T.RowePrice

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Tips for Evaluating A Target Date Solution

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The Landscape

$210bn

total assets in Canadian DC Plans

DC assets account for **15% of all pension** assets compared to ~60% in the US

DC assets, as a percentage of total pension assets, are projected to **increase to 30%** by 2030

$61.4 Billion total Target Date assets in Canadian DC plans

Contributions to Target Date funds have **grown 300%** in the last decade

80% of all new contributions are going into Target Date funds

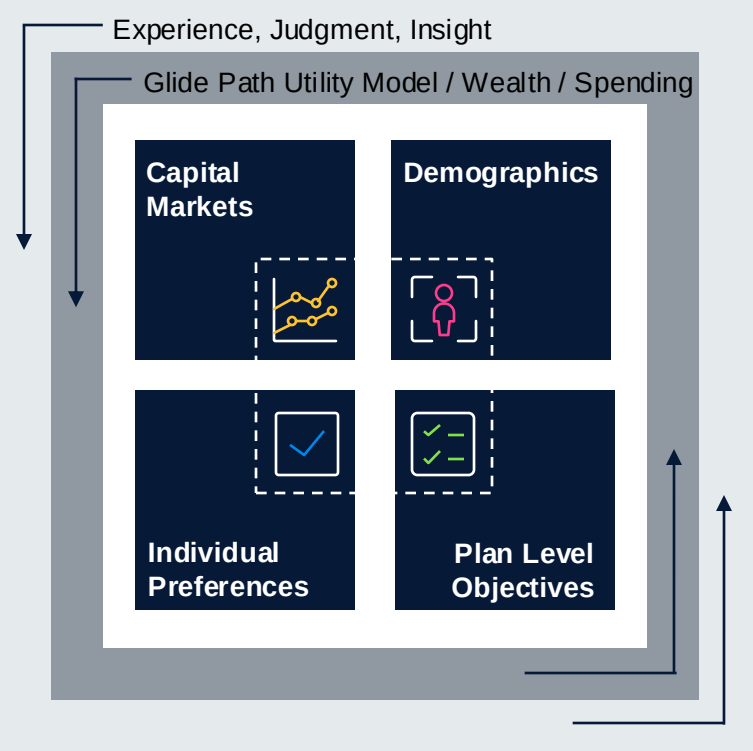
Source: Investor Economics, Group Retirement Savings and Pensions Report, Q4 2022. As of December 31, 2022, AUM in USD. Projected DC assets as a percentage of total pension assets was sourced from Mercer.

Tip #1

Use key inputs to inform Glide Path selection

Glide Path Development

Our framework is centered on a structural model incorporating the inputs, parameters and mathematical techniques we believe are necessary to accurately represent the retirement challenge.



Measures investor satisfaction from spending in retirement and wealth preservation.

Realistic capital markets modeling is used to stress test designs over a long investment horizon.

Actual plan member data to fully understand participant circumstances and how they evolve.

Key participant characteristics are modeled as distributions instead of as simple averages.

Inclusion of empirically-informed behavioral characteristics allow us to realistically model investor behavior throughout the lifecycle.

Demographics and Plan Design Influence on Glide Path

Salary

A higher salary results in a higher equity glide path.

Planning Horizon

A longer planning horizon results in a higher equity glide path.

Contribution

A higher contribution results in a lower equity glide path.

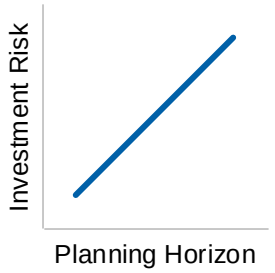
Match Formula

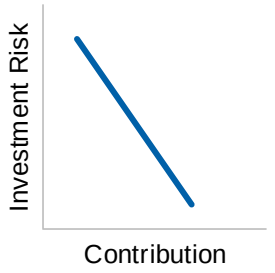
A higher match formula results in a lower equity glide path.

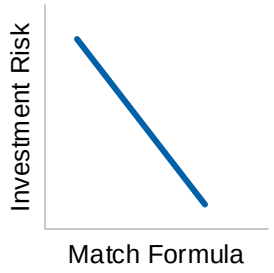
Consumption Replacement

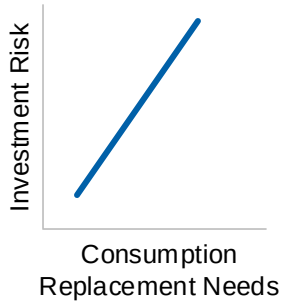
A higher level of consumption replacement needed results in a higher equity glide path.

Influence on Glide Path









Glide Path Case Study

Plan A

Integrated Health System of Hospitals and Clinics

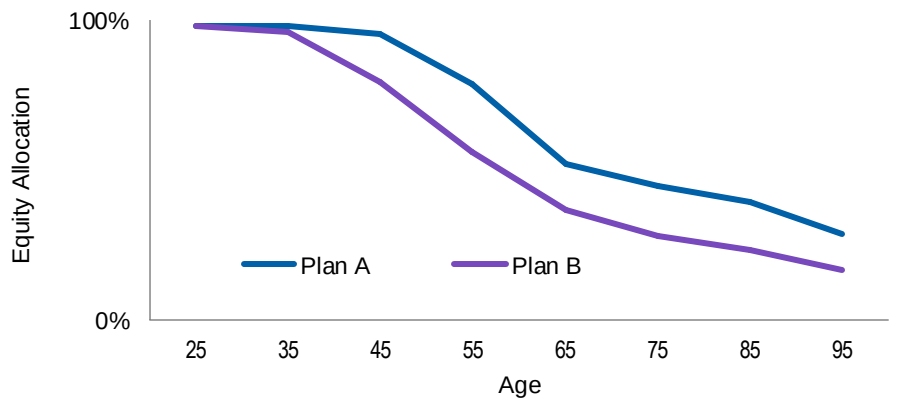
- Members have high compensation (higher equity)
- Some legacy employees have access to a legacy pension plan (lower equity)
- High combined savings rates as plan sponsor offers generous match (lower equity)

Plan B

Public Employees for a Large Metropolitan City

- Members have high compensation (higher equity)
- Pension and Social Security provide a meaningful portion of members' income needs (lower equity)
- Savings rates are below average, and plan sponsor does not offer a match (higher equity) due to supplemental nature of the DC plan

Influence on Glide Path



Understanding the Trade-offs between Glide Paths

Tip #2

Think “beyond averages” to pursue optimal results

Designing Glide Paths for Diverse Populations

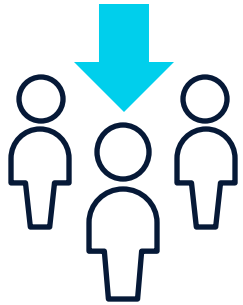
DC plan populations inevitably include a range of individuals with differing demographic characteristics.

Yet, many investment providers seek to design their glide paths based on inputs that reflect a single "average" plan member.

Unique Demographics

Measuring the Impact of Distributions-Based Inputs

Compare the performances of two glide paths: one based on simple averages and one based on distributions, using a hypothetical plan population.



Averages-based glide path:
designed "for the average plan member," simple mathematical averages taken from population for key inputs

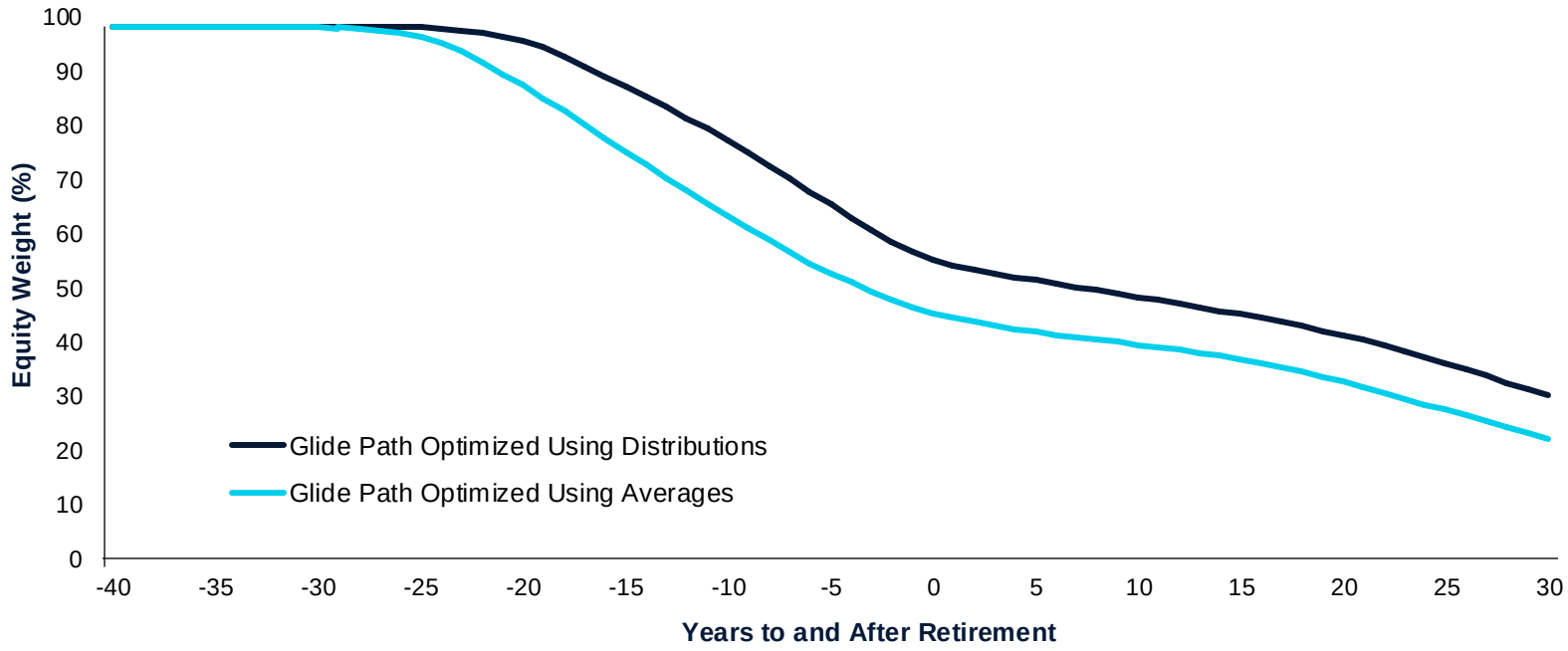
Distributions-based glide path:
distributions for key inputs across population

- Scenario analysis estimates the likelihood that a distributions-based glide path outperforms an averages-based glide path.
- We can compare simulation outcomes under glide paths designed using averages versus distributions on a diverse plan population.

Glide Paths Based on Population Distributions May Feature Higher Equity Exposure

Relying on a default asset allocation for the "average" person ignores the full member population in favor of building a glide path designed to serve a mathematical value, not real people.

Hypothetical glide paths based on average earnings and preferences and on distributions of those values within a plan population



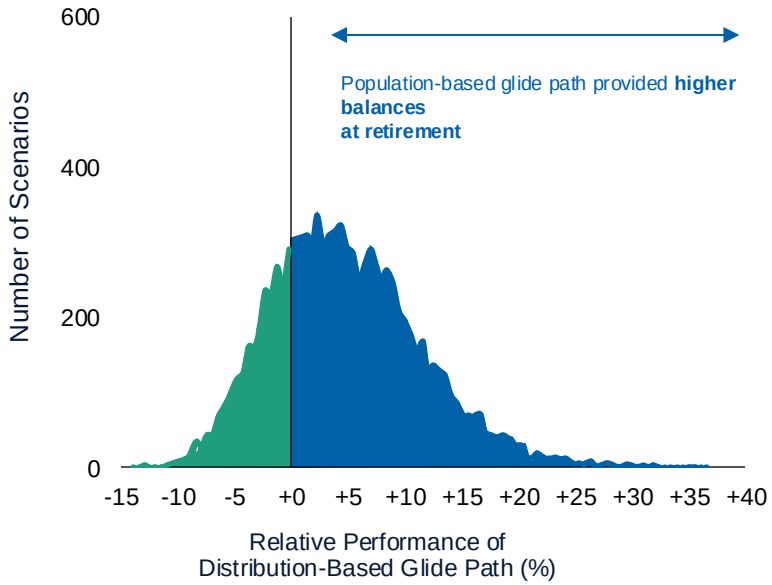
Source: T. Rowe Price. Beyond Averages: A More Robust Approach to Glide-Path Design, which can be found at troweprice.com/DCIO. See Study Methodology page at the end of this presentation for additional information.
The results shown above are hypothetical, do not reflect actual investment results, and are not a guarantee of future results.

Measuring the Impact of Glide Path Inputs Based on Population Distributions

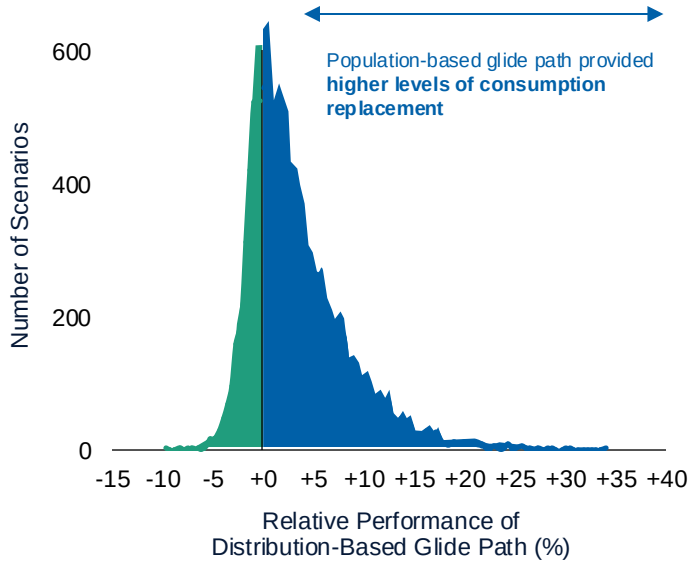
Results of 10,000 Scenarios[1]

The hypothetical glide path based on population distribution outperformed the glide path based on population average in most scenarios tested.

Assets at Retirement



Consumption Replacement



In 76% of scenarios tested, portfolio values at retirement were higher for the glide paths designed using population distribution inputs.

Source: T. Rowe Price. Beyond Averages: A More Robust Approach to Glide-Path Design, which can be found at troweprice.com/DCIO. See Study Methodology page at the end of this presentation for additional information.
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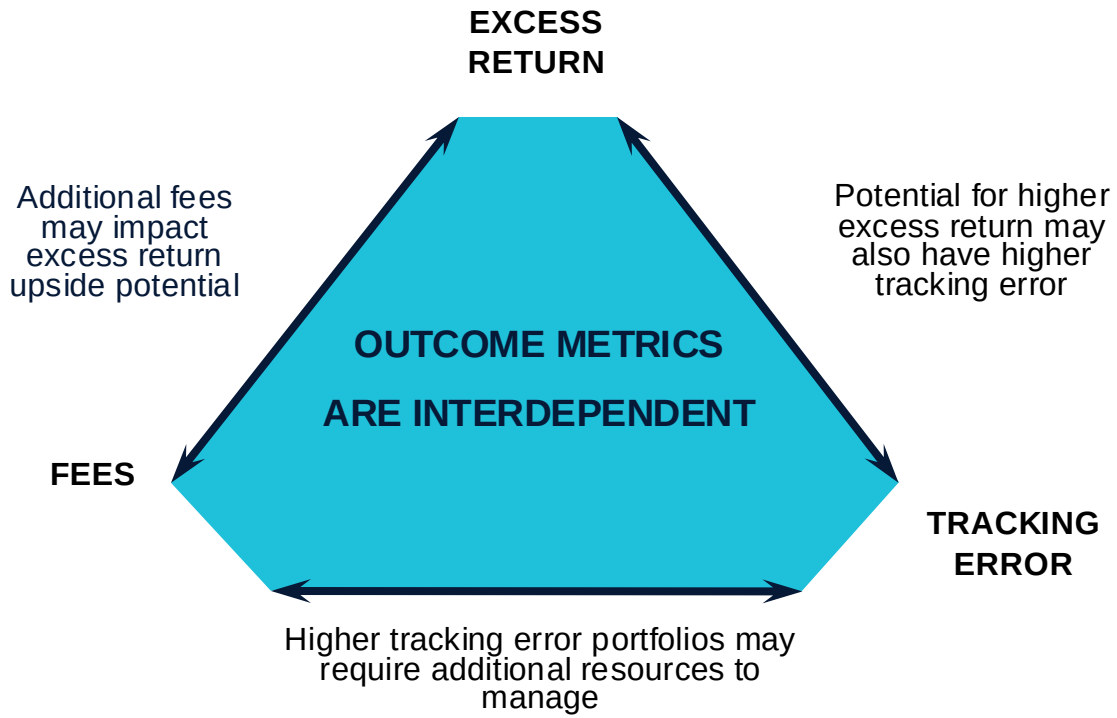
[1]Assumes a 40-year working life and a 55-year retirement. Consumption replacement is over the first 30 years of retirement.

Tip #3

Implementation Should Align to Goals and Beliefs

Comparing Active and Passive Investment Strategy

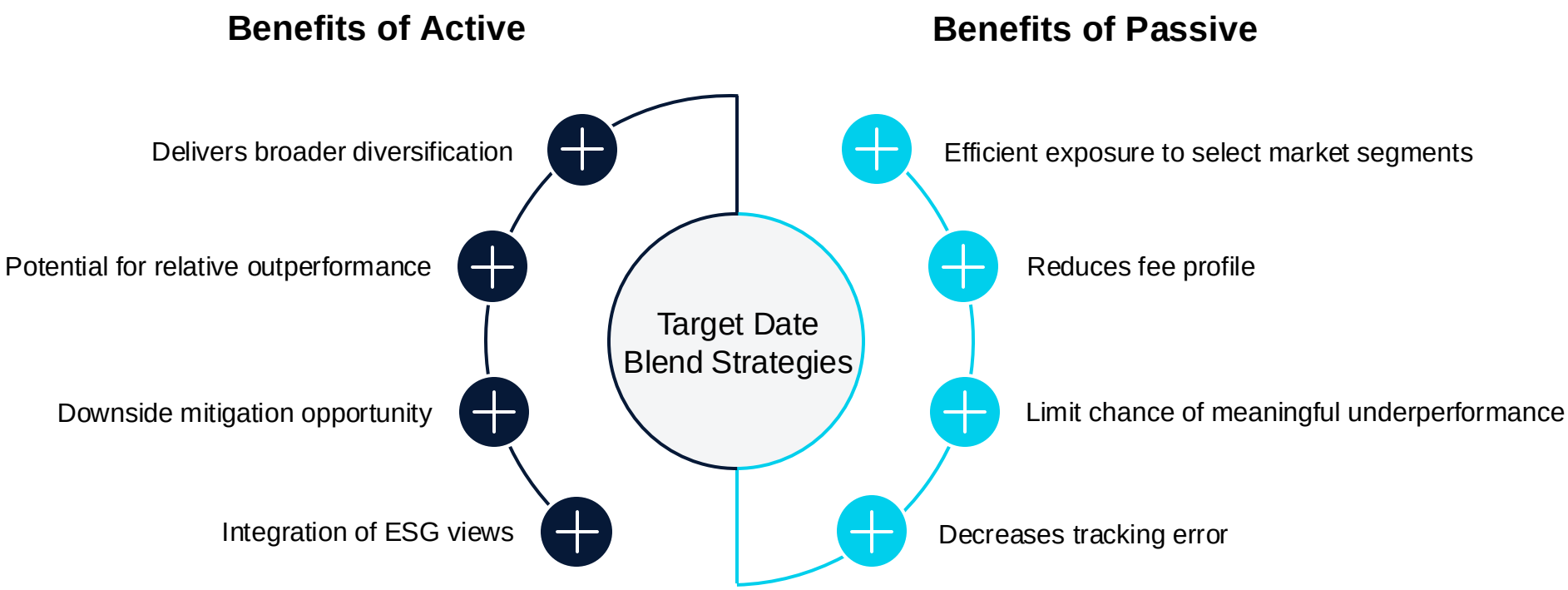
What is the plan sponsor's key desired investment outcome?



For most investors, their overarching objective is to meet their desired outcome in a durable manner, meaning a portfolio without undesired structural bias and unreliant on any one set of particular conditions to succeed.

This requires carefully defining both success and failure and understanding the implications of emphasizing any one investment outcome over another.

Finding the Right Active/Passive Mix



For illustrative purposes only.

Tips to Take Away

- ☑ Understand how your plan's objective, preferences, and demographics can influence glide path design.
- ☑ Look for a robust partner that goes beyond averages for beyond-average outcomes.
- ☑ Find a solutions partner that will consult with you to navigate the changing retirement landscape and match the right solution for your plan.

Thank You

Study Methodology

To measure the potential benefits of using distributions-based inputs rather than simple averages when designing target date glide paths, T. Rowe Price conducted an analysis of potential retirement outcomes for a hypothetical DC plan population using a Monte Carlo simulation exercise based on a hypothetical population of 10,000 plan participants with demographic and behavioral characteristics that primarily reflected key inputs sampled, in part, by a model calibrated to the participant universe in T. Rowe Price's recordkeeping database of defined contribution plans. For more information on construction of the population parameters, please refer to our white paper on the topic, "Beyond Averages: A More Robust Approach to Glide-Path Design," which can be found at troweprice.com/DCIO.

Separate Monte Carlo analyses were used to determine the recommended glide path weights for a hypothetical population described by the arithmetical averages and for a separate hypothetical population described by the distributions for those same inputs.

The first approach was based on arithmetic mean values for the initial salary, deferral rate, and preference parameters of the 10,000 hypothetical participants in the model. An alternative, "robust" analysis attempted to capture plan heterogeneity by basing key inputs on distributions of the key parameters within the hypothetical population. For more information on construction of the hypothetical glide paths, please refer to our white paper on the topic, "Beyond Averages: A More Robust Approach to Glide-Path Design," which can be found at troweprice.com/DCIO.

Subsequently, we generated two sets of 10,000 potential retirement outcomes and the same heterogeneous test scenario set was used to compare outcomes of the two glide paths in order to simulate exact participant-to-participant comparisons across our hypothetical populations.

Relative performance, positive or negative, of the two glide paths was assessed in terms of asset values at retirement and annual consumption replacement during retirement. Both values are expressed in percentage terms: A positive percentage indicated a scenario in which the distributions-based glide path outperformed, while a scenario in which the averages-based glide path outperformed resulted in a negative percentage.

Monte Carlo simulations model future uncertainty. In contrast to tools generating average outcomes, Monte Carlo analyses produce outcome ranges based on probability thus incorporating future uncertainty. The projections are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. The simulations are based on assumptions. The materials present only a range of possible outcomes. As a consequence, the results of the analysis should be viewed as comprehensive, but not exhaustive. Actual results are unknown therefore results may be better or worse than the simulated scenarios. The potential for loss (or gain) may be greater than demonstrated in the simulations. Users should also keep in mind that seemingly small changes in input parameters, including the initial values for the underlying factors, may have a significant impact on results, and this (as well as mere passage of time) may lead to considerable variation in results for repeat users.

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