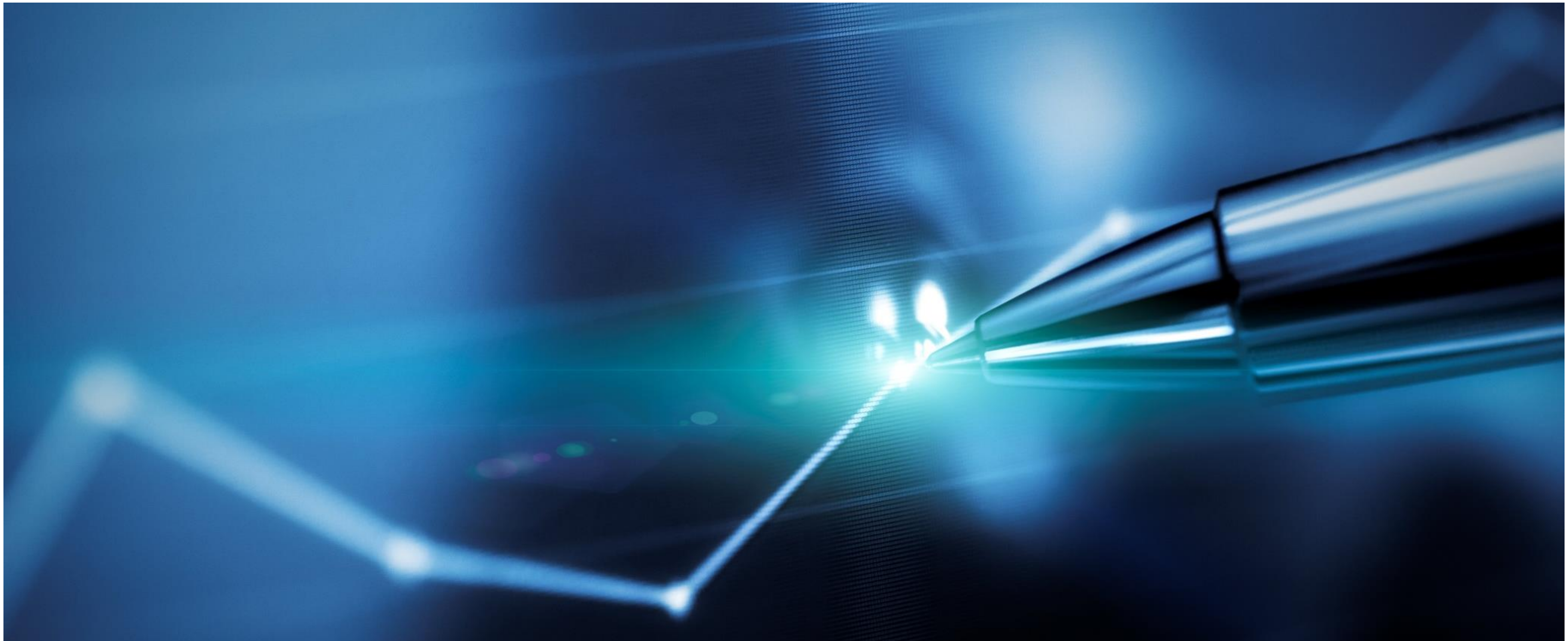


Customer Lifetime Value

Opportunities and Challenges

Mohamad Hindawi, PhD, FCAS

March 11, 2015

TOWERS WATSON

Agenda

- Background
- How to build a successful CLV roadmap
- Case Study: The mechanics of modeling CLV
- Final thoughts

Background

CLV – What it is and what it is not

"You can't manage what you can't measure" – Bill Hewitt

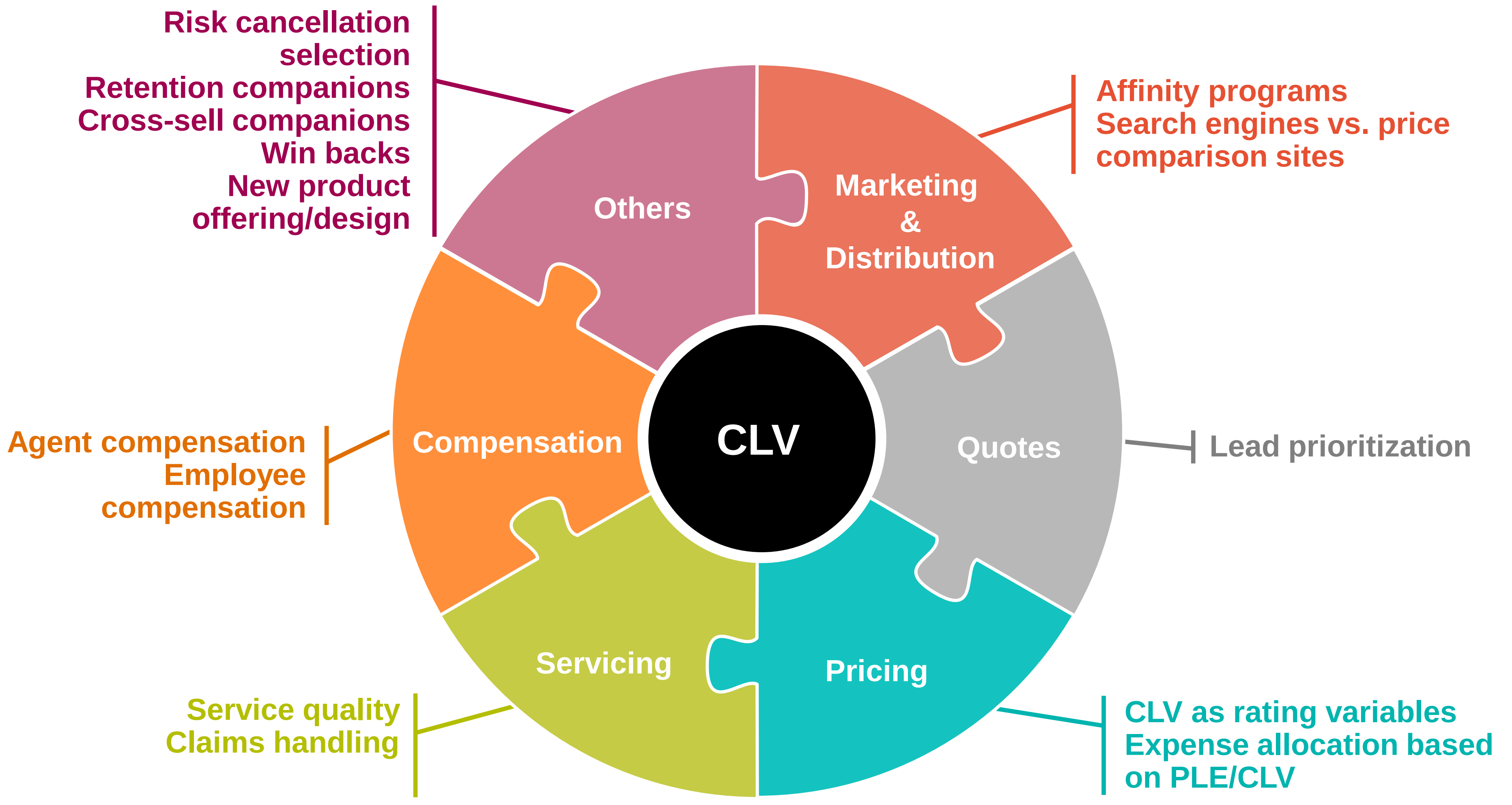
- CLV is **just a metric** – not a strategy to attract or retain customers
- Knowing CLV of customers is **necessary but not sufficient** to attract or retain high value customers
- High-value customers have high CLV because they **bring money to you** – resist "rewarding" existing high-value customers with discounts
- CLV helps you to **manage resources** – if a service does not cost you money to provide, provide it to everyone

CLV enables you to make smarter decisions

Our experience with CLV tells us that…

- Organization-wide CLV implementation is a **major process change**
- **Pricing** is the obvious – but only one possible – application of CLV
- A successful deployment of CLV results in **meaningful competitive advantage**
- A robust roadmap requires the **right mix of skills and ingredients**
  - **Deep knowledge** of insurance, insurance companies, their internal processes and functions, and their specific culture
  - **Agnostic** view of the tools, platforms, and solutions which will support roadmap implementation
  - Ability to produce an **objective, factual, and neutral** assessment of possible activities
  - **Experience** is key to effectively and efficiently deliver a robust CLV framework

Possible CLV business applications

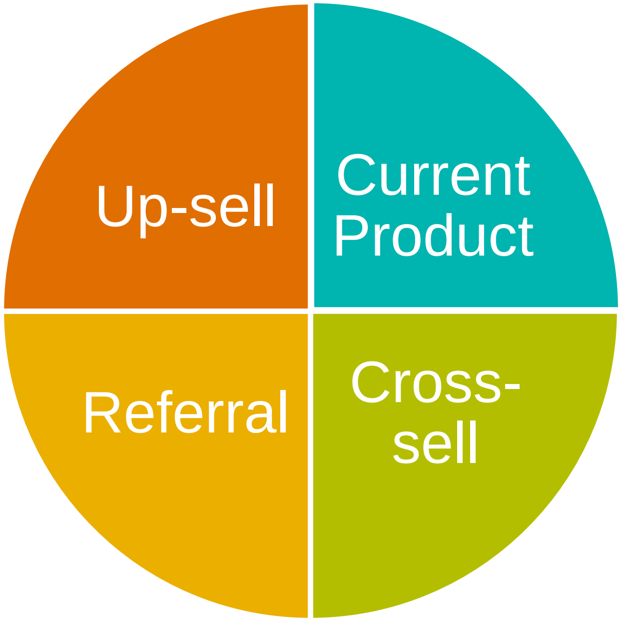


A technical definition of CLV in insurance

Simple definition of CLV:

the net present value of the cash flows attributed to the relationship with a customer

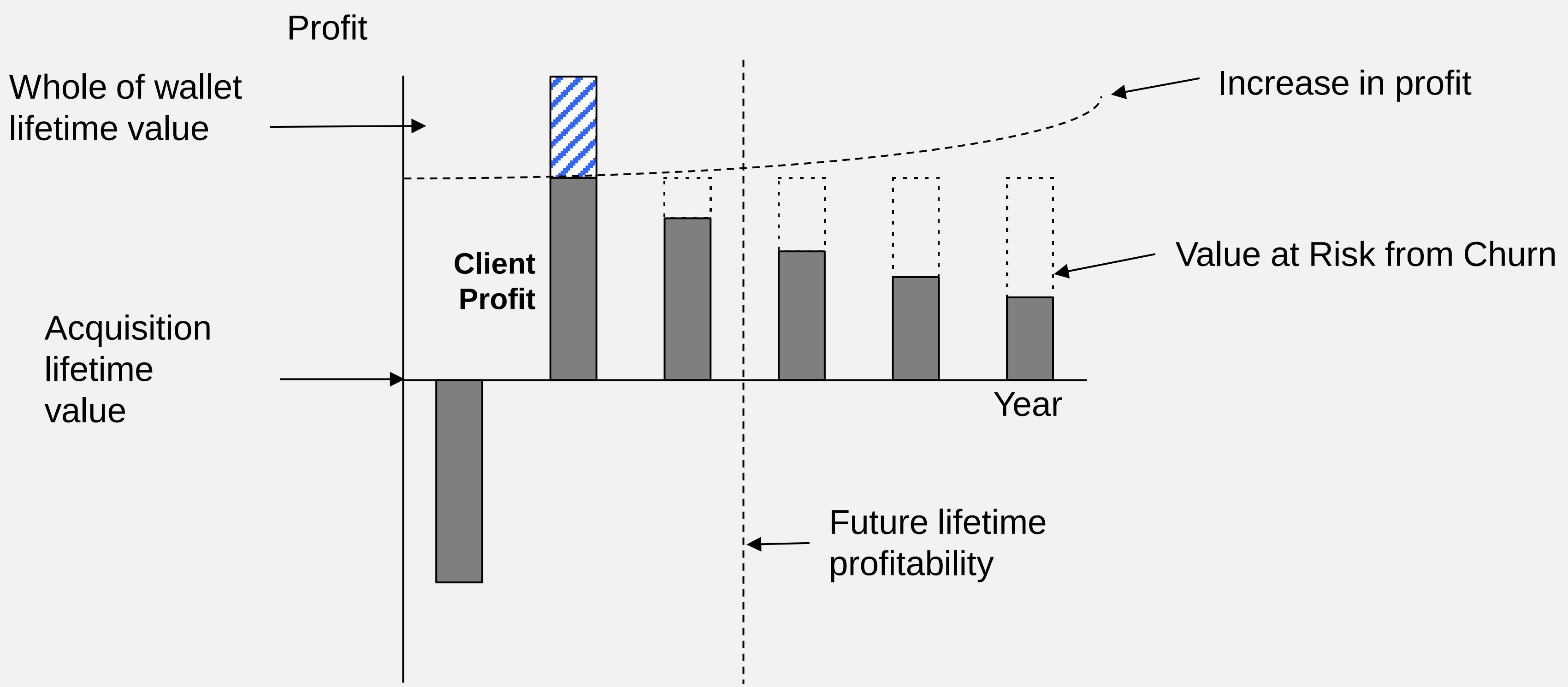
$$CLV = \sum_{t=1}^{T} \frac{(p_t - c_t)}{(1+i)^t} - AC$$



- Ideally, all sources of value should be included
  - Might not always be practical
  - Critical decision around what to include and what to exclude

Customer value measures

- There are different CLV metrics for different applications
- Focus on a measure that supports your business and know its limitations



More customer value definitions

- There is no single measure of customer value that is suitable for all purposes.
- Potential CLV measures include:
  - **Future lifetime value:** The expected future value of an existing customer at a specific point in time
  - **Past lifetime value:** The past value of an existing customer until this point in time
  - **Value at Risk from churn:** The difference between the value of a customer assuming no churn and the expected value allowing for the probability of churn
  - **Acquisition lifetime value:** The expected value of the customer at the time of acquisition, including acquisition costs specific to the distribution channel
  - **Expected cross-sales lifetime value:** The expected lifetime value resulting from cross-sales
  - **Whole of wallet lifetime value:** The potential lifetime value taking into account all P&C insurance, life insurance and financial products
  - **…and more definitions exist!**

Choosing a definition can be a challenge

“The most important observation is that ‘value’ is a relative concept and will vary depending upon your business objectives.”

“This ambiguity [of the definition of value] is the cause of most of the difficulties experienced. Without clear framework and set of objectives, every calculation will be wrong for somebody within your organization, and you will remain mired in politics, almost from day one.”

— Valoris Abram Hawkes

Unique complications of CLV in insurance

- Much more than a function of volume
  - Revenues *and* costs vary by customer and over time for a specific customer

- Some customers are risker than others
  - Capital/surplus allocation adds further complexity

- Highly-variable cost structure yields small contribution to margins – small changes in price can have a dramatic impact on CLV
  - Walmart can offer 30% discount to sell more – you cannot

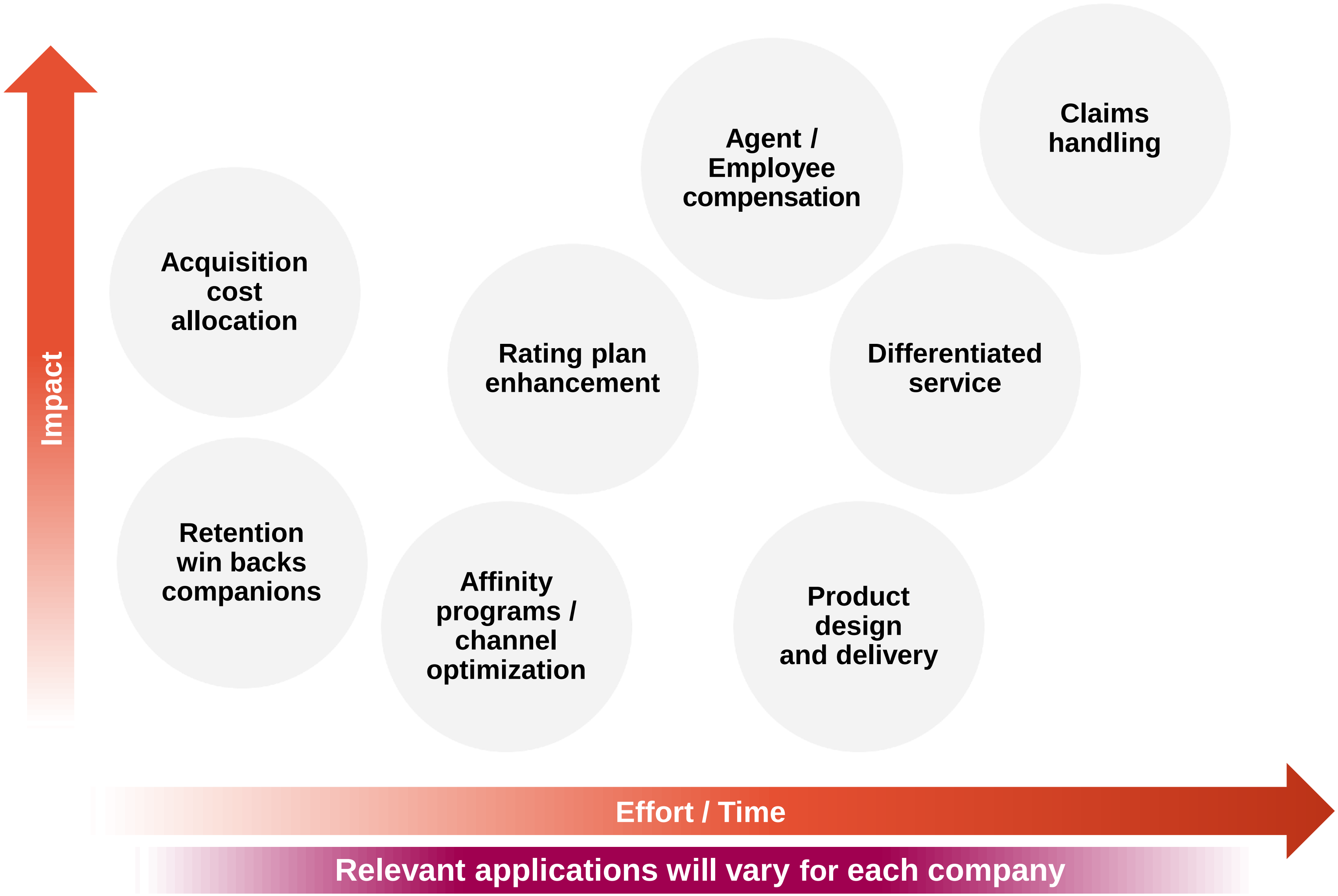
How to build a successful CLV roadmap

Key steps for building a roadmap

What will you **do differently** if you know the value of each customer/lead?

- Form team
- Identify and interview stakeholders from different internal functions
- Identify possible use cases
- Create comprehensive list of possible applications
  - Rank your options from “short term” to “long term”
  - Rank your options by dependencies where relevant (e.g. identify pre-requisites)
  - Based on American Family’s assessment and external experience / market knowledge

Prioritizing different CLV applications



Possible evaluation criteria

Column	Symbol	Description
Comparisons to market practice		Behind common practice
		In line with common practice
		Market-leading practice
Benefits	$	Worthwhile benefits
	$$	Significant benefits
	$$$	Very significant benefits
Implementable		Directly implementable
		Partially implementable with workarounds
		Not implementable with reasonable time and cost
Win Horizon	Quick	Implementable in 6-9 months
	Medium	Implementable in 9-24 months
	Long	Implementable in 24+ months
Priority	1-5	Priority ranking within same horizon category

Key steps for building a roadmap

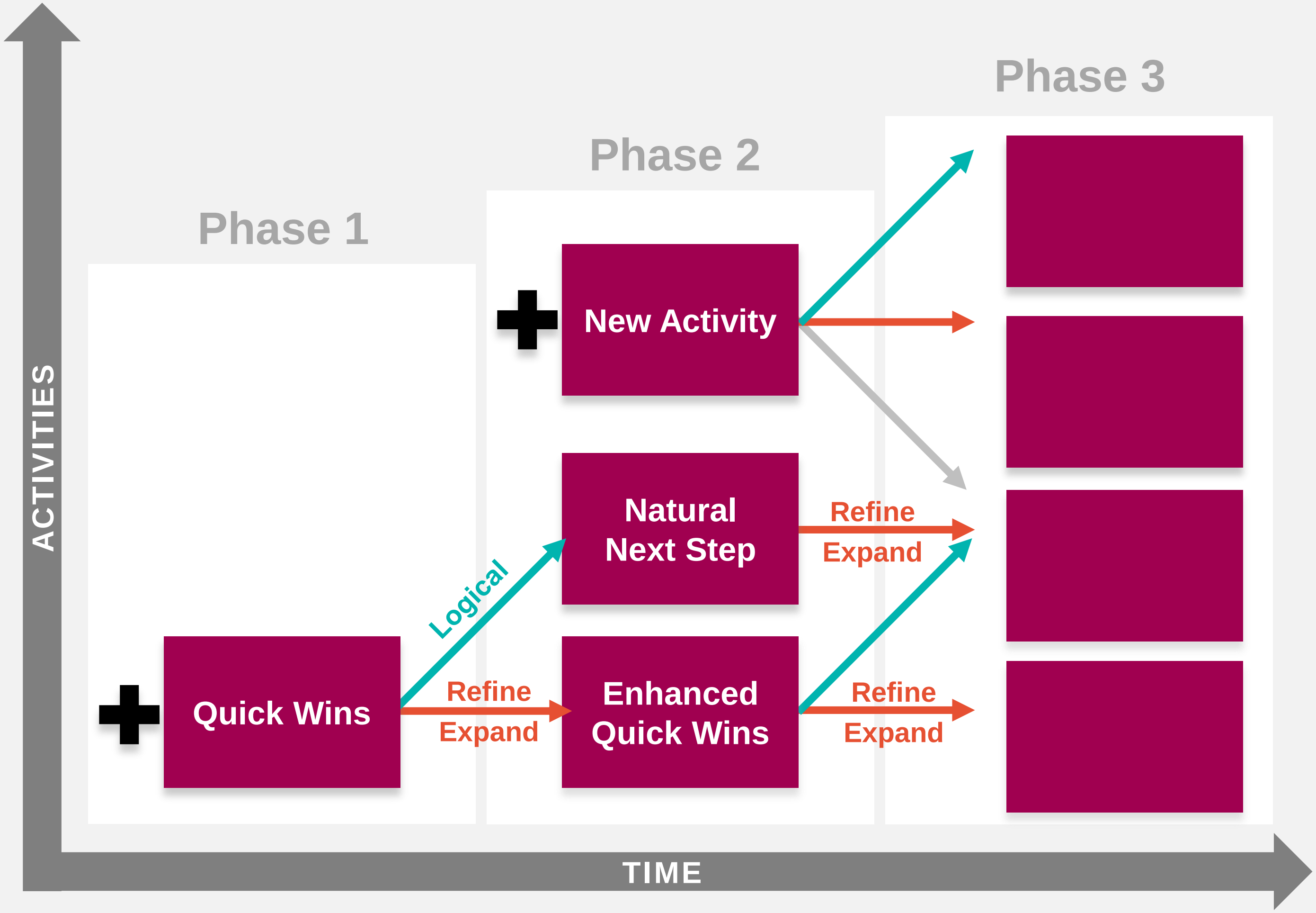
- Identify **quick wins** – build and keep **momentum**
  - Retain tasks with medium/high impact and low/medium effort
  - Identify areas where you have strong champions who can facilitate adoption
- Create a **clear and compelling** business case for the selected top applications
  - Buy-in and momentum will only materialize if tangible – and ideally measurable – benefits arise
- Recognize that individual CLV applications will **evolve** over time

Key steps for building a roadmap – Pitfalls

- Do not underestimate **communication** effort required
  - Future-stages activities typically require more, better, and wider communication across the organization as the stakeholder group expands
  - Prioritization rationale is typically questioned – more justification and education are required
  - Communication goes both ways – feedback loops play a key role in refinement and continuous improvement

- Do not underestimate **deployment** effort required
  - Incentives
  - Training
  - Systems
  - Sunk costs paralysis
  - History / Morale

Key steps for building a roadmap



Case Study: The mechanics of modeling CLV

Key questions to ask before starting

Strategic questions:

- What is the purpose of the model? Who will use it?
  - Marketing
  - CRM
  - or something/someone else?
- Is the model meant to inform micro or macro decisions?
  - Models that optimize local decisions often provide suboptimal answers from the broader business prospective and vice versa
  - Decision would impact how to include fixed expenses and/or cost of capital

Tactical questions:

- What lines of business should I include?
- What time horizon should I use?
- Aggregate over households or customers?…or something else?

Calculation framework — one possible approach

- Framework for calculating ***future*** lifetime value of either a newly acquired customer or an existing customer

- Estimate policy lifetime value of each existing policy
  - Estimate a one-year expected value of each policy
  - Estimate expected value of each policy for each future year
  - The policy lifetime value is the sum of all future year values, reduced by the probability of churn

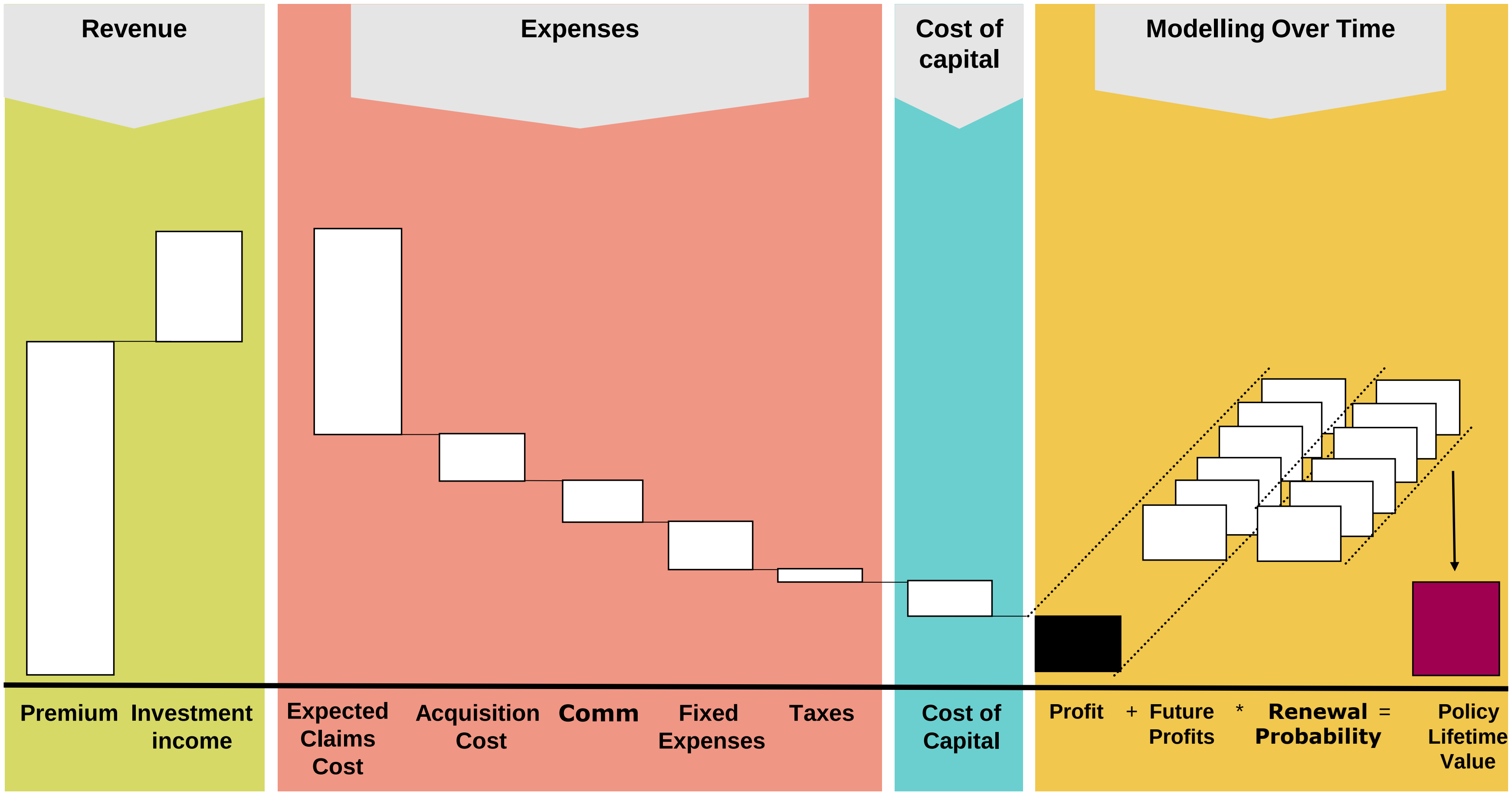
- Estimate the potential value of cross-sales

- Add the policy lifetime value of each existing policy and the potential value of cross-sale to estimate the customer lifetime value
  - Need to decide on which lines to include (part of the roadmap exercise)

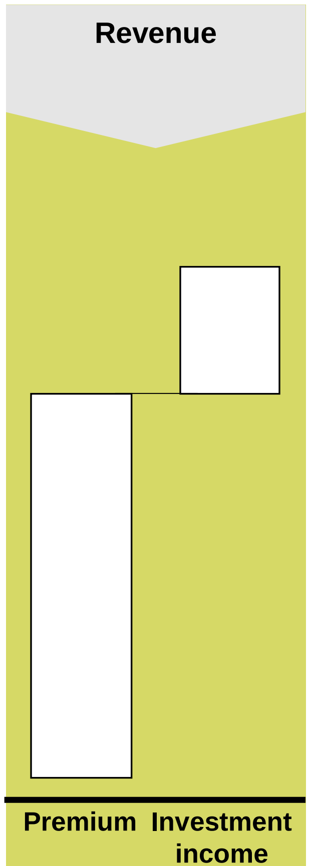
Calculation of a policy lifetime value

A simple definition of value:

Profit = Revenue – Cost

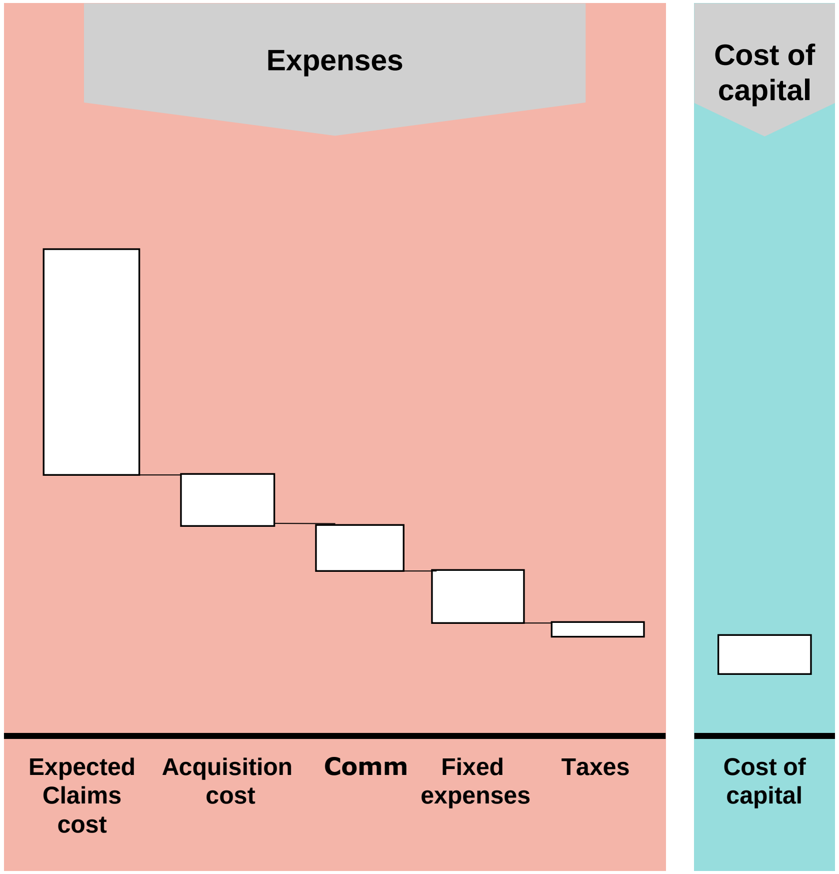


Revenue



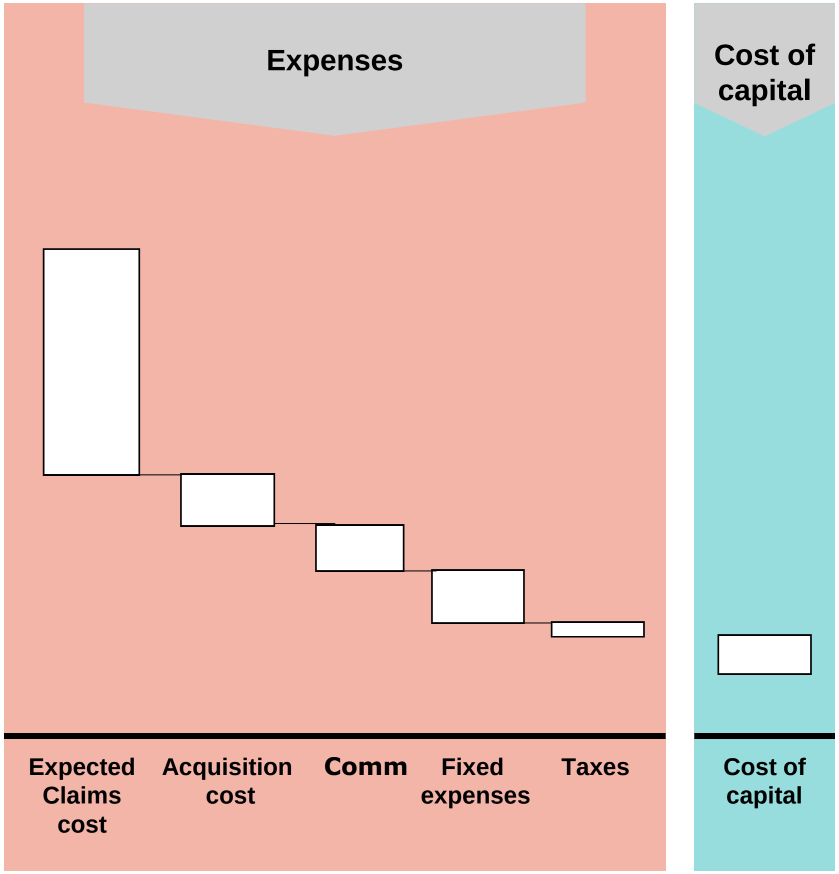
- Estimate the premium that you expect to charge in the future – this involves:
  - Deciding on which rating plan to use
  - Aging each policy
- Alternative approaches:
  - Build a premium multiplier model
    - Use historical view of your current book of business
    - Score it using your current premium model
    - Build a model to calculate a multiplier to apply to this year's premium to estimate future premium
    - Beware of double counting the impact of churn
  - Assume premium increases at a constant rate
    - Could have large impact on some policies, e.g., a couple adding/dropping a teen driver
- At minimum, investment income should depend on the product type

Expenses



- Expected claim loss is different from losses used to calculate premium
- Be careful about treatment of strategic and conscious subsidies
- Do not forget to add expected excess and CAT losses
- Do not use acquisition cost for current customers; however, add the cost of retention efforts if you can estimate it

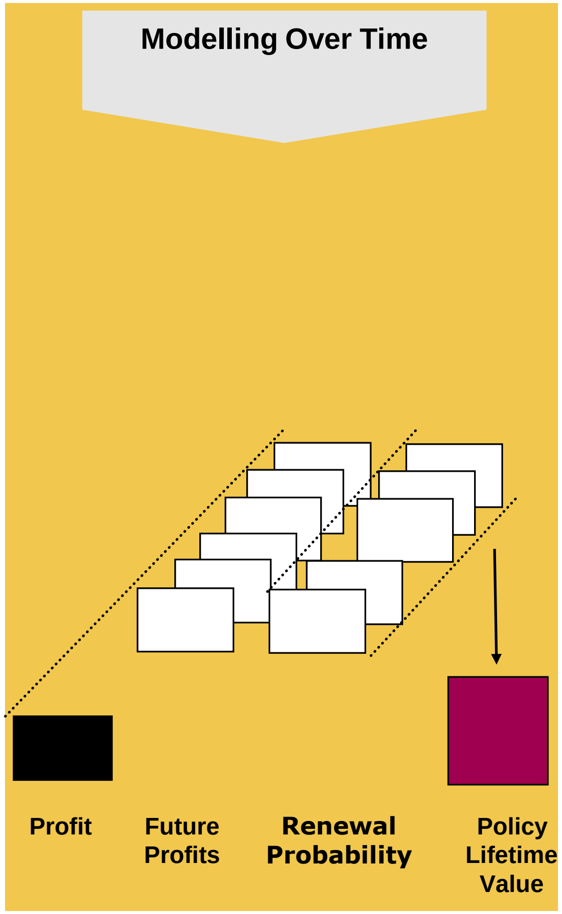
Should we include fixed expenses and cost of capital?



It depends on the application

- If you decide to include fixed expenses, be consistent
  - Flat cost per policy
  - Flat cost per risk (e.g., fixed fee per vehicle)
  - …or something else

Retention



- In contractual products, a common assumption is that customers who **do not renew** are considered “**lost for good**”
  - Reasonable assumption, but underestimates the CLV of a customer
- Based on your book of business you may need up to **two models**:
  - Mid-term cancellation
  - Renewal acceptance
- Standard techniques to **model retention**:
  - Logistic regression
  - Survival analysis

Putting it together

Cross-sell modeling:

- Focus on the lines that will have an impact on the CLV
  - The value of a $100 policy that has a 5% probability of being sold in the next five years is a rounding error
  - Focus first on Auto and Home unless you write a large volume of specialty products
  - Modeling a one-line cross-sell becomes easier — logistic regression could be used
  - Calculating the value of the cross-sold product is not straightforward
    - — We only know the customer Auto policy information, but we need to calculate the value of the home policy that will be sold!

Final step:

- CLV is the sum of the policy lifetime value of the policies that the customer has *plus* the value of the cross-sell opportunity
- Difficult to include value of life and annuity policies

Final thoughts

Final thoughts

- Is using profit as a measure of value operational?
  - Maybe!

- Profit could be very volatile
  - Assuming a 10% profit load, an increase of 5% on an underpriced segment could double its value
  - Answer will change significantly based on assumptions
    - Cost of capital
    - Expenses

Final thoughts

- Alternative definitions to profit (be warned):
  - Customer lifetime premium
  - Customer lifetime policies (vehicles)
  - Customer life expectancy
- These definitions are easier to calculate, intuitively related to the customer value, but could provide inaccurate answers if pricing deviates too much from the true cost

Conclusions

- Customer lifetime value does not capture all values a customer brings to the firm, but can be a very **useful tool to manage your business**
- CLV enables you to make **smarter decisions**
- CLV implementation is a **major process change** and needs a roadmap
- Customer Lifetime Value roadmaps must be customized to **fit your company's unique needs**, goals, and available resources
- Getting buy-in and quick wins early will **build momentum** and help **ensure success**
- A successful roadmap will **grow and evolve** over time

Contact

Mohamad Hindawi, PhD, FCAS

Towers Watson

+1 860.264.7257

Mohamad.Hindawi@towerswatson.com