Market Segmentation in Life Insurance

Insurance Data Science

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Segmentation - An overview

**The Why**

| Understand the needs of customer | → | Build tailored products | → | Efficiently market existing products |

The How (Clustering)

Connectivity based	Centroid based	Distribution based	Density based
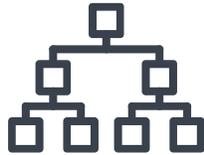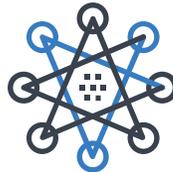
	Connectivity based	Centroid based	Distribution based	Density based
Algorithm	Hierarchical Clustering	K Means Clustering	Gaussian Mixture Models	Hierarchical Clustering
Pros	Easy to interpret	Computationally efficient	Mixed membership	Capture irregular size/shape
Cons	Not scalable	Spherical	Overfitting	Varying density clusters

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The shifting paradigm

Same Initial Premium

Same Product

Same Issue Date

Same Gender

Same Age

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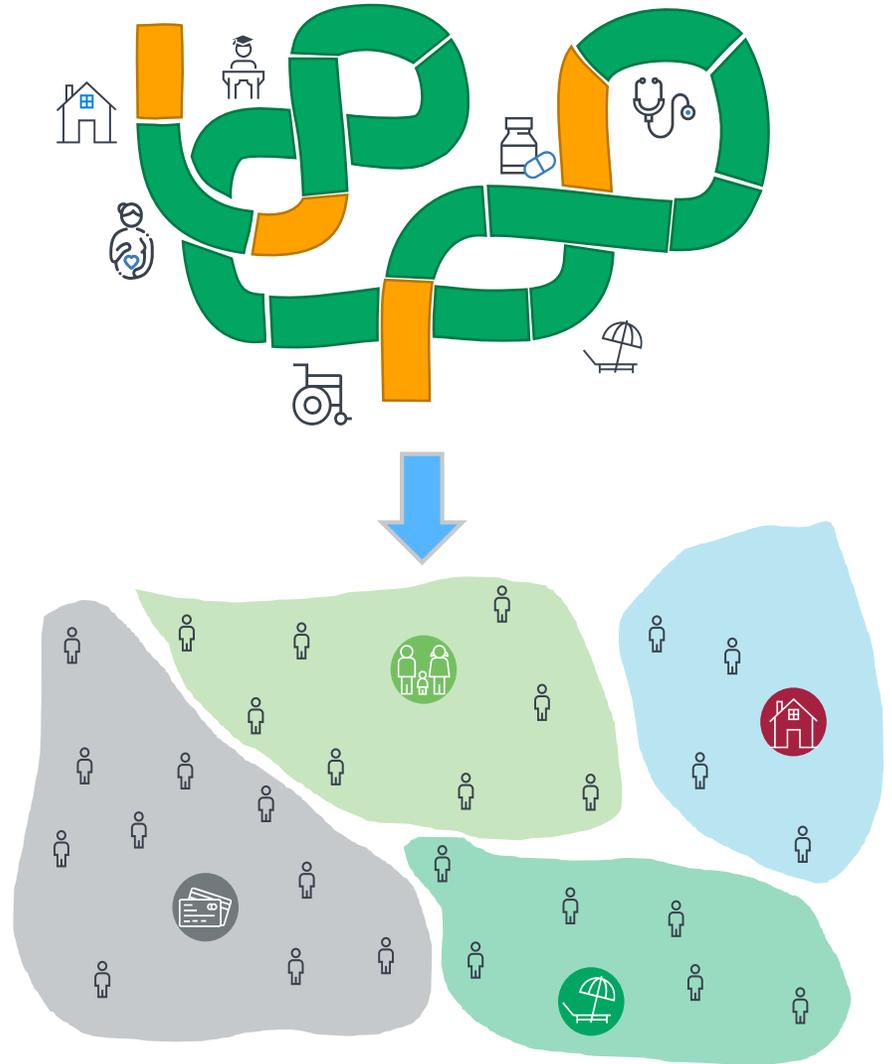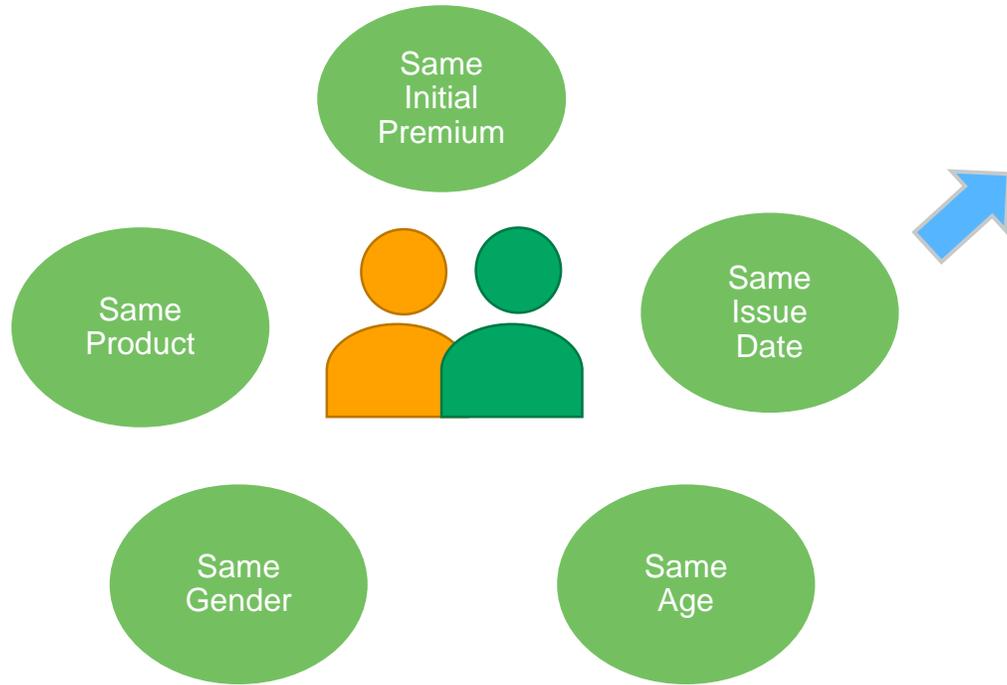
Applications in Life Insurance

Segmented assumptions
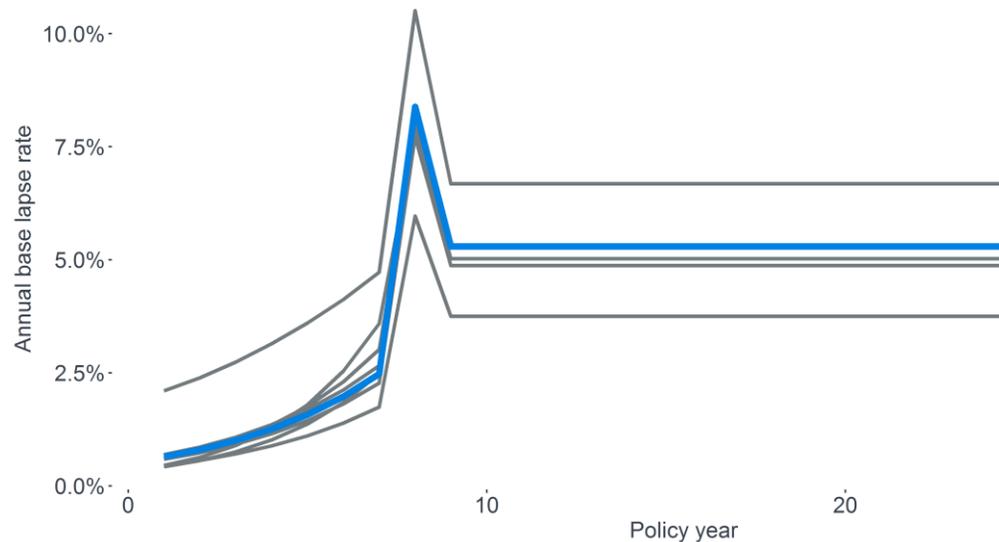
Fit behavior models to each customer segment revealing how people use their insurance differently

Project profitability

Customer Profile ▶ **Cash Flow Projection Model** ▶ **Customer Level Profitability (CLP)**
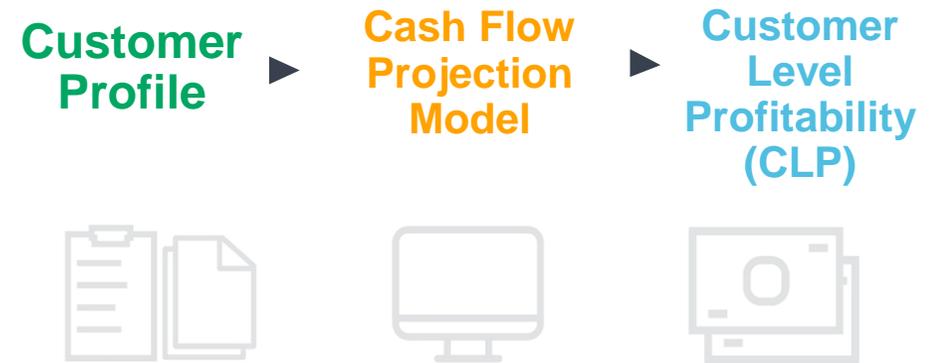
Calculate "profitability" measure at seriatim level

Using Profitability score

Marketing

Targeted Retention

Marketing

Targeted retention

Distribution

New Business Management

Inforce Management

Buyback strategy

Product development

Targeted M&A

Policy 5

Policy 1

No action

Target for retention

Policy 2

Consider buyback

No action

Policy 4

Policy 3

Profitability Relative to Expectation

Probability of Lapse

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