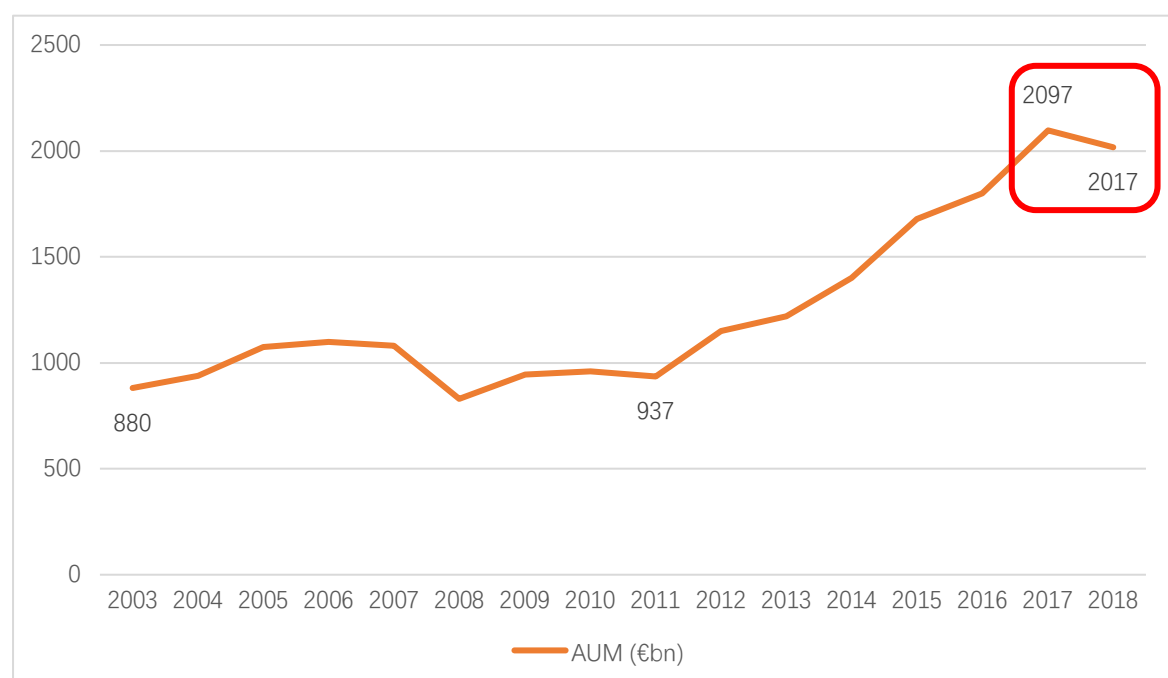


Figure 1 - Italian AuM

As we can see in Figure 2 - Italian Top 6 Groups, being the same to other marketplace, Italian AM market is dominated by big players. As we can see in the chart, the top 5 groups including Generali, Eurizon, Amundi, Anima, Fideuram and Blackrock, take 63% of the total AuM. Such condition is expected to remain stable for a long term. Among them, there are two global giants: Blackrock, with €5.25trn under management, and Amundi (€1.42trn). The biggest player - Generali, the largest insurance company in Italy and third in the world – alone takes a quarter of the market shares, equal to the shares of retail funds as we may see below. The figure increases to 40% when narrowing

to the Mandate sector.

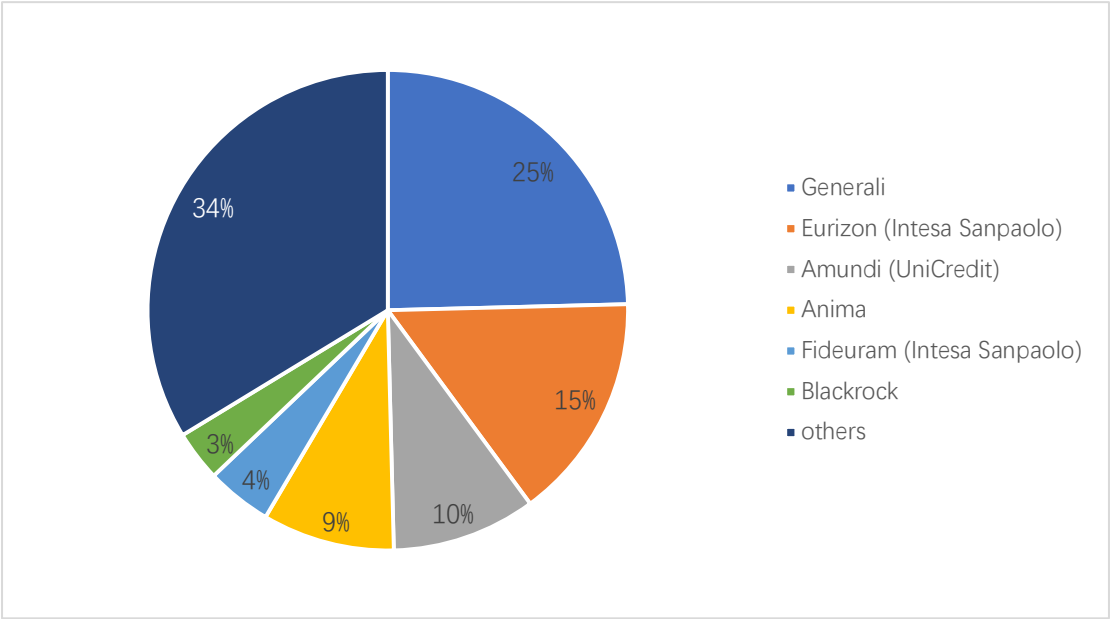


Figure 2 - Italian Top 6 Groups

Institutional investors take the 3/4 of the shares, which is mainly made up by insurance company and pension fund. Regarding the retail part which takes a quarter of the cake, both high-net-worth private investors and mass-affluent people invest in retail fund through bank branches.

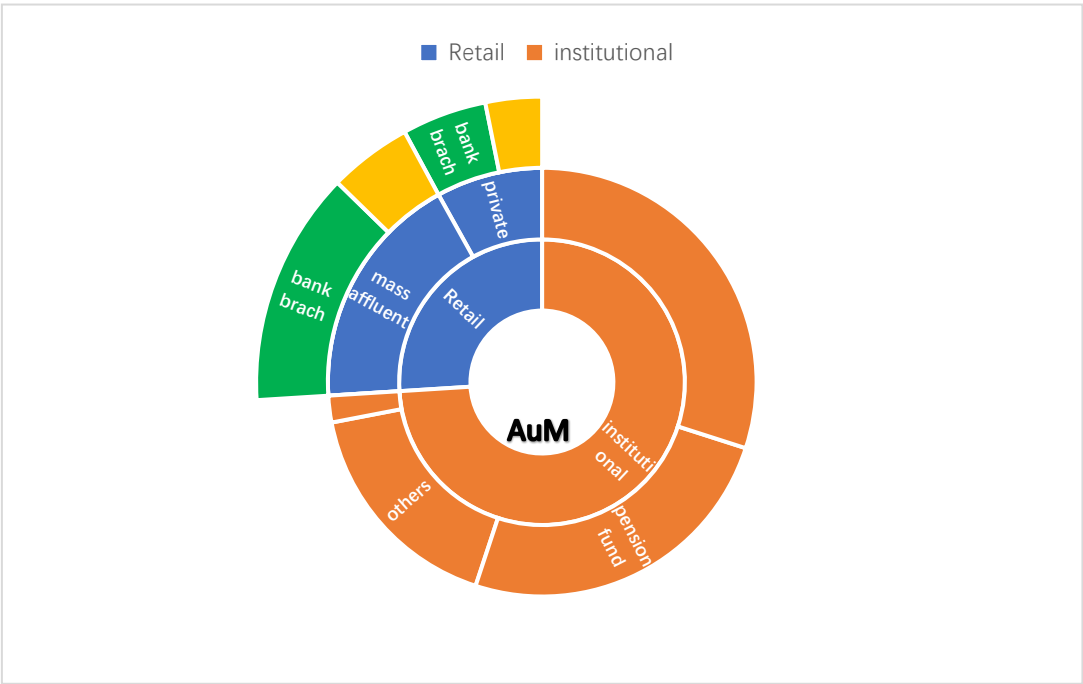


Figure 3 - Italian Investors

When categorizing the AuM according to products, Open-end funds takes the most shares with 48%, nearly a half of the total amount. Institutional mandates take the second position with 43%, whereas the remaining are shared by closed-end funds (3%) and retail mandates (6%). In particular, about 82% of funds are in hands of retail clients, among which two thirds are directly sold to retail people, whereas the left third belongs to investments made through a mandate – DPM and unit-linked insurance policies. One should not be confused with the difference between retail investors and retail clients of funds. As we defined before, retail investors are people who do investments directly to the market, while retail clients of funds are represented by funds, which are institutional investors.

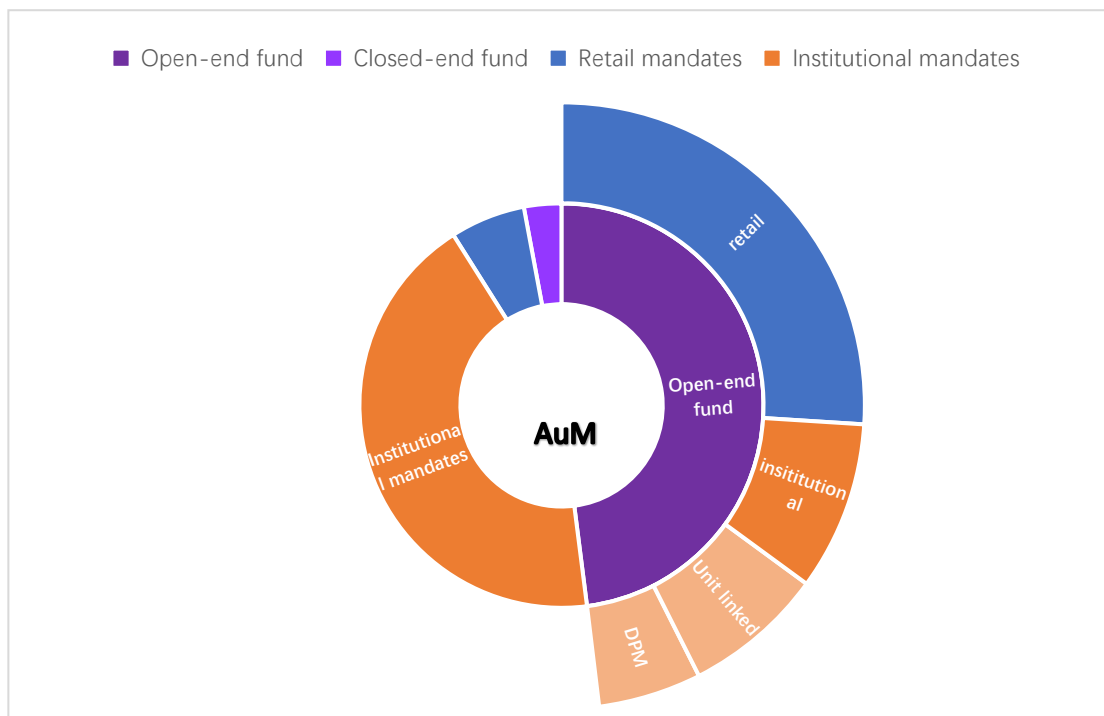


Figure 4 - Italian Product Types

According to the portion among asset classes invested, we can see that **“bonds”** still takes the largest shares, which, however, has been decreased after 2012, from 43.9% in 2013 to 40% to date. This is due to the broader environment of lower interest rate and the **economic uncertainty triggered by events like Brexit**. On the other side, the part of balanced funds and flexible funds witness a highly positive net flow in the period, as they provide investors with acceptable return while keeping a less risky position than

they would face with equity funds.

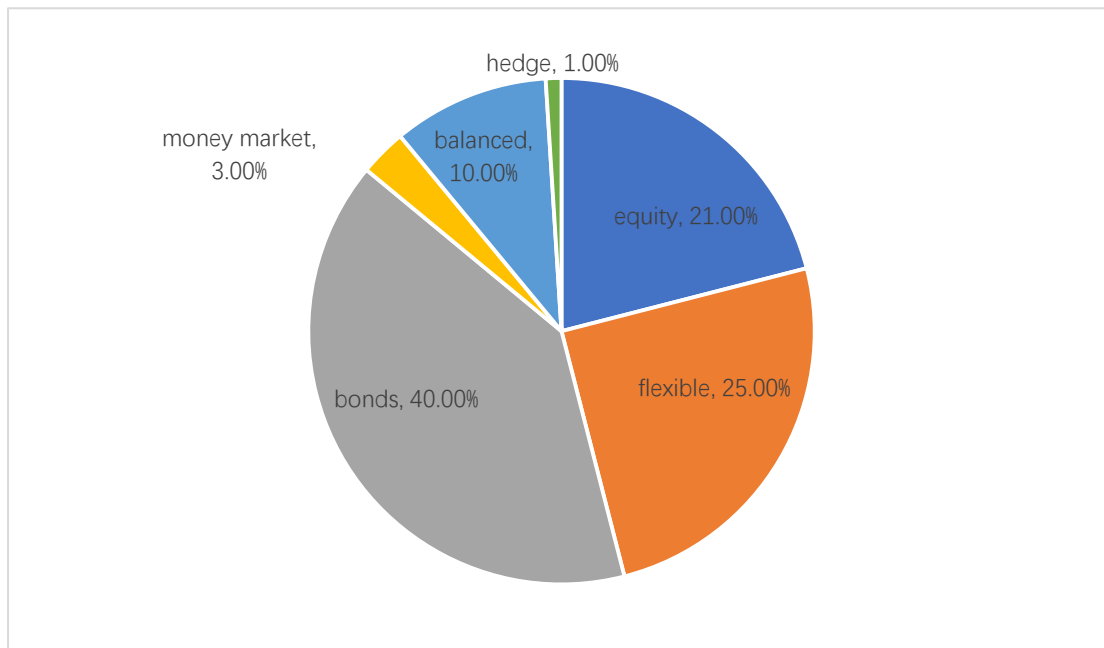


Figure 5 - Composition of Total AuM in 2019 in Italy

1.2 The Real Face

Can you maneuver the market? This is a dirty world maneuvered by elites. Let's consider a persona in the casino as a metaphor: a pool man with his own "trick" that he thought he could use to win money from a rich old hand. This is an unfair game, but as long as he insists in purifying his "trick", he would become the experienced one and start earning money from the Rockies as he was before.

So how do you build this "trick"? There are "gaming rules" in financial market. Getting on board is to persuade yourself or, humiliatingly, pretend to believe in something that you were not before. Being a so-call homo oeconomicus, we make "rational" decisions with the objective of maximizing our well-being. In the context of finance, our objective narrows the scope to "profit maximization", taking into account the "risk" of your decisions, which gave birth to some mathematical doctrines that we have to firmly convinced. But can we challenge this straightforward thinking?

Even worse, I strongly believe if the world did not bear "normal distribution" and

“central limit theorem”, the Quality Engineering domain would collapse. What about the financial sector? When reviewing the standard methodologies on which the industry is based: Variance, co-variance, deviation, standard normal distribution etc, it’s obvious that we are also in such embarrassed situation. We are so accustomed to them and we use them simply because we feel safe with them. Risk management is an essential part of financial sector, however, we define every financial crisis as “**Black swan**”, which means, ironically, they are unpredictable.

1.2.1 What Is Risk?

To get a clue about the risk, let us quote the definition from Cambridge dictionary: As a noun, it means the possibility of something bad happening. As a verb, it means to do something although there is a chance of a bad result. With respect to finance, there are various comments with respects to the definition of it. But let’s simply use the comparison between stocks and fiat money to have an understanding of this word. The value of \$1000 today is almost same as its value tomorrow if you keep it in your pocket - risk free! If we use the same amount of money to buy stocks which value varies in every second - risky! But there must be expected payoffs for taking the risk, which here is your expectation of the higher return of holding a stock. Therefore, to make a risky asset acceptable to a “rational” investor, the market needs to compensate them with excessive return depending on how much risk they undertake, which calls “risk premium”. Then, it requires the measurement of risk, mapping this variable into a real number.

1.2.2 How to Measure Risk?

Risk measure should be a subjective task, as different people has different degree of “**risk aversion**”. One worldwide subjective model is “**Utility function**”, a quantitative way to measure subjective risk aversion. By doing some “reasonable” assumption, we can define a function mapping each solution into a real number measuring the attractiveness of that solution to the decision maker. Through a simple order, the decision can tell her preference, taking into account both the subjective risk aversion

and the objective property of solutions entailed. Just to give you an example, among all type of utility functions, Logarithmic utility is more general, as is characterized by DARA and CRRA, which means as the wealth increase, investors will hold more amount of money in risky asset while keeping the percentage of total value investing in risky side the same. People choose one of these utility functions as the representation of his/her risk aversion to get the “utility value” of each risky asset, while the difference between the value of expected utility and the utility of the expect value of a risk-free asset is the “**risk premium**” - . This risk premium partly depends on the risk attitude of the decision maker, and partly on the uncertainty of the gamble itself, and it’s defined by the conditionⁱⁱⁱ:

If this risk premium is higher than their expectation, they invest in risky asset based on the “rationality”. Even so, still depends on subjective appetite partly, not totally, since the uncertainty of the gamble itself also plays the role. Talking about uncertainty, we always resort to variance, which will be discussed next.

In reality, most of investment are perform by asset managers, who has to cope with multiple clients, and should certainly not make decisions according to his/her own subjective risk aversion. They require a more objective risk measure. We may instantly recall the well-known CAPM model,

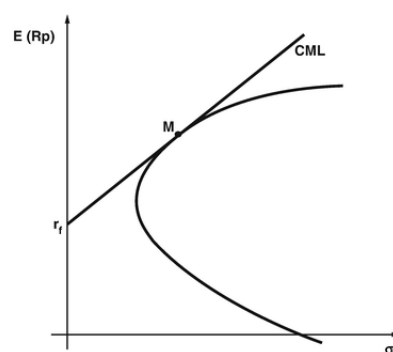


Figure 6 - CAPM Model

which assumes that investors are mean-variance optimizers. Under such principle, all investors should invest in the tangency portfolio, which is exactly the market portfolio,

irrespective from risk aversion. So, basically CAPM model takes the standard deviation as the risk measure, as we can see the x-axis of the graph is represent by σ . To see how wrong it is, let's check the coherence of it.

1.2.3 How Wrong Is It?

Assuming that π represents the profit of a portfolio, the following set of properties characterizes a coherent risk measure:

- **Normalization**

$\rho(0) = 0$; The risk of holding no portfolio is zero.

- **Monotonicity**

If $\pi \geq \pi'$, then $\rho(\pi) \leq \rho(\pi')$. If the portfolio π is not larger than portfolio π' in almost all scenarios, then the risk of π should be at least as high as the risk the π' .

- **Translation invariance.**

$\rho(\pi + a) = \rho(\pi) - a$, where a is the fix amount adding to the portfolio. In financial risk management, translation invariance implies that the addition of a sure amount of capital reduces the risk by the same amount.

- **Positive homogeneity**

$\rho(\lambda \pi) = \lambda \rho(\pi)$, for $\lambda \geq 0$. The risk of a portfolio is proportional to its size.

- **Subadditivity**

$\rho(\pi + \pi') \leq \rho(\pi) + \rho(\pi')$. Diversifying the portfolio will reduce the risk, which names diversification principle.

So, is the standard deviation coherent?

☒ Normalization requirements, positive homogeneity, and subadditivity are met.

☒ Monotonicity condition, translation invariance fail.

What about variance?

☒ Normalization requirements is met;

☒ Monotonicity condition, translation invariance and positive homogeneity all fails;

- ☒ Subadditivity fails when the covariance is positive, while the standard deviation is sub-additive.

Hence, it's obvious that standard deviation fails to meet the coherent requirements as a risk measure, theoretically. Nevertheless, this risk measure is broadly used as the fundamental of the modern portfolio theory. Based on this, we constructed a quantile-based risk measure - $V@R$ and $CV@R$, as well as Asset Allocation Principle to do the risk management. We also come up with the price of risk:

,

the fundamental of CAPM model. In such a way risk measure can be easily communicated to the top managers.

But if the fundamental is wrong, how can we build up a right model to represent the market, even to predict the market? Or, we just always think it's better than doing nothing. This is how we get blind.

Even worse, we dedicated to measure the coherency of standard deviation and variance, While the coherent risk measure itself is questionable. For example, the “Positive homogeneity” and “sub-additive” axioms can be somehow problematic and thus raises some criticisms. For example, in the article - *Bigger Is Not Always Safer: A Critical Analysis of the Subadditivity Assumption for Coherent Risk Measures* - by Hans Rau-Bredow, he analyzed the extra risk created by the bank mergers behavior, and conclude that the subadditivity assumption should be rejected, since it cannot account for the increases risks. This led to the study of convex risk measure, where the subadditivity and positive homogeneity axioms are replaced by the convexity axiom:

.

1.2.4 Final Words

In Quality Engineering, using variance or standard deviation as measurement to monitor the production has its reasonable logic, and truly prove the improvement of the product quality. This is because the objects we measure ought to be relatively stable, as

they are expected to have exactly the same parameters set before all the time. Prices of financial assets, however, should never pertain to such category. The prices – even of the fixed-income assets - are determined by the market itself rather than an exact value we set.

Let's quote what Warren Buffett said during Berkshire annual meeting in 1997 to end this discussion:

“Finance departments believe that volatility equals risk. They want to measure risk, and they don't know how to do it, basically. So they said volatility measures risk.”

1.3 Problems

1.3.1 High Barrier and Commission Fee

As mentioned before, retail people invest their money through intermediaries.

Although experiencing a very long history, financial service seems does not change a lot from its original model. Some of them, mostly the hedge fund, set a high entry barrier, with only selected people, or “designated” investors crossing the minimum threshold being qualified to do investment.

They also charge a lot to their clients, especially in Italian market, as we can see in the chart below. The complicated web of financial intermediaries required for compliance, auditing, administration, custody and overseeing transactions means that setting up and operating a fund is extremely costly, inefficient and lacking in transparency. And these costs are typically passed on to end investors. The average **commission fee** for a professional financial advisor's services is 1.02% of assets under management annually for an account of one million dollars, which means your money has been eaten before expecting it to grow. So firstly, you should have at least one million dollars in your pocket. Secondly, investors should expect the return of their investment should at least exceed $(1.02\% + r_f)$, so as to gain additional payoff from the risk they bear.

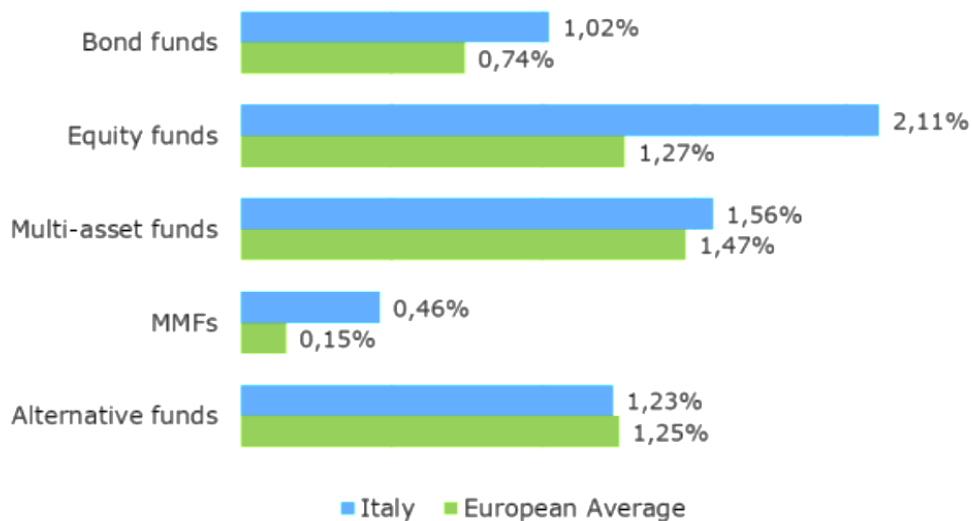


Figure 7 - Expense Ratio of Italian Funds Compared to European Average

1.3.2 How Much You Pay for Diversification?

Asset allocation management demonstrates its value of diversification. Asset managers project a portfolio for his/her investors either through a static or a dynamic strategy. In passive way, managers determine a static asset allocation and stick to it, while in an active and dynamic way, managers exploit the market opportunities based on market perception. As such, investor can expect acceptable return with lower volatility. This is a mechanism that allows us to sell volatility through paying a certain amount of money. However, the real price investors pay for diversifying their portfolios via asset allocation strategies is not clear in most of time, because it does not only include the commission fee paid by investors to managers, but also the “opportunity cost” at the time we decided to diversify our portfolio.

Therefore, the market is still unmaturing. From the supply side, intermediaries have to spend a lot to build up trust with investors. From the demand side, with the lack of alternatives and market transparency, Investors are usually forced to trust his/her asset managers. The ticket to get on board is really expensive, one should be able to know their service providers very well and make a choice among many alternatives. However, few people are educated enough to do this job. More seriously, once the boat starting sailing, you have to stay with it for a long time, praying to come across a bull market.

In summary, there is no any bargain power from the demand side.

1.3.3 Beating the Market Does Not Ensure A Positive Return

We all know stock share is a risky type of asset compared with fixed-income securities and saving accounts, while promising a higher return. This is the logic behind the risk and return.

What can we expect from our asset manager? We must expect them to construct a portfolio that can at least outperform the market. Otherwise we would directly invest in ETFs that track the market indices with lower management fee. But this is not enough. Since risk management consumes us a lot of expense, we should also expect to be able to detect and get rid of market crunch, which is nearly impossible. All market crises are declared as “Black Swan” incidence by our dear managers. In bearish market, are you still happy to see that your portfolio outperforms the selected benchmark all the time while yielding a return of -80%? As we can see in the chart below, the portfolio (red line) beat the market index and Bitcoin, but still inevitably went down .(To be clear, the chart below is plotted using “logarithmic scale”, in which the vertical distance represents the percent change of the price.)

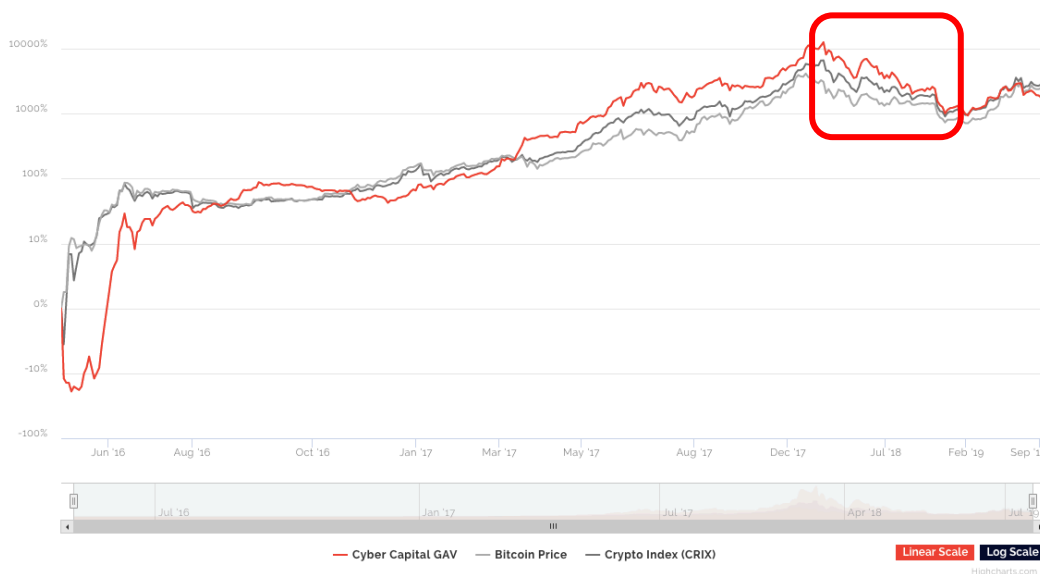


Figure 8 - Performance of a Fund V.S. Market Indices

We don't expect to take a short position to make profit during market downturn, we

expect our dear managers to detect the market crisis and get rid before it is too late. At the same time, we are also afraid of overreaction, letting the upcoming profit slip away. Totally, the value of a manager provided to her clients is to decide when to take the position based on input information and clients' appetite.

1.3.4 Information Opaque

Yes, as an investor, you really know your manager and you should, but what kind of benchmark do you take to evaluate the performance of your manager? Most of asset managers set market index as benchmark, and once the projecting strategy beats it, she is happy to declare an outperformance of the portfolio to her clients. This is not enough, where investors can only see the comparison between overall performance of the market and that of the portfolio. If it is possible to compare the performance of all active managed fund, they should be able to make wiser decision. **To some extent, we may doubt that it is because of the market information opaque and ambiguity that makes it appears to have more opportunities and to be more attractive to people who likes gambling.**

1.4 Opportunities

1.4.1 Lower Entry Barriers to Retail Investors

With the development of Internet, people can easily acquire financial knowledge and information. They can even do trading through online brokerages by themselves rather than traditional funds. This trend still attracts many market players to provide potential investors with a more efficient and transparent ways to invest their money.

As the market becomes mature and transparent, advantages that institutional traders once enjoyed over retail investors will disappear. The accessibility of sophisticated online brokerages, the ability to trade in and receive more diverse securities (such as options), real-time data, and the widespread availability of investment data and analysis have narrowed the gap.

1.4.2 Lower Friction

Financial market frictions, especially transactions costs, depend in part on market structure^{iv}. Frictions of financial market are costly and can strongly influence your decision-making process. Anything that prevents a smooth transaction can be regarded as friction. It ranges from the misleading information of the products (here are financial instruments) or cost incurred when shifting from one position to another, to many tedious activities during the transaction that does not produce value but consume time and money, for example, legislative issues and taxation. Reducing friction is an important driver in facilitating market growth. A frictionless market is a theoretical trading environment where all costs and restraints associated with transactions are non-existent. But such frictionless market only exists in many theoretical models as a strong assumption, for example, Black-Scholes pricing model. But in general, the market tends to move from higher-cost to lower-cost, which should also be the case to financial sector.

With the development of online trading, both sellers and buyers can benefit from a lower friction market. From a company side, it can be another business attractiveness, just like Lean production management from TOYOTA rising the third revolution within automotive industry. As passive trading becomes more and more popular, company performing well may not be as a result of its tailored strategy but is because of its efficient and low-cost transaction process.

1.4.3 Fight for DATA

The problem here is that, do you still struggle to win money in a traditional old way? or driving a fundamental change in the kinds of data used to make informed investment decisions.

Nobody can make bricks without straw. Output is always strongly determined by the input, especially after stepping into this digital era. The less gut feeling you based on, the more rational decisions you will make. So, the problem becomes what information do you really need. The term “really” is important, why?

Digitalization does unleash our ability of data collection. One could almost collect

whatever data he/she wants (let's put aside the legality issues for a while). We can perceive that, to some extent, what Internet giants have been battled for is data. So many startups being attractive to these giants is not because of the market they serve, but the data they collected from their customers. Collecting metadata is no longer a constraint. But among numerous data, which of them do we need? And how do we transform meta data into information to support our decision making? Metadata requires extrapolation and analysis, otherwise they are useless. Taking "food" as a metaphor, we pay for the food, but it could not generate us energy if we don't consume it. On the other hand, we have limited money and belly, so we should be careful in choosing the right food and consuming them properly to avoid wasting and getting sick.

1.4.4 Fintech Development

For a very long time, financial sector remains its traditional ways to operate. As we can see some new technologies like AI and ML emerged and have already seen many practical implementations and disrupted some market, such as e-commerce and automotive. What about Finance? Many VC invest money in these innovative startups, how could we avoid being disrupted? There are some pioneers, trying to help our clients to invest their money in a more efficient way with a lower cost, using new technologies.

The astonishing progress in the digital arena is often at the forefront of conversations. It is only natural to think that high-tech solutions might play a major role in the future of the asset management industry. There is an obvious trend that **asset managers distribute their product through online platform – who previously relies heavily on banks' distribution channels – and expand their clients both in institutional and retail sector.** For example, EXANTE is one of emerging innovative brokerage company. With a single account on its platform, clients have access to all the financial markets and instruments, trading instantly with a transparent commission price. In such a way the company does establish its attractiveness to a worldwide range of retail investors.

Apart from that, various technologies represented by big data and artificial intelligence (AI) have generated great value in reshaping all aspects of the asset value chain. The

application of financial technology in the asset management industry mainly focuses on the following four links:

- **Investment Supporting:**

Using AI and big data can greatly accelerate data analysis, enable us to select the best trading time, the best transaction price, and innovative investment strategies through continuous improvement in computing power.

- **Marketing and Service:**

Through continuous machine learning, we can have a deep understanding of customers. With a more rational allocation of marketing and resources, one can provide retail both retail and institutional investors with more customized contents and services.

- **Risk Management and Compliance:**

AI and Big Data enable real-time monitoring of massive primers, providing timely warning and rapid response to investment risks.

- **Operation and Digitization:**

Using AI and other technologies, it can automate repetitive tasks and improve efficiency. For example, based on the characteristics of Distributed Accounting Technology (DLT) data synchronization, it can penetrate the underlying assets, reduce information asymmetry, and improve the efficiency and transparency of transaction and information sharing.

In order to realize the leap-forward development from passive follow-up to technology-leading, the asset management organization should strengthen the strategic determination of technology investment, building a more agile supportive system to adapt to the new strategy.

1.4.5 From Supply-driven to Demand-driven

This is the symbol of market maturity. Disrespecting the difference of business between different domains, they share the same trend – customization. In a competitive market,

service providers thrive to satisfy clients' needs only to take a small fraction of shares. We can perceive that AM industry reaches its turning point, as the market trying to introduce changes that consider more about customers' requirement. One typical trend is the increasing bargain power from demand side. Many emerging online trading platforms, "eToro" for example, enable investors to do comparison and selection among asset managers. In such a way the market becomes more and more transparent and efficient. Besides, as easy-investing channels established, the market will be more attractive to investors that otherwise never think of investing saving. Thanks to its transparency, investors can benefit from lower risks from trading.

1.4.6 Cultures Change

Traditional asset management market is people driven. As companies thrive to emphasize their cultural attributes and professional advantage, almost any areas can see the same phenomenon – that the top 10 players take up more than a half of market shares. However, in recent years as the market pays increasing attention to the implementation of new technology in helping asset allocation, many start-ups seem found their ways to disrupt. The rise of passive, alternative index, factor and quant strategies have slightly driven the asset management towards a tech business. The positions of top players are far from being challenged, since they continuously acquire smaller fishes that look attractive to them, but in such a way they are forced to keep updating and changing by themselves.

Chapter 2

Digital asset - The New Market

The thesis is set as a company thesis. The company hosted, namely DP Asset Management Co., has a history of more than 20 years providing financial services to institution. The company perceived an upcoming market – digital asset – will be the fresh blood to the traditional financial market and does pose great potentials that could demonstrate a new profit stream in the near future. Therefore, the following part will try to draw the picture of this new market, the next battlefield.

This looks like a tough shift from the discussing opportunity to digital asset market. There is still correlation between them, as digital assets, namely, crypto currencies, have been increasingly accepted by financial institutions as one of the new asset class, and therefore is also an opportunity to the market as a whole. Some commented digital asset, driven by blockchain technology, will be one of the most transformative themes of the 21st century, while some holding negative perspective would recognize is as a fraud, since it is nothing but just an encrypted data string. However, whether you admit it or not, digital asset has already imposed great influence on the financial market. Despite the market concerned is highly unregulated and the intrinsic value of the digital asset is still ambiguous, it still enjoys an increasing public acceptance. One of most typical symbols of the financial market accepting the cryptocurrency is that Nasdaq, the world's second-largest stock exchange, started listing two cryptocurrency price indices on Feb. 2019, and has listed the AI-powered CIX100 index for top 100 coins recently, Oct. 2019^v. Another news is that the Intercontinental Exchange (ICE) launched **physically settled bitcoin futures trading** through its Bakkt platform on September 23^{vi}. Despite

that the bitcoin price dropped by \$1,000 only one day after the product's launch, it is still a step in the right direction for institutional awareness of crypto assets.

2.1 Crypto Currency - Bitcoin, Ethereum and Litecoin

A cryptocurrency, broadly defined, is virtual or digital money which takes the form of tokens or “coins”. It is a large ledger containing all the transactions in its history. Being different from fiat money, crypto currencies are not held by central authority such as bank, but the ledger, namely “blockchain”, which is distributed among participants around the world. As such transaction using crypto currencies will not get involved with tedious procedures that take time and costs. In other words, it is faster and cheaper than the use of the traditional banking system. All transactions are electronically announced on the network. They are integrated into transaction blocks, which are then validated by computers that solve complex calculations to get there. When a block is validated, it is added right after all the blocks that precede it. There are more than **1,600 cryptocurrencies** in existence, and many of those tokens and coins enjoy immense popularity among a dedicated (if small, in some cases) community of backers and investors.^{vii} Among them, Bitcoin and Ethereum take the first two positions of the market Cap.

- Bitcoin

Bitcoin is a crypto asset that is not issued by any government, bank or central organization. Bitcoin is based on the decentralized, open source protocol of the peer-to-peer Bitcoin computer network (the “Bitcoin Network”), which maintains the decentralized public transaction ledger, known as the “Bitcoin Blockchain”, on which all bitcoin transactions are recorded and can be traced back to its original release. Movement of bitcoin is facilitated by a 100% digital, transparent and immutable ledger, enabling the rapid transfer of value across the internet without the need for centralized intermediaries.

- Ethereum

The native asset of the Ethereum Blockchain is ether, a cryptoasset that is issued by, and transmitted through, the decentralized, open source protocol of the peer-to-peer Ethereum Network. A decentralized world computer is one on which globally accessible and uncensored applications can be built. No single entity owns or operates the Ethereum Network. The infrastructure of the Ethereum Network is collectively maintained by a decentralized user base. Ether can be used to pay for use on the Ethereum Virtual Machine or in individual end-user-to-end-user transactions under a barter system. All such transactions can be made without the use of a middleman or any other counterparties while maintaining transparency, meaning anyone can view Ethereum's programs from anywhere in the world. The Ethereum Network allows users to write and upload smart contracts to the network – that is, general-purpose code that executes on every computer in the network and can instruct the transmission of information and value based on a sophisticated set of logical conditions. Smart contracts are more versatile and are capable of facilitating, verifying, and automatically enforcing the negotiation or performance of the contract.

2.2 Market Capitalization of Cryptocurrencies and Forecasting

The total market cap for all cryptocurrencies stands at around \$250B to date (23/10/2019), generated by individual investors and, largely, by the big investment funds which not only trade cryptocurrencies, but also invest VC in blockchain and crypto-related startups.

But when tracing the historical figure of total market cap, one can easily see a great upside down during the period of 2017-2018. But in the coming year after crunch, the market, unsurprisingly, starts climbing again with highly volatility. Investors got nervous, but in total people still express highly expectation on its development (The flow chat of total market capitalization is provided by CoinMarketCap).



Figure 9 - Total Crypto Market Cap

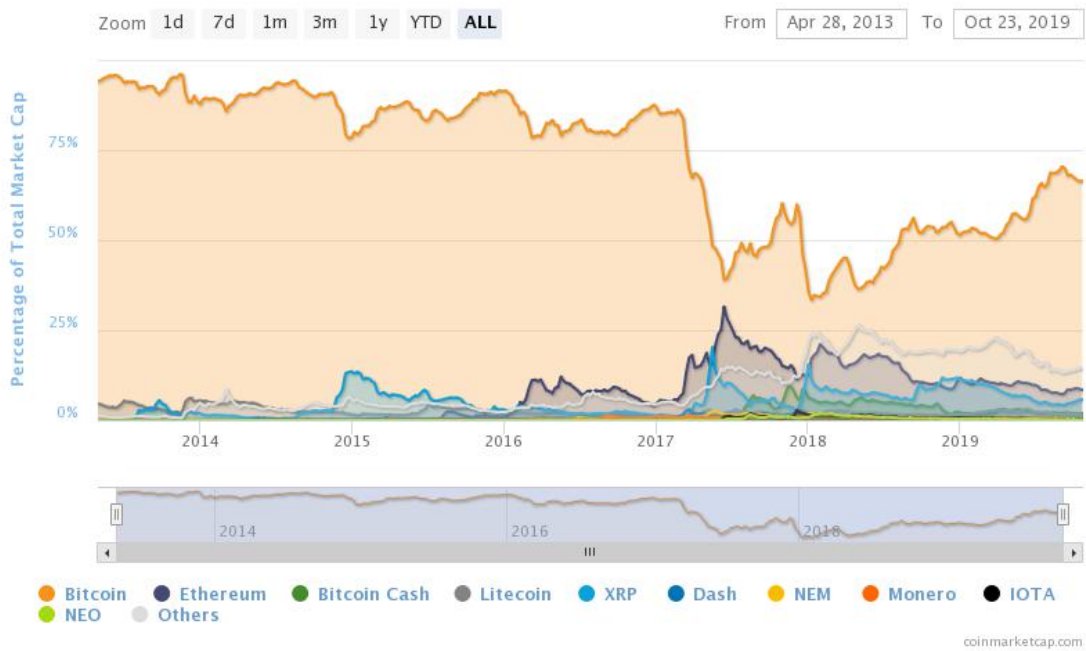


Figure 10 - Percentage of Total Crypto Market Cap

Prediction is possible only in a world in which events are preordained and no amount of action in the present can influence future outcomes, while forecasting the market trend, especially in the financial market characterized by its unpredictability, can only be proved wrong. But still, the total market cap draws a line that always remind me the so-called **Gartner Hype Cycle** - a graphic representation of the maturity and adoption of technologies and applications, and how they are potentially relevant to solving real business problems and exploiting new opportunities^{viii}. The object of hype cycle is technologies and applications, and crypto currency is exactly the application of Blockchain technology. Total Market cap here represents the market expectation. In late 2017, this application reached the peak of inflated expectations, followed by a significant disillusionment period. After this retracement, the market cools down and enters a slop of enlightenment. **To date, in spite of its highly volatility, we can see upward trend of the market starting from the early 2019, which could be a symbol of the market entering the continuous growing phase that will take a long time and require the technology maturity.**

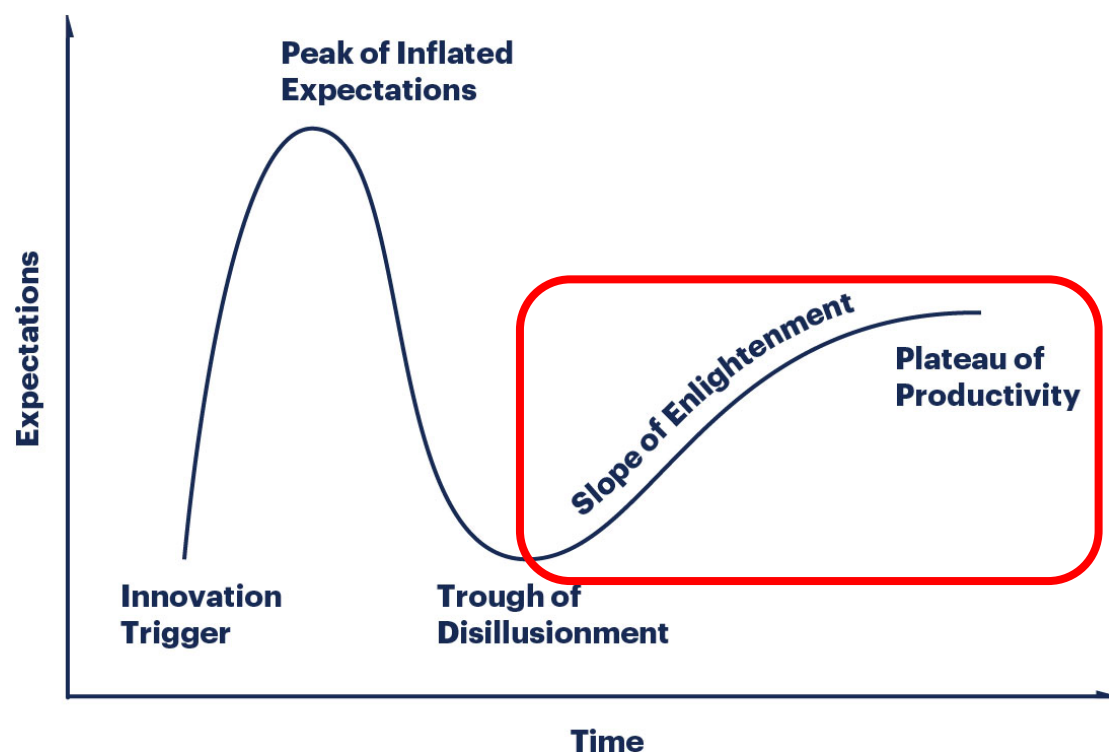


Figure 11 - Gartner Hype Cycle

2.3 Crypto Fund

Digital assets benefit from continued declines in interest rates globally, the loss of purchasing power from fiat currencies which makes cryptocurrencies the viable alternative. To gain exposure to cryptocurrencies in a more secure way, investors, including individuals and institutions would appeal to crypto hedge funds. These funds are managed by teams of experts, each projecting strategies to time the market and beat it. Investors receive profits from these experts' market maneuvers. According to the PWC's Crypto Hedge Fund Report 2019, around 150 active crypto hedge funds operate on the market, managing \$1bn AuM, without including VC and crypto index fund.

2.3.1 Type – Categorized by Strategies

With reference to PWC's Crypto Hedge Fund Report 2019, there are three types of crypto hedge funds: fundamental fund, discretionary fund and quant fund.

- **Fundamental Funds**

usually hold a long-term investment strategy. These funds are more likely to invest in early tokenized projects and hold more liquid digital assets. They do fundamental research of the selected projects or companies and thus the portfolio is normally less diversified compared with the other types.

- **Discretionary Funds**

include a wider range of strategies, such as long/short, events driven, tech analysis. They also invest in specific crypto project – mining, a verification of crypto currency transaction. As such, they usually have a hybrid portfolio.

- **Quantitative Funds**

instead, program algorithms to sweep the market for undervalued projects based on specific measures. They rely on computer model to cover more territories and thus are able to construct a well-diversified portfolio. As a result, these funds tend to have a short-term investment preference. Typical strategies include, but are not limited to,

market-making, arbitrage and low latency trading.

2.3.2 Recent Performance of Crypto Funds

Both fundamental and discretionary fund suffered a significant negative return in 2018, at -53% and -63% respectively, whereas quant fund had a surprisingly positive return of 8%. To be clear, even though the overall performance is poor, they still outperform the Bitcoin, the universal benchmark which went down by 72% in 2018^{ix}.

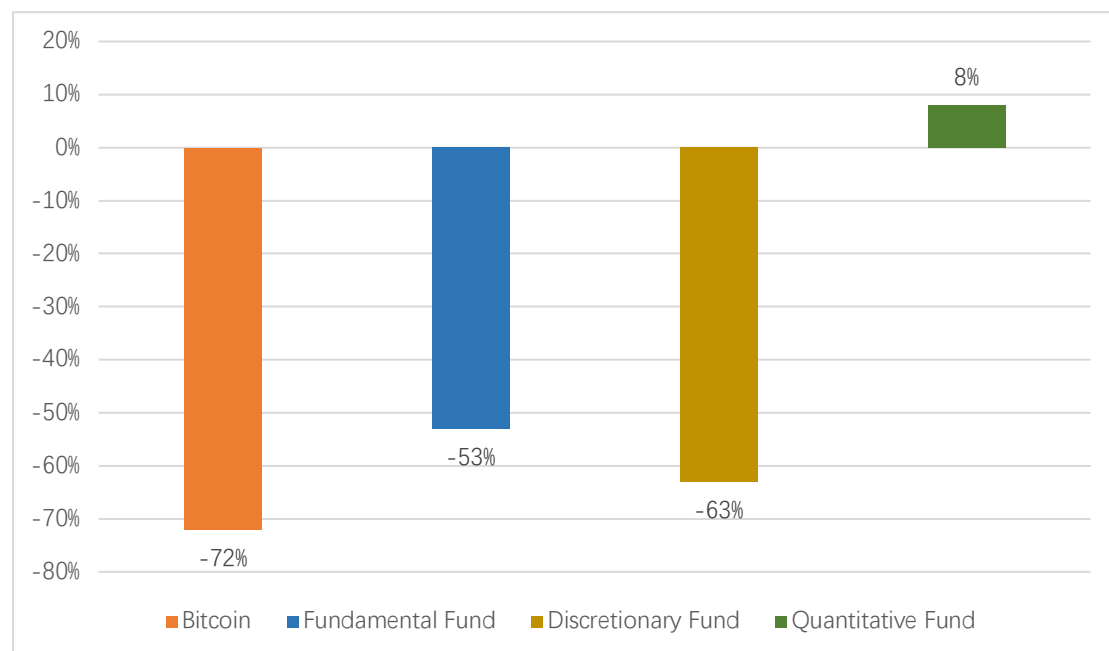


Figure 12 - Annual Return of Crypto Fund in 2018

2.3.3 Objective of Crypto Funds

In comparison of traditional asset classes, digital asset is characterized by its high volatility. Including such new asset class into portfolio or even setting it as only investment object is extremely risky and highly speculative. However, the world has already shifted from “whether or not to invest in crypto currencies” to “how much should I invest in crypto currencies”. What is fun is that it is such high volatility that attract people. As investing in digital asset become mainstream, the market would be more liquid, further lower the risk of liquidity problem and make it more attractive. Several objectives of a crypto fund are as follow:

- **In search of a high potential return:**

The potential return of investing in crypto fund is too hard to be ignored. Crypto funds target investors with a good risk tolerance, providing them with a secure way and professional advices to capture profits that other investments are far from being achieved.

- **Diversification:**

Recording the demonstration of Nobel Prize winner Harry Markowitz, diversification increases the efficiency of an investment portfolio – which means higher returns and lower risk. Diversification is the main consideration for institutional investors, since there is almost a uncorrelation between traditional investments and crypto currencies, such that the later ones represent the perfect addition to the current portfolio.

- **Get in before it's too late:**

As analyzed before, the crypto market cap has experienced a significant (around 80%) portion of correction after the illusive advance period. Now there should be a counter-trend bounce following, especially with the high expectation on blockchain technological breakthrough in the future, which are expected to propel the market. The current price level is so ideal that anyone who recognizes its potential should seize this opportunity to get in.

Apart from that, we can also see a trend of “institutional capital” entering the crypto currency market. It's unlikely that they truly want to buy and take the digital asset settlement, but to take a more synthetic exposure that provides them with the volatility of underlying assets (in this case crypto currencies) without real execution. Such thinking is similar to the commodity markets (oil, for example), where most of them do derivatives trading instead of real delivery.

2.3.3 Regulation^x

Regulation is always lagged behind technology. Such is also the case with respect to cryptocurrencies and blockchain technology. Over the past 4 years cryptocurrencies

have witnessed an expansive growth, raising more attentions of national authorities. Attitudes hold to and efforts spent on cryptocurrencies regulations varies greatly among countries and could change all the time.

- **Attitudes**

Mostly, authorities set warnings to citizens that that crypto investment is not subject to regulation and is highly risky. Another concern comes to the tendency of cryptocurrencies facilitating illegal activities, such as money laundering, terrorism and organized crimes. As such, beyond warnings the public, they also require financial institutions to conduct due diligence as they do in other market.

Countries like Algeria, Bolivia, Morocco, Nepal, Pakistan, and Vietnam directly and simply **ban** any activities involving cryptocurrencies.

Some, while not banning, impose **restrictions** on financial institutions facilitating transactions involving cryptocurrencies (Bangladesh, Iran, Thailand, Lithuania, Lesotho, China, and Colombia).

Some countries and authorities, conversely, recognize it as an opportunity rather than a threat, thus creating a crypto-friendly regulatory regime to **embrace** this technology. In this case they are countries like Malta, Spain, Belarus, the Cayman Islands, and Luxemburg.

Some (including Belgium, South Africa, and the United Kingdom) consider the crypto market is too small to raise sufficient concerns regarding regulation amending or ban at jurisdiction.

- **Taxation**

The matter is whether gains from crypto mining or trading are categorized as income or capital gains and are taxable. The European Court of Justice (ECJ), in 2015, decided that gains in cryptocurrency investments are not subject to value added tax in the European Union Member States. National authorities have or are in process of devising taxation rules, of which they are different with each other as well. There are some

examples:

- Israel: taxed as asset
- Bulgaria: taxed as financial asset
- Switzerland: taxed as foreign currency
- Argentina & Spain: subject to income tax
- Denmark: subject to income tax and losses are deductible
- United Kingdom: corporations pay corporate tax, unincorporated businesses pay income tax, individuals pay capital gains tax

2.4 Conclusion

Investing in digital asset is still not well understood by public. The market is small, undeveloped, unregulated, inefficient and extremely volatile. It will take a long time and great efforts to implement the blockchain technology. After disillusionment period, we should hold a more Cautiously optimistic attitude toward this market.

Chapter 3

New Business of DP Asset Management Co.

After drawing a broad view of crypto market, the following part will go in deep to investigate how DP Asset Management Co. develop a new business model to take advantage of this new market.

3.1 Introduction of The Company

DP Asset Management Co. is in a position of advantage over many competitors to create an effectively profitable quantitative strategy on Crypto Assets and consequently manage an alternative fund with quantitative models and excellent potential for returns.

It's clear that entering into digital asset market is a totally new business with respect to traditional financial service providers (as here the DP Asset Management Co.), not only because of the changing external environment (regarding policy, exchange market, custody etc.), but also for the internal competence requirements.

As a traditional financial service provider, DP setting up such a new project and trying to be a pioneer of future market seems to be a “must” step to pave a new way to survive in the future, despite the risk of losing focus on existing business. It requires planning and monitoring with great attention. By doing so, this thesis will implement the ISO standard (ISO21500:2012(E) – Guidance on project management) to outline this ambitious step of DP.

3.2 ISO 21500:2012(E) – Guidance on Project Management^{xi}

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). ISO 21500 was prepared by Project Committee, with the objective of providing guidance on concepts and processes of project management that are important for, and have impact on, the performance of projects.

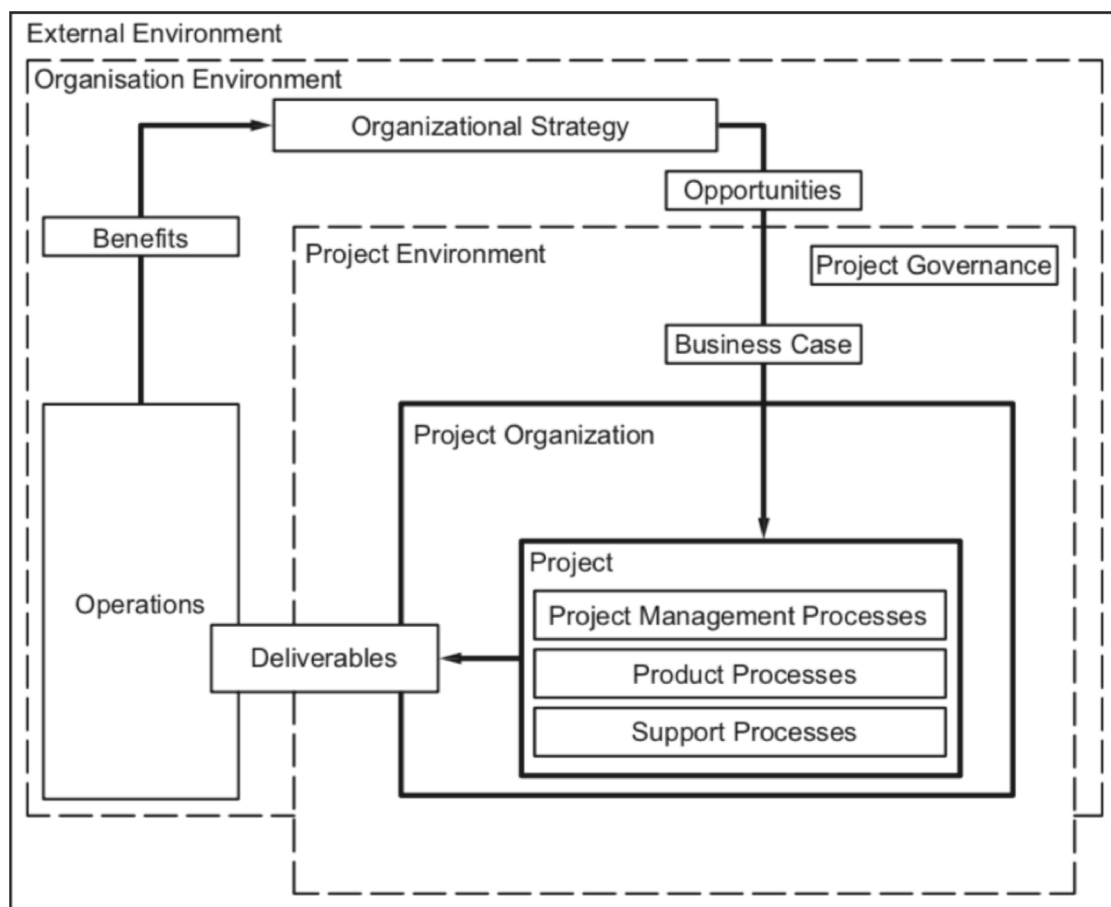


Figure 13 - Project Management Concepts and Their Relationships

The figure above shows the linkage of project management concepts. The organizational strategy identifies opportunities. After careful evaluation, only selected opportunities will be proceeded further as business cases, from which one or more projects come up. The projects' deliverables will realize benefits, with which the organization can further develop new business strategy.

3.2.1 Organizational Strategy and Opportunity

- **Organizational strategy:**

Organizations generally establish strategy based on their mission, vision, policies and factors outside the organizational boundary.

- **Opportunities identification:**

These opportunities may arise from, for example, a new market demand, a current organizational need or a new legal requirement. Following the opportunities, the organization should come up with projects characterized by typical goals and benefits, which will then become the input of project justification.

- **Benefit realization:**

Once obtaining approval of the selected project, the manager should consider the benefits and their realization as they influence decision-making throughout the project life cycle.

3.2.2 External and Internal Environment

Project environment has great influence on the success of the project throughout the project life. Project team should consider the environmental factors as follows:

- **External factors:**

They are normally out of control of the project manager, despite they have great impact on the project by creating new opportunities, as well as imposing limitations or introducing risks.

- **Internal factors:**

A project usually pertains to a larger project or belongs to an organization that has other activities. Building a certain relationship between project and its internal environment will make sure the project stay aligned with the organization business.

3.2.3 Governance

Project governance is a framework applied by the concerning organization to direct or control project activities, including, but are not limited to, structure definition, policies, processes and methodologies identification, interaction such as reporting of risks.

3.2.4 Stakeholders and Organization

Identifying stakeholders is an important procedure to the project. Each stakeholder has its roles and responsibilities toward the project goals. The picture below describes a typical project stakeholders' relationship.

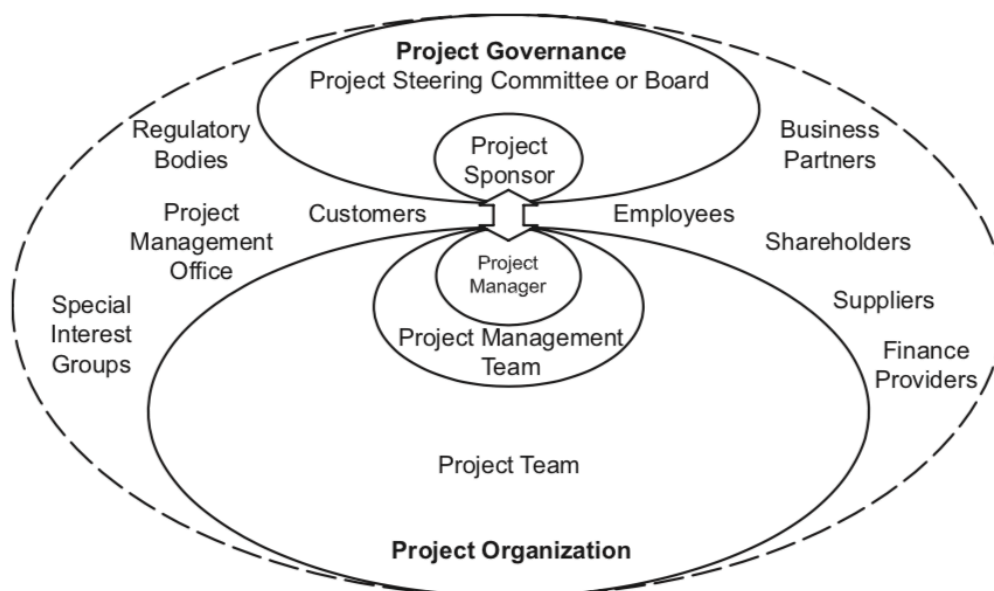


Figure 14 - Project Stakeholders

3.2.5 Competence of Personnel

Competence of project team determines the capability to provide project deliverables. Any gap between the available competence the project requirements will introduce risks and ought to be addressed properly. Project management competencies include, but are not limited to, technical competencies, behavioral competencies and contextual competencies. They can arise through internal training or outsourcing.

3.2.6 Life Cycle

Projects are always divided into phases following a logical sequence. Within each of them a set of activities should be performed to make periodic deliverables. Between phases there is a decision point, where the project makes review and correction.

3.2.7 Constraints

There are several types of constraints of projects and they are often correlated with each other – a change of one may affect the others. Typical constraints encountered include, but are not limited to, duration of the project (time), project budget (cost), available resources, accepting risk level and PEST (policy, economy, society, technology) impact. Given their interdependence characteristics and that they have great influence on the decision-making process, project managers should pay more attention to find the balance among them.

3.2.8 Management Process

Project managers should tailor each project, determining what processes are appropriate and the degree of rigor to each process. Constraints of the project and requirements among stakeholders should be taken into consideration during the whole process. A general project management processes could be viewed from two different perspectives: as process groups, including initiating, planning, implementing, controlling and closing (the following figure indicates the relationship between the processes);

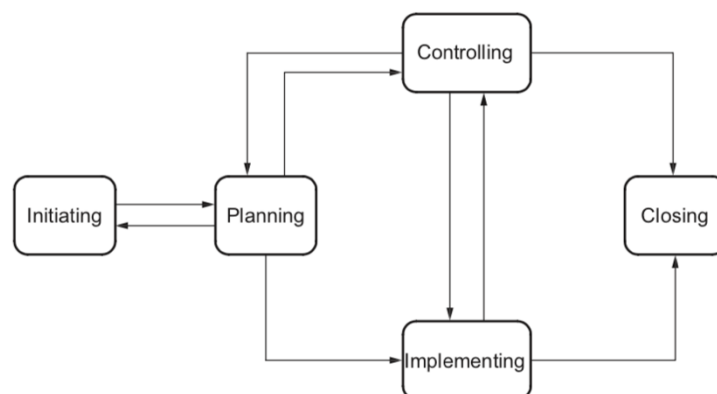


Figure 15 - Process groups interactions

as subject groups, including integration, stakeholders, scope, resource, time, cost, risk, quality, procurement, communication.

3.3 Investigation of DP Asset Management Co.

In the interest of brevity, the evaluation of the DP Asset Management Co. does not fully follow the scheme of ISO 21500. The main focuses include external environment analysis, opportunity identification, drawing new business model and project governance. The description of the business model based on the project management process would not go in great detail, but in a more general and broader perspective. Although some operation routines of the new project remain similar to what company currently runs, there are still rooms to innovate from an innovative point of view.

3.3.1 DP's Strategy

DP is a fintech management company using digital technology to manage all investments processes. Starting in the North of Italy 20 years ago, the company has relied on **quantitative models** and rigorous processes to obtain concrete results to institutional clients. The vision of DP Asset Management is as follows:

“SERIOUSNESS, SPECIALIZATION, INDEPENDENCE AND TRANSPARENCY”

As mentioned before, the company is working on providing a bridge between investors and crypto market. **A dedicated channel** that involves in two funds located in Cayman island and Malta respectively will be created.

In addition, taking the advantage of professional financial investment services' experience, DP decided to extend its clients base from “institutional” to “**retail**” sector, providing access of its strategies to retail investors - including individuals, family offices, and independent consultants - through a user-friendly **digital platform – OpenPHI**. This in-cloud platform is the first open platform for social investing, where qualified financial advisors can advise on one or more managed accounts.

3.3.2 DP's Opportunities

Recognizing crypto currency as a type of asset class is still a long way to go. The big bubble could be considered as a market correction and a disillusionment process. During 2019 Bitcoin is gaining 110% and this is bringing back a minimum of trust around these dedicated tools. In the United States the market still awaits the launch of an ETF and this is an important thermometer to understand how the authorities are dealing with the digital currency. This is a highly volatile segment that must occupy a marginal portion of the portfolio for those with high risk propensity.

Talking about the digital platform, as analyzed before, Italian market is characterized by high commission fee. In Italy, the majority of financial service available is non-independent, or in other word, captive. Typically, people use a bank or an asset manager who sells a limited range of products. The nature of this model means that the financial advisor is working for an institution rather than working for their clients. From the perspective of financial advisor, this is a constraint to them. They are responsible to prioritize the clients' profit, but under such tight schemes, they are always forced to sell products of the hosted company. From the perspective of DP, this is an opportunity. The company create a digital platform, where financial advisors can provide direct service to their clients without limitations. Thanks to the digitalization, the company will charge a negligible commission fee, which in turn benefits both the advisors and their clients.

3.3.3 DP's Environment

DP believes in crypto assets that have the highest potential growth and will be the most disruptive sector in the world. Firstly, unlike Fiat currencies that have potential infinite supply and finite price, the digital currencies have finite supply and potential infinite price. Secondly, there is high potential of adoption in the near future.

With respect to the attractiveness of the digital platform to Italian financial advisors, it is estimated to be high, because Italy financial market always tends to remain stable, so as to the problems inside. Financial advisors can bring their clients to this platform and

enjoy a regulated, user-friendly, low-cost environment. The most important thing is the marketing of this platform. Company should thrive to reach a certain amount of platform users in order to have **positive network externalities**.

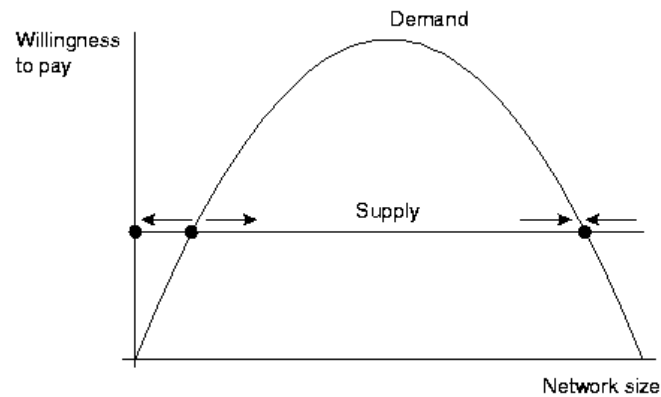


Figure 16 - Network Externalities

3.3.4 Business Model – Crypto Investment Channel

The objective is for investors to gain exposure to crypto currencies. The suggestion from the company to investors is not a blind “all in” investment but taking BP Fund as a part of their strategic asset allocation plan to take advantage of the opportunity and reduce the risk. The CEO of the company described the new crypto fund using a metaphor as follows:

“The cryptos should be included in a portfolio as chili pepper should be added to a good plate of spaghetti with clams: it takes a little, just a pinch, to enhance the flavour, balance the ingredients, and appreciate the dish in its overall structure”.

- WHAT?

An Alternative Investment Fund (BR Fund), managed by DP, is set in Malta and subject to Maltese law. The fund is unable to invest directly in crypto, because this is currently prohibited by Maltese (and European) legislation. To circumvent the issue, DP set up another fund (CPT Fund) in Cayman Islands - which can expose itself directly in digital currencies - and direct the BR Fund to invest in CPT Fund. Another consideration is the limitation of investment portfolio of a fund, which prohibits a Fund of Fund from investing in a fund with more than 80% shares. It means CPT Fund can only constitute

up to 80% of the BR Fund, while the remaining 20% should be dedicated to investment of other funds. This is not bad news for the sake of diversification of a fund, and it is exactly in accordance with the intrinsic purpose of the company creating this crypto fund – Further diversifying the existing portfolio by crypto investment.

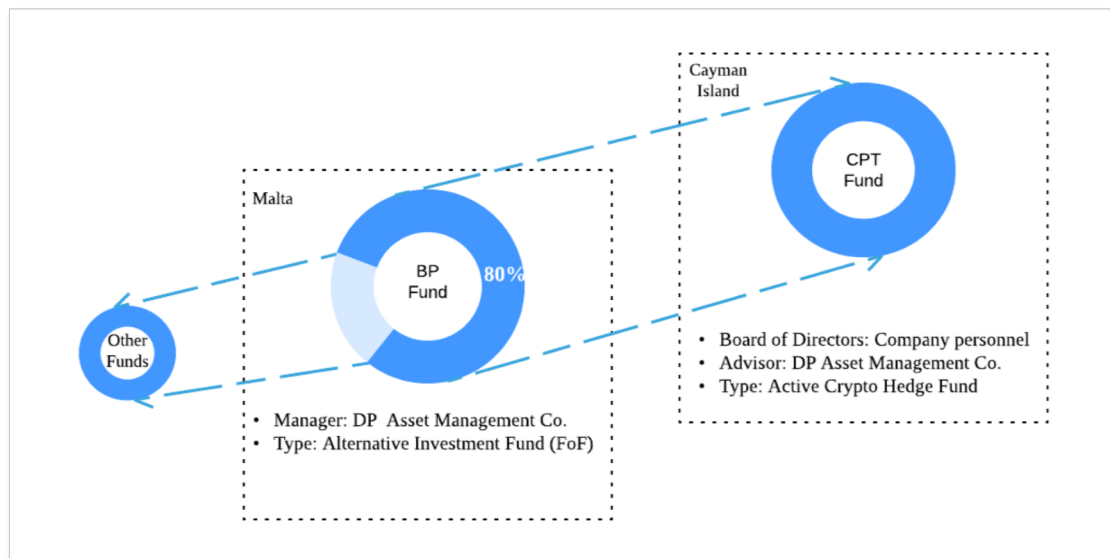


Figure 17 - Structure of the Funds

- WHY?

For most people, investing in crypto assets is still very difficult and even more risky. European Investors suffer several risks when they invest in crypto individually:

- **Regulatory issues.** Despite the efforts of authorities and banks, the market is generally unregulated, and the policy could change overtime. Such uncertainty means your money investing in crypto carries more counterparty risks than your capital in established asset classes.

DP dedicates to provide its clients with a stable and fully regulated mechanism to gain exposure to crypto market.

- **Protective issues.** Unlike Fiat money which you can either deposit in banks or keep it as pieces of paper, crypto currencies is digital and can only be kept in your personal digital wallet or in the exchange market. There are several examples of crypto exchange being hacked, let alone your wallet. To make

things worse, once your exchange becomes insolvent, there is no any rebate and you may lose everything. Adding them all will pose great risk.

CPT fund addresses these issues properly through a conservative strategy and a considerate scheme. Firstly, the fund is in cope with a third-party depository custodian crypto bank to safeguard the storage of the cryptocurrencies. Secondly, daily cryptos are purchased and sold on the top five exchange to minimize the impact of the price. In addition, the exposure to a single exchange at any time is no more than 10% of the portfolio.

- **Investment strategy.** Given the high volatility of the crypto market, it requires more strict discipline of an investors. A passive buy-and-hold strategy could make your life easier, but you lose the opportunity to catch the profits from the market volatility; while a frequent trading manner could result in a poor overall performance because of the high commission fee – which in Bianance Exchange, for example, is 0.1%. A lack of knowledge and information input explains why so many individual speculators can only find themselves lose money in the end. Although there is no straight evidence to crypto market manipulations and collusions, many wired phenomena of the market performance have widely caused doubts about that. For example, Coins shoot up by dozens of percentage points over the space of a few hours, only to dramatically fall back to their previous levels the following day. These incidents are referred to as “pump and dump” schemes and take advantage of people’s fear of missing out.

Here is the reason why funds exist. Normally a fund being able to outperform the individuals is not only because of a group of experts inside with professional knowledge and experience, but also its investment philosophy. DP Asset Management Co. is expertized in trend following, thus the strategy of CTP Fund is based on daily analysis of trends through five quantitative algorithms. An AI model is also addressed to signal the market situation. This will allow the fund to detect and fast react to any significant market drawdown.

- Where?

DP Asset Management Co. is located in Malta, a well-established EU financial services and Fintech center. Malta has established itself as a prime fintech hub for over a decade by hosting and attracting a variety of financial services businesses and structures Malta has sought to create a regulated framework for innovative technology that is built upon three pillars: consumer protection, market integrity and financial stability. In the framework of developing a broad national legislative strategy supporting Distributed Ledger Technology assets (crypto asset) and embracing the blockchain innovation, the Government of Malta has also been supporting the relative development in the financial investment services sector relative to the investment funds.

3.3.5 Stakeholders

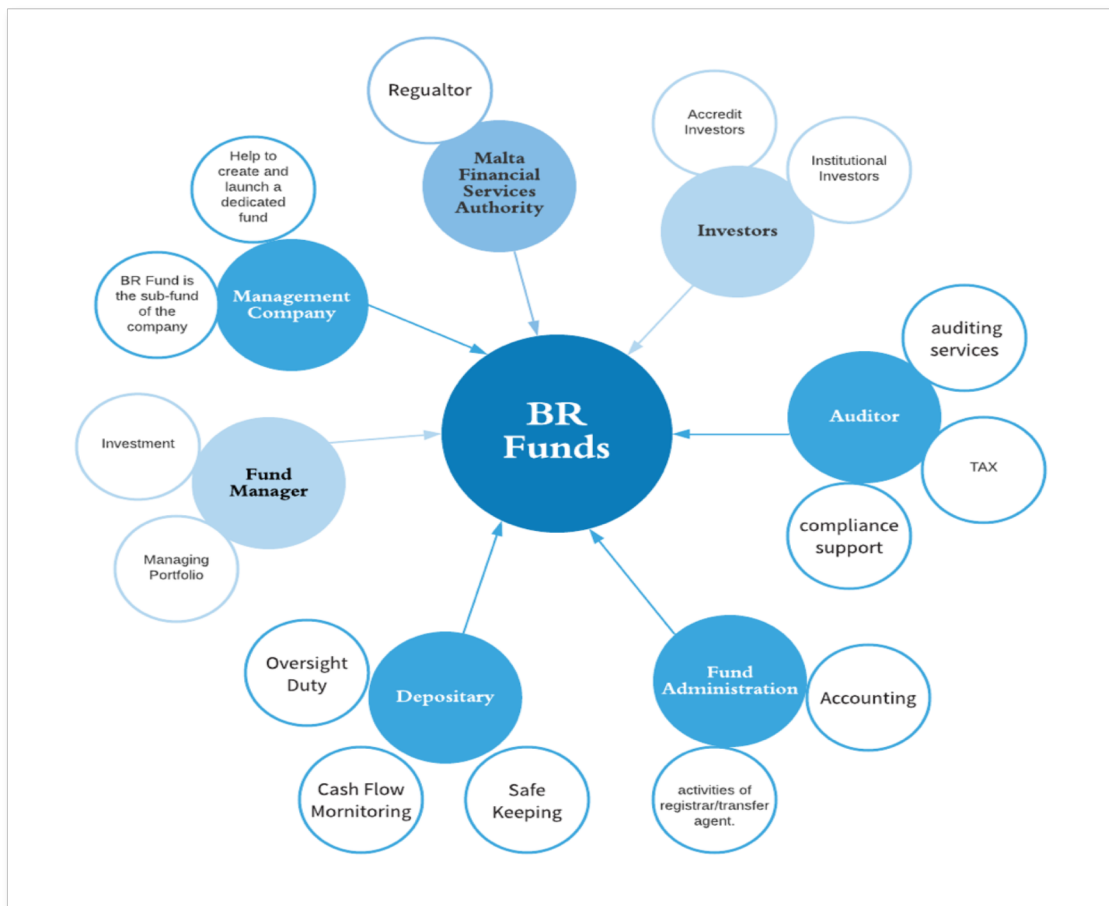


Figure 18 - Stakeholders of BR Fund

3.3.6 Evaluation

- Reputation and Tracking Record

Credibility, reliability, trustworthy, responsibility...sound subjective, but they are highlighted by when investors picking a fund. It's not just about the link between risk and return, in some case it's more about the reputation of the fund manager or advisor.

Having a good tracking record is the key factor to earn trust. In the course of the past 20 years, DP Asset Management Co. have always worked with institution such as **banks and management companies** to develop different management strategies based on **quantitative models**.

However, BR Fund is a new business with respect to the company, which targets a new, unregulated, highly volatile crypto market. It means the company ought to spare no effort on persuading clients that they will be able to keep responsible and yielding high return to them as before. An important competence that the company has always highlighted is their well-developed **quantitative model**, a rigorous management process with pre-established investment rules set after having studied the behavior of financial markets for many years.

Anyway, it will take time for the company to prove itself in this new marketplace.

- Fund's goal and Investment strategy

Investors want to make sure that they share the same appetite with the fund they pick. Each fund has its own investment strategy and preference. The investment strategy of the BR Fund is to do active trading of the crypto currencies.

The most important value delivering to investors from the fund is the **secure and regulated environment** to gain exposure to the crypto market. Another important message is that given the high volatility of the market, even though the fund manager persuades investors the high expected return of the crypto investment, he never suggests to "All In". Instead, taking the advantage of the low correlation with other asset classes, he recommended investors to take BR Fund as an **"ingredient"** of their portfolio. To

make it clear, the CEO described the new crypto fund using a metaphor as follows:

“The cryptos should be included in a portfolio as chili pepper should be added to a good plate of spaghetti with clams: it takes a little, just a pinch, to enhance the flavor, balance the ingredients, and appreciate the dish in its overall structure”.

The active level is another important factor to understand the investment strategy. We go directly to evaluate the CPT Fund. The strategy of CPT Fund is based on a daily analysis of trends through five quantitative algorithms. So basically, the fund relies on **trend trading**, a trading style that attempts to capture gains through the analysis of an asset's momentum in a particular direction^{xiii}. The company use technical tools to determine the trend direction and when it may be shifting. A typical trend trader would execute fewer positions and tend to hold them for a longer time frame. So compared with swing trader, it's active but not that extreme.

Based on the above analysis, we rank the company's investment strategy as below:

Risky: ★★★★★

Security: ★★★★★

Regulated: ★★★★★

Active Level: ★★★☆☆

- **Competence of personnel**

Particularly for actively managed funds, clients want to see that the fund's managers have been at the helm for a number of years. A fund manager is whom spends his/her life and expertise into making that fund succeed while keeping the investors' best interest in mind.

Among three managers of the BR Fund, “D”, CEO of DP Asset Management Co., is oriented to the development of mathematic models since 2001, and author of several

academic paper; “F”, with solid academic background of statistical, economic and financial & Business science, became managing director in 2015; “N”, having more than 10 years’ experience in quantitative investment, become the portfolio manager in 2018.

- Expense Ratio

One of the biggest criticisms about investing in funds is the high fees and expenses associated with buying and selling them. But there should be reasons of its existence. High fees should be justified by higher earnings. Beating the benchmark and category average is considered the minimum requirements to an active managed fund. A fund should at least earn enough extra returns to cover the costs.

In terms of a new crypto fund without back tracking record, it does not make sense to charge a high management fee. The table below shows the fee of BR Fund. As we can see, excepting the “Promotion X” column, investors get discount form a higher amount of investment. The “Promotion X” is only available within a limited initial time period, saying one month after the launch of the fund.

Table 1 - Fee of BR Fund

	<i>Class A</i>	<i>Class B</i>	<i>Class D</i>	<i>Promotion X</i>
<i>Min. Investment</i>	€ 1,000,000	€ 100,000	€ 20,000	€ 100,000
<i>Mgt. Fee</i>	1%	2%	2.2%	0.5%
<i>Perf. Fee</i>	10%	20%	20%	0%
<i>Admin. Fee</i>	0.08%			
<i>Depository Fee</i>	0.10%			
<i>High Watermark</i>	Yes			

Chapter 4

Tasks During the Internship

Reviewing the previous chapter where we explained the structure of the Fund in detail, the Fund can only invest up to 80% exclusively in its own fund – CPT, while the remaining 20% requires the fund manager to elaborate on selecting the investments whose strategies are in line with the company’s ones. During the time period I worked in the company, I was assigned to help the fund manager in this issue.

4.1 Objective / Input

4.1.1 Objective

The goal is finding the list of the other well-performed crypto hedge funds that invest in crypto currencies passively or actively.

4.1.2 Input

The CEO delivered me a dataset - “**0_Crypto_Fund_List**” purchased from “Crypto Fund Research”, which contains the basic information of active crypto funds globally. I thought the list of active crypto hedge funds provided by “Crypto Fund Research” only includes funds in US market, So I tried to search for fund online by myself. The results prove that it’s a little bit waste of time, but in such a way I gradually built up the understanding of the market. I spot some crypto funds that either created before 2018 and still survive, or that are newborn but sound attractive. Initial criteria of a fund should be met lies as follows:

- Dedicating in crypto currencies trading, instead of VC, Mining;
- Remain active in the recent period of time;
- Raising money through fiat money.

There are several ways identified to find the target crypto funds, as list below:

- Find articles listing the well-performed funds, introducing new funds, etc. For example, <https://www.bitcoinmarketjournal.com/cryptocurrency-funds/>;
- Referring to lists fund online, identify, search information to be concerned of the companies. For example, <https://www.investitin.com/crypto-fund-list/>
- Turn to insourcing Bloomberg platform to find funds through typing keywords.

4.2 Outcomes

After investigating around **150** funds, an Excel dataset named “1_Initial_Data_Set” is created, including information of **28** selected crypto funds.

During this time period, I found some sound interesting platforms which provide investors with a list of crypto funds managed by the so-called experts. By way of example, ICONOMI (<https://my.iconomi.com/?filter=crypto-funds>) enable us to invest in crypto funds inside the platform through an account with a single click. Moreover, all listed funds act passively through a fixed-weight allocation strategy respectively, which can be seen in each personal page. Although these funds do not relish our taste, they are still useful when we use them as indices to monitor the performance of the market.

Next comes to evaluating the companies found. Despite the market correction last year, there are still full of scams and some of them may be accidentally included in the list. Therefore, we ought to carefully investigate them based on our consideration.

Next we created a new dataset - named “**2_Final_Data_Set**” - that would require more information of the funds. Among **28** selected funds, only **10** of them - which have an active trading strategy and enough information (ISIN, performance, etc.) to prove their

active status- are listed in this New Data Set.

Then I started the investigation of the funds listed in "0_Crypto_Fund_List" after discussion with Daniele. Among **75** funds investigated, only **6** cross my judging standard and are therefore listed in the New Data Set. There are **15** funds seems attractive to us but with the lack of information available online, I commented them "Ambiguous", highlighted in yellow.

So, totally there are **16** funds included in the excel file "**2_Final_Data_Set**", almost each of has a folder with some references and documents inside.

As you may see in the first column, it is a qualitative and subjective ranking of the interesting level to the funds. Only funds providing enough information are ranked and the main factors include:

- investment strategy,
- performance, and
- business framework.

This ranking can only be regarded as the overall perception, as it serves the initial purpose of my task - enable company to understand the big picture of the funds easily, quickly and correctly.

4.3 Conclusion

The biggest problem of this dataset is due to the low frequency of feedback from the company, it failed to take others' opinions and view into consideration. I recognized myself as a filter, and I wish my task could truly become a "contribution" to the company that deliver value.

Chapter 5

Final Conclusion

It was a very long journey to capture the broad picture of the Asset Management industry. Thanks to the internship in DP Asset Management Co., I have gained the opportunity to get closer to the market, which helps distinguish the real problems and opportunities of it. All data are come from professional and authoritative reports to make sure the accuracy. Some of the analysis are inspired by the views of others, and some are developed through the application of lecture learning - for example, the “The Real Face” part is based on the lecture knowledge of financial engineering. One can also see some bold predictions of the market based on personal judgement in it.

Overall, this thesis does fulfill its initial purpose – the understanding of the AM market. The problem is that to ensure comprehensiveness, most of the analysis do not go deeper than it should and still, there are many other aspects that deserve our attention, but they are actually missing. But during this period, I learnt a lot of knowledge related to forefront of the market and products, operation of a fund, and the so on. This could be of great important to my future career.

In the end, I would like to show my gratefulness to professor *Demagistris Paolo Eugenio* – who guided my thesis throughout the process, professor De Marco Alberto – who supported me to deal with internship agreement, and all my colleagues in the company, who answered my questions with great patience and offer me great care during this internship.

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