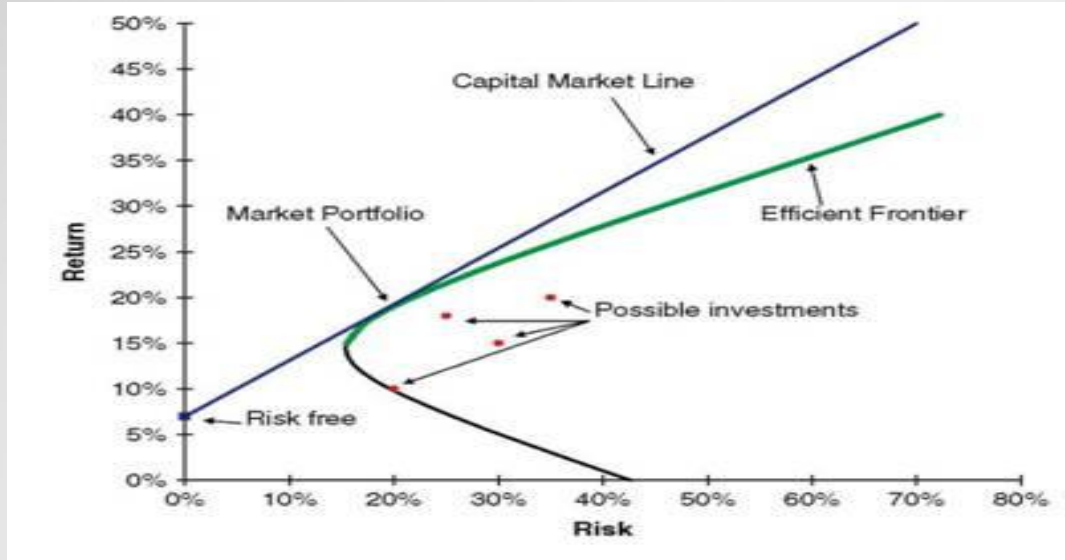




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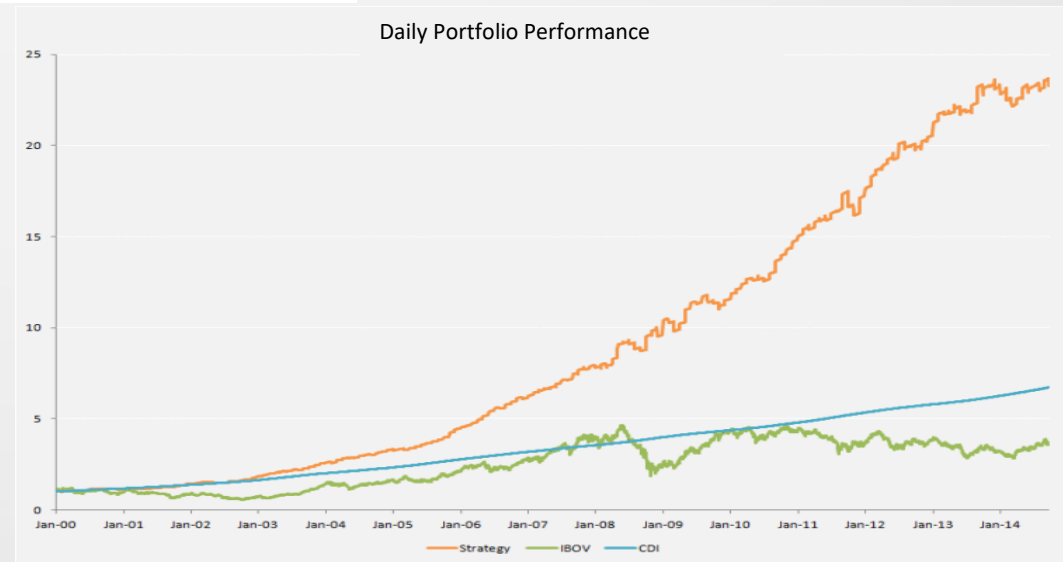
HAL Investment Robot Advisor

Asset Allocation – Traditional Approach

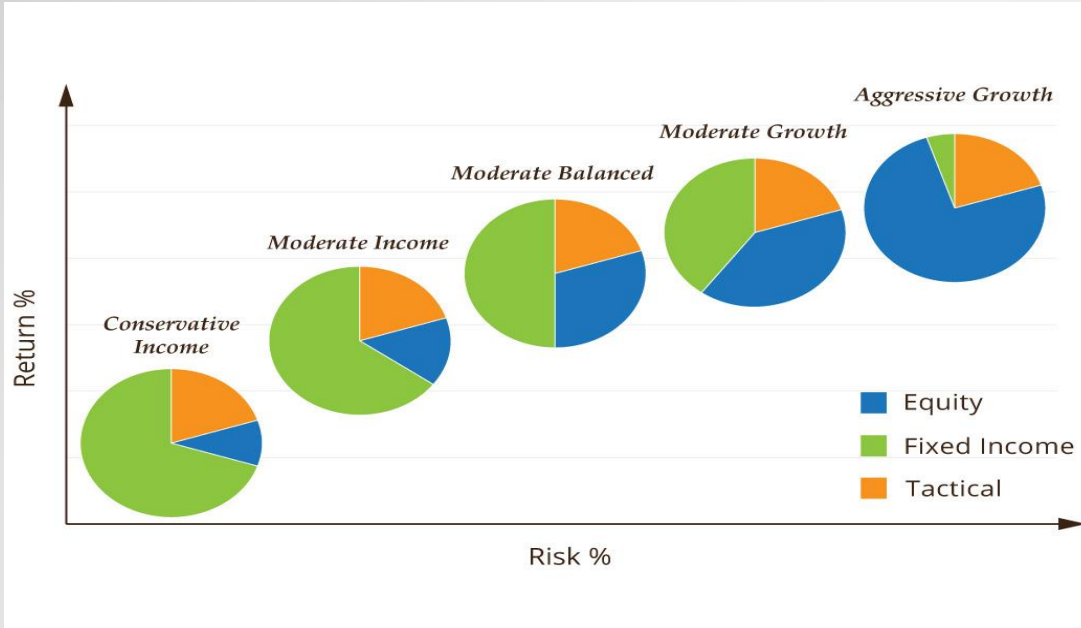


Single Portfolio Concept

Single Benchmark for the Whole Portfolio

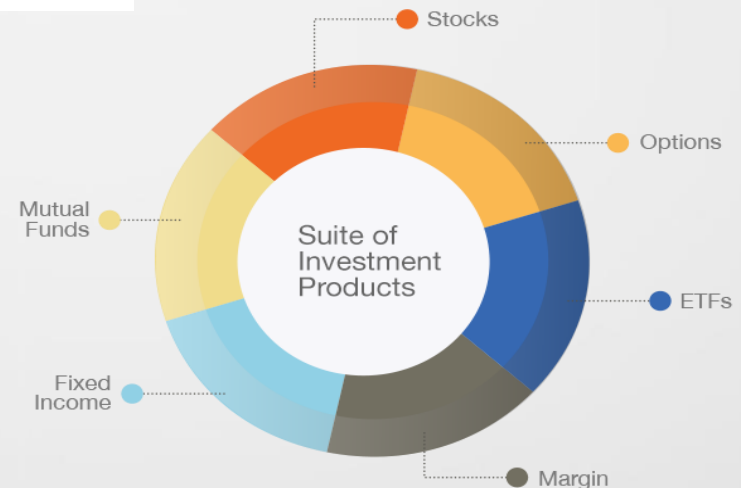


Asset Allocation – Traditional Approach



Same Allocation Only
Considering the **Risk Profile** as
a Reference

Portfolio Construction
Focused on **Products**



Traditional Approach – Main Thoughts

- Which is the best **benchmark** for your portfolio? ... Fixed Income Index? Stock Index? Currency Basket Index?
- How to establish the best **time horizon** for your portfolio? ... Short, Medium or Long Term? ... Which is the best distribution?
- What is the best **risk profile** for your portfolio? ... Conservative, Moderate or Agressive?
- Does beating a **Fixed Income Index** assure achieving your **goals**? ...

Reflection

What is the use of **my money?** ...

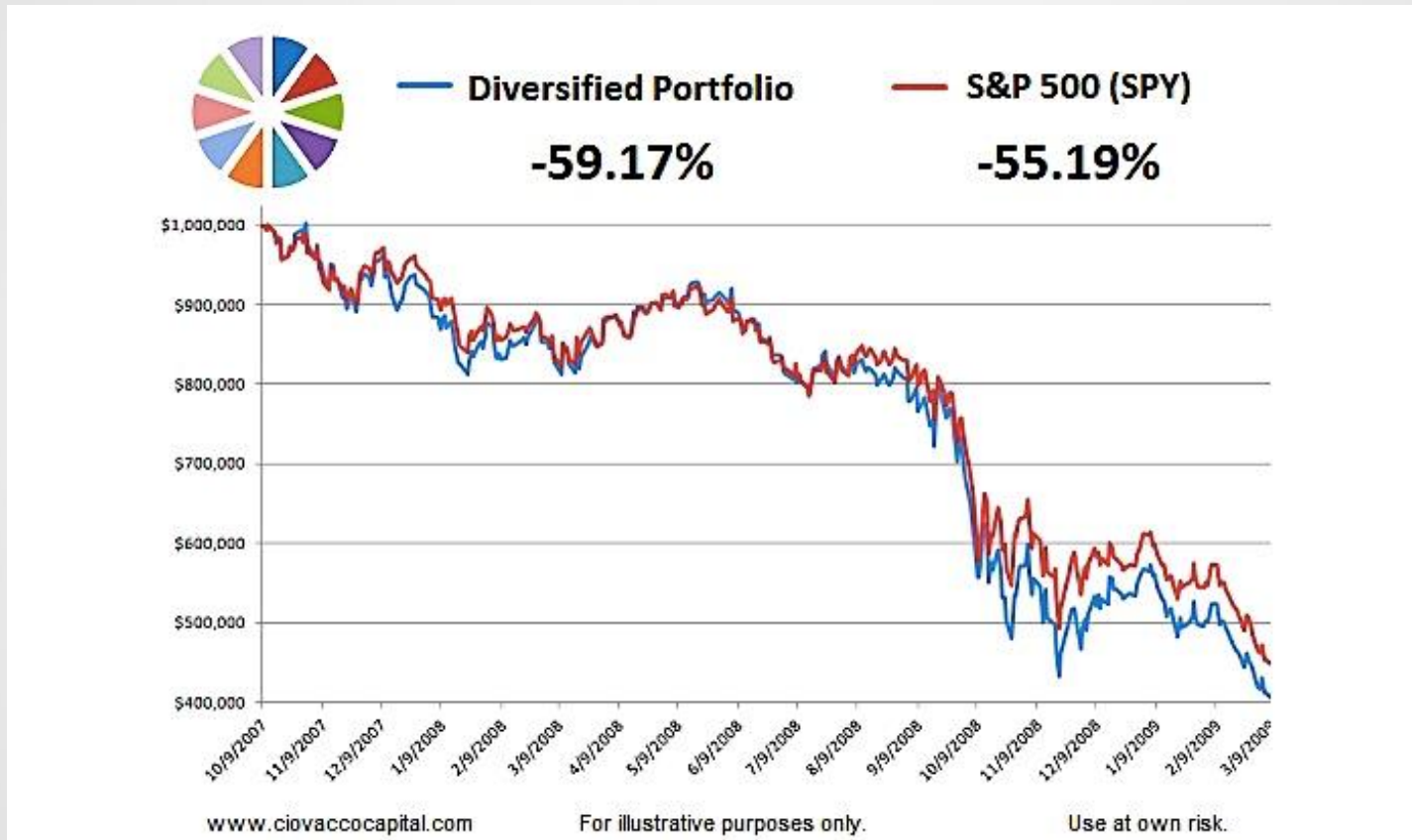


Evolution to Goals Based Investing Model

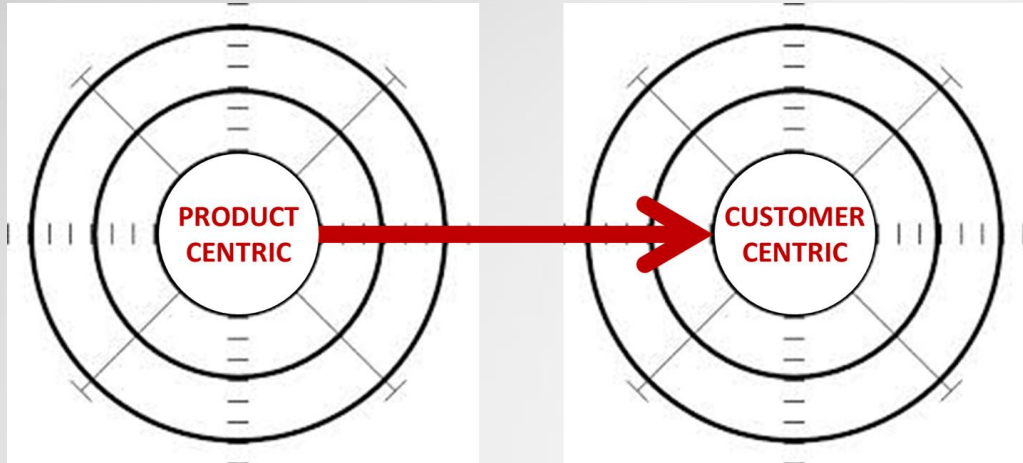
- Each individual has his/her own goals with particular characteristics
- Risk tolerance, term and return objective should be determined for each goal
- Portfolio construction customized according to the goals
- Performance measurement considering each goal and Market conditions

Modern Theory of Portfolios fails during crisis.

Historical correlation among assets fails and diversification as a risk mitigation does not work properly.

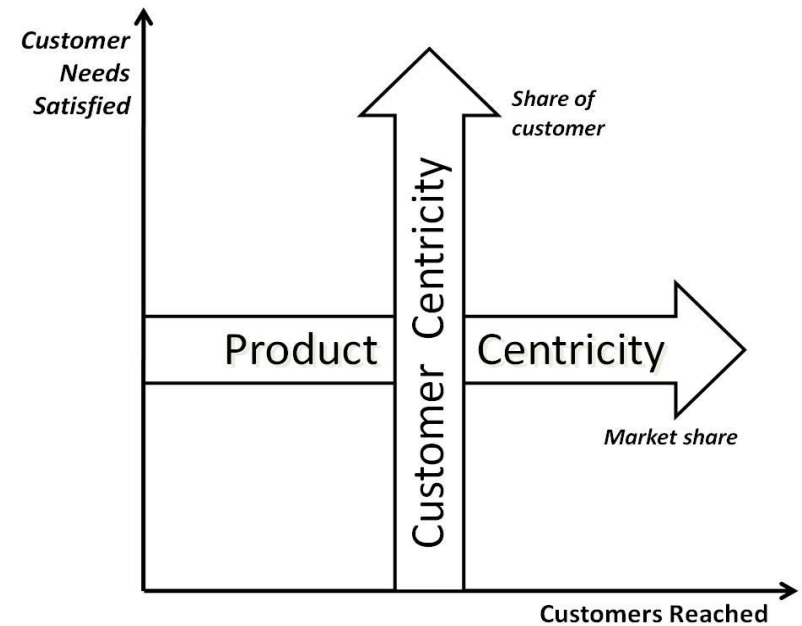


A New Approach



Client as the Main Focus

Satisfying the **Real Needs** of the Client



What is Goals Based Investing (GBI)?

It's an investment methodology based on personal goals of the client, where performance is measured by the success in achieving these goals.

What is the Difference from Traditional Models?

Traditional Models make the allocation based on client risk profile and market benchmark. Performance is measured against this market benchmark.

What is the difference on risk model defined for portfolio?

Traditional models are based simply on the risk profile of the client, whereas GBI considers primarily the priority of each goal and then defines the risk level for each portion of the portfolio.

Client at Center of the planning

Benchmark and Risk customized for **each Client** according to his/her **personal goals**



Each **individual** has his/her own set of **goals** with **different priorities**:

- Basic needs expenses like housing lease, utilities, healthcare, food, etc.
- Wishes of keeping current lifestyle like buying a new house, changing car every 2 years, vacation trips, etc.
- Aspirations like buying a beach house, a yacht, first class vacation trip, etc.

Building a **robo advisor** based on **GBI** concept with tailor made **benchmark** for **each cliente**.

Scalable tool focused on satisfying the **real needs** of each **client**.

Risk established by the combination of each **goal priority** and risk **profile** of the client.

Performance measurement by the **fraction of achievement** of the goals.

Focus on portfolio **alignment** with the goals, **preventing from irrational** and inappropriate **behavior** during **market stress**.

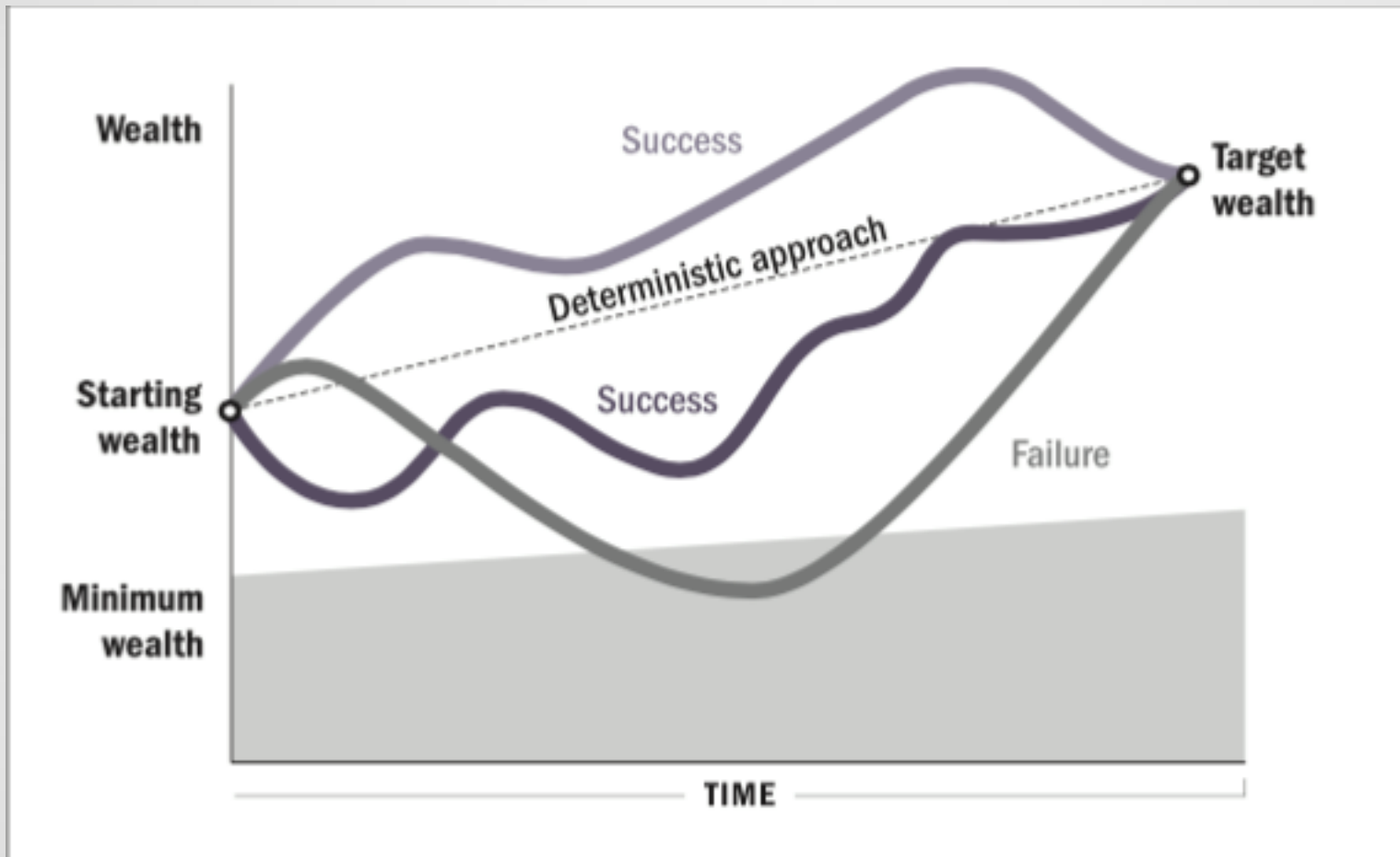
Contributing to better map and **identify the goals** of each client focusing on their **priorities**. Advisors could focus on **specific goals** of each client developing strategies and **portfolios fully aligned** with them.

Enabling advisors to develop a **customized and holistic** investment **planning** and not a simply portfolio based on market performance.

Performance measurement totally based on **goals achievement** and not compared to a simply market index.

Path dependency – **trajectory matters**

GBI minimizes the potential **risk** that the client might take **emotional decisions**, without rationality



Preventing from **irrational decision** making during market **high volatility** periods. Panic on downturns and anxiety on upturns.

Probabilistic Scenario Optimisation (PSO) and Gamification would allow cliente/advisor to **simulate different situations** in order to provide a more **realistic perception** of the impact over portfolio.

Using AI, **robo** will learn the cliente/advisor **behavior** before different situations and will adjust and help **avoiding unwanted behaviors**.

As **robo** is more efficient to **rebalance** portfolios, it allows **advisors** to fully focus on **relationship** with clients and help him/her establishing the **goals** and its priorities.

Will allow advisors to deeply **understand the real needs** of the clients, creating a **relationship of trust** and confidence and, therefore, higher client **engagement**.

Investment Process Lifecycle



Step 1

- Client assesses current financial situation

Step 2

- Client defines his/her goals:
 - Basic expenses
 - Education expenses
 - Buy a new house
 - Change the car every 3 years
 - Health plan in retirement
 - Annual vacation trip
 - Etc

Step 3

- Client classifies his/her goals in three categories:

1. Essential
2. Important
3. Aspirational

- | | |
|-------------------------------|---------------|
| ✓ Basic expenses : | Essential |
| ✓ Education expenses : | Essential |
| ✓ Buy a new house : | Important (1) |
| ✓ Change car every 3 years : | Important (2) |
| ✓ Health plan in retirement : | Essential |
| ✓ Annual vacation trip : | Aspirational |
| ✓ Etc | |

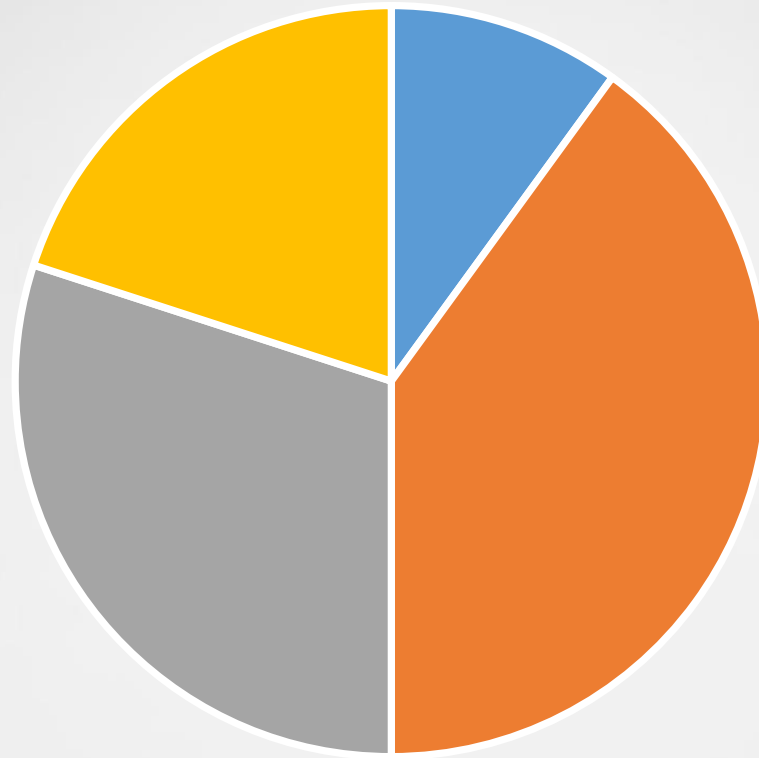
Step 4

- Define the goals figures:
 - Input made by client
 - Input of data supported by AI

Step 5

- Client inform current available financial assets
 - Current investment portfolio
 - Forecast of recurrent and non recurrent incomes

Recommended Portfolio



■ Cash

■ Inflation

■ Risk Portfolio

■ Pension Fund

Output analysis

- Goals fraction achievement

- ✓ Basic expenses : 98% - 99% (median 99%)
- ✓ Education expenses : 98% - 99% (median 99%)
- ✓ Buy a new house : 30% - 50% (median 38%)
- ✓ Change car every 3 years : 60% - 85% (median 77%)
- ✓ Health plan in retirement : 98% - 99% (median 99%)
- ✓ Annual vacation trip : 0% - 30% (median 12%)

Interaction with Client

- Output assessment by Client:
 - Green light to execute
 - More investments (contribution)
 - Change priorities
 - Decrease or increase the goals figures
 - Decrease or increase the goals

Continuous Monitoring

- Performance monitoring
 - Warnings to client at predetermined performance levels
- Portfolio rebalance
 - Periodically and also according to market or personal non expected cash events

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