Case Study – New Products

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Background

- A product identified by Marketing Department as a big business opportunity
- The product is new for the company and for the product development actuary
- Product development actuary needs to do the pricing and valuation of the product
- Scenario1: the product is available in market but not in our company
- Scenario 2: the product is the consequence of a new legislation and hence no product specific knowledge is available

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Evaluating the opportunity (1/3)

Scenario 1	Scenario 2
• Why does the company not already sell this product? - Conscious decision, failure to spot opportunity, lack of time / resources • Do we have history / documents showing any past research done to understand the risks and reward? • What factors have changed to make this product feasible	• New product for the whole market • How comprehensive are the regulations and requirements for the product? • Does the product provide good value to all stakeholders including policyholders and shareholders? Is there a real opportunity in the market for the product • How does this product fit into the regulatory and professional framework?

Evaluating the opportunity (2/3)

Understanding the opportunity :

- What research has led the marketing department to decide that this new line of business is a big business opportunity?
- What consumer needs will be fulfilled by this new product and what customer segment will it be targeted at?
- What is the estimated market size for this product and what market share could we achieve?
- What are the risks v/s reward trade-off?

Evaluating the opportunity (3/3)

Understanding the challenges :

- Profitability: premium rates, expenses/charges, reserves, capital management
- Sales related: policy wording, illustrations, sales literature, underwriting, administration systems
- Others: legal, compliance, PRE, TCF
- Impact on each stakeholder: shareholders, policyholders, distributors, regulator
- Assessment of media, capital markets, credit rating agencies (if IPOs happen)
- Views of different departments: sales, marketing, underwriting, claims, operations, customer service, legal, compliance

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Competence & Professionalism (1/2)

- The product is new to our company and to the product development actuary as well

- Professional Conduct Standards issued by IAI mention under clause 3.1:

  "…Many assignments offered to actuaries require considerable knowledge and experience for proper completion. Requisite knowledge includes methodology, relevant legislation…"

  "…Actuaries must not give advice, unless:
  a) Satisfied of personal competence in the relevant matters, or
  b) Acting in co-operation with, or with the guidance of, someone (not necessarily an actuary) with the requisite knowledge and experience."

Competence & Professionalism (2/2)

- Will need to seek help on:
  - Risks
  - Experience data
  - Pricing / valuation assumptions and methodology
  - Regulatory issues
  - Other issues (reputational, marketing etc.)
  - PRE / TCF
- Avail services of an actuarial consulting firm / reinsurer to help in product design and pricing

Other sources to consider to gain knowledge (1/2)

Scenario 1
• Other actuaries who have priced the product (confidentiality issues?) • Research and analysis of the products offered by competitors • Publicly available information from other companies (brochures, policy wording, illustrations) • IRDA, Life Insurance Council, Institute of Actuaries of India (IAI) • Ombudsmen reports to understand any regular issues/problems with the product

Other sources to consider to gain knowledge (2/2)

Scenario 2
• Publications on the subject • Group companies operating in other markets that have the same product • Regulations in respect of such products prevalent in other countries • Ombudsman reports from other countries • Actuarial bodies of other countries • Life Insurance Council, IAI: have they issued any guidance

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Cross functional team would be required

- A cross functional team within the company will need to be set up to work on the development of such a product

- Will include representatives from following areas:
  - Marketing
  - Product management
  - Underwriting
  - Claims
  - System development
  - Valuation
  - Pricing
  - Legal

- Risk and Compliance functions will need to play a key role in identifying and managing risks from this new product line

Defining Product Outline (1/3)

- What is the product category: life, pension, health, group?
- What should be the product structure: linked vs. conventional, participating vs. non participating
- What should be the product features: benefits, riders, options, guarantees

Defining Product Outline (2/3)

Scenario 1

- Research and analyze the products offered by companies in market. Are they all similar or significant variation?
- Do they look close to any of the existing products?
- Do we want to keep similar product structure or go for unique features to sell on a higher than market price and take advantage from a gap in market, if available.

Defining Product Outline (3/3)

Scenario 2
• Go through the regulation and understand the basic structure of the product • What features are offered on similar products in other countries and what adjustments to be made as per environment in home country • What can the company add to the product to make it more attractive? • Does the company have freedom to determine charges and rates or there are limits on those? • Are the benefits completely defined by regulations or company can be innovative here?

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Pricing the Product (1/3)

Issues to consider:

- Can we use pricing details from similar products priced in the past?
- Profit Criteria - similar to any existing products?
- Methodology - MCEV or Traditional EV?
- What are the important variables as per the line of business / product structure / riders / guarantees?
- How to set assumptions for future?
- Analyze the products and rates offered by the competitors. Are the products comparable? (Scenario 1)

Pricing the Product (2/3)

Setting Assumptions for future

- **Demographic:**
  - Scenario 1: if class of lives is similar to an existing product then use that experience
  - Scenario 2: reinsurer data / industry statistics for relevant countries suitably modified for the class of lives can be used for demographic assumptions

- **Investment return:**
  - What kind of assets will we invest in for such products? (government bonds, corporate bonds, money market instruments). Return on these assets with risk adjustment (marketability, default) will be a good measure

- **Inflation rate:**
  - For inflation, difference between nominal and real interest rates will be a good guide but future needs to be modeled cautiously. Current scenario of high inflation is perceived to continue long term?

Pricing the Product (3/3)

Setting Assumptions for future(contd.)

- **Expenses:**
  - For expenses, current expenses would only work if product is similar in nature. If there are very high underwriting or fund management expenses in new products and different from existing ones, we would need to analyze the expenses appropriately using some industry data or reinsurer's data (fixed / variable and more granular level)

- **Guarantees:**
  - If any investment guarantees are offered, these will need to be priced using stress scenarios or stochastic modeling

- **Margins:**
  - Add appropriate margins to the most important parameters as per the product structure (Individual assumptions or RDR).
  - Since the product is new with no experience, more prudence will be needed due to uncertainty involved

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Valuation of the Product

Valuation method

- Refer to relevant regulations: IRDA (Assets, Liabilities and Solvency Margin of Insurers) Regulations 2000
- Actuarial Practice Standards: APS 2
- Guidance Notes: GN 22
- Any other relevant regulations / guidelines / circulars / standards

Valuation Assumptions

- Reserving basis will primarily underpin the pricing basis with adequate margins for adverse deviations (MADs): APS 7

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Robust documentation will be necessary

- Since a new product line it would be extremely important that documentation is robust covering all details including:
    - Assumptions
    - Key risks identified and their management
    - Sales process / marketing material
    - PPFM (if participating)
    - Pricing methodology
    - Sensitivity / scenario analysis
    - Valuation methodology
    - File &Use vs. system specs
    - Any other relevant information
- Detailed audit trail would need to be created for subsequent refinement and development

Peer review will be helpful

- As a new product line has been developed and priced for the first time, an independent / external peer review of the work done by the actuaries will help in ensuring
    - That the work meets professional standards set by the company/regulatory requirements
    - And no important aspects have been missed out
- Though this would entail additional expenses but this would add to the comfort of the product development actuary and other stakeholders

Experience monitoring and feedback loop

- Experience will need to be monitored very carefully for a new product line:
  - New Business Margins: is profitability as expected?
  - Channel mix / case size mix
  - Claims and lapse experience
  - Investment returns / Policyholder returns against illustration
  - Actual “allocated” expenses
  - Product level Analysis of Surplus / Analysis of Movement

- Any adverse trends would require quick analysis to take corrective action:
  - Steps to improve experience
  - Revision of basis for pricing and / or valuation

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Q & A