Session 10 L, The Intersection of Insurance & Behavioral Finance

Moderator:
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Presenters:
Matt Battersby, MSc
Ronald L. Poon-Affat, FSA, FIA, MAAA
The Intersection of Insurance and Behavioral Finance

Joey Chi, FSA, CERA
Pricing Actuary, Canada Life Re
Active participation in the Society of Actuaries is an important aspect of membership. While the positive contributions of professional societies and associations are well-recognized and encouraged, association activities are vulnerable to close antitrust scrutiny. By their very nature, associations bring together industry competitors and other market participants.

The United States antitrust laws aim to protect consumers by preserving the free economy and prohibiting anti-competitive business practices; they promote competition. There are both state and federal antitrust laws, although state antitrust laws closely follow federal law. The Sherman Act, is the primary U.S. antitrust law pertaining to association activities. The Sherman Act prohibits every contract, combination or conspiracy that places an unreasonable restraint on trade. There are, however, some activities that are illegal under all circumstances, such as price fixing, market allocation and collusive bidding.

There is no safe harbor under the antitrust law for professional association activities. Therefore, association meeting participants should refrain from discussing any activity that could potentially be construed as having an anti-competitive effect. Discussions relating to product or service pricing, market allocations, membership restrictions, product standardization or other conditions on trade could arguably be perceived as a restraint on trade and may expose the SOA and its members to antitrust enforcement procedures.

While participating in all SOA in person meetings, webinars, teleconferences or side discussions, you should avoid discussing competitively sensitive information with competitors and follow these guidelines:

- Do not discuss prices for services or products or anything else that might affect prices
- Do not discuss what you or other entities plan to do in a particular geographic or product markets or with particular customers.
- Do not speak on behalf of the SOA or any of its committees unless specifically authorized to do so.
- Do leave a meeting where any anticompetitive pricing or market allocation discussion occurs.
- Do alert SOA staff and/or legal counsel to any concerning discussions
- Do consult with legal counsel before raising any matter or making a statement that may involve competitively sensitive information.

Adherence to these guidelines involves not only avoidance of antitrust violations, but avoidance of behavior which might be so construed. These guidelines only provide an overview of prohibited activities. SOA legal counsel reviews meeting agenda and materials as deemed appropriate and any discussion that departs from the formal agenda should be scrutinized carefully. Antitrust compliance is everyone’s responsibility; however, please seek legal counsel if you have any questions or concerns.
Presentations are intended for educational purposes only and do not replace independent professional judgment. Statements of fact and opinions expressed are those of the participants individually and, unless expressly stated to the contrary, are not the opinion or position of the Society of Actuaries, its cosponsors or its committees. The Society of Actuaries does not endorse or approve, and assumes no responsibility for, the content, accuracy or completeness of the information presented. Attendees should note that the sessions are audio-recorded and may be published in various media, including print, audio and video formats without further notice.
Introduction - Joey

Intersection of Behavioral Finance and Insurance part 1 – Matt

Intersection of Behavioral Finance and Insurance part 2 – Ronald

Q&A - Joey
The Intersection of Insurance and Behavioral Finance

Matt Battersby
Chief Behavioral Scientist, RGA
People often act in ways that we don’t expect

Tackling our biggest challenges

- Inadequate demand at reasonable premiums
- Large demand at excessive premiums
- Purchasing wrong amount of coverage
- Adverse selection

- Inaccurate disclosures
- Non-completion and conversion

- Unhealthy lifestyles and behaviors
- Inaccurate claims
- Slow recovery
- Lapse and non-renewal

Sales Process
(product development and marketing)

Underwriting Process
(risk management)

On-going Servicing
(cost management)
Behavioral science

In theory and in practice
How many decisions will you make today about food?
11,000,000 bits per second
11,000,000 bits per second

40 bits per second
Availability heuristic
How people think

System 1: fast/hot

- Automatic
- Uncontrolled
- Effortless
- Associative
- Affective
- Unconscious
How people think

System 2: slow/cool

- Reflective
- Controlled
- Effortful
- Slow
- Deliberative
- Conscious


Judges are human too

![Graph showing proposition favorable decisions against ordinal position.](image)
Do we have a Sherlock Holmes bias?
1. Control

2. Norm

3. Norm + Picture

4. Norm + Logo
5. Three Die

Three people die every day because there are not enough organ donors.

6. Nine Lives

You could save or transform up to 9 lives as an organ donor.

7. Reciprocity

If you needed an organ transplant would you have one? If so please help others.

8. Action

If you support organ donation please turn your support into action.
An extra 96,000 donors a year

3. Norm + Picture

7. Reciprocity

Behavioural Insights Team (2013). ‘Applying Behavioural Insights to Organ Donation’
Applying behavioral science
Approach to tackling challenges

Step 1
Identify behaviors that impact business goals

Step 2
Apply behavioral science to understand drivers of behaviors

Step 3
Develop potential solutions to impact behavior

Step 4
Test and learn
Applying behavioral insights

I D E N T I T Y

N O R M S

S A L I E N C E

U N I E V E R S A L

R E S E A R C H & S T E N G I L S

M A K I N G P L A N S A N D S E T T I N G G O A L S

E M O T I O N S
Step 1
Identify behaviors that impact business goals

THE DISCLOSURE GAP
Closing the disclosure gap

Step 1
Identify behaviors that impact business goals

- Intentional inaccuracy
  - Lying
    - Individual (coverage and premium reduction)
    - Individual (lying to oneself)
    - Organized (criminal)

- Unintentional inaccuracy
  - Mistaken
  - Forgotten
## Closing the disclosure gap

### Step 2
Apply behavioral science to understand drivers of behaviors

<table>
<thead>
<tr>
<th>System 1</th>
<th>System 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intentional</strong></td>
<td><strong>Unintentional</strong></td>
</tr>
<tr>
<td>We lie/cheat up to the level that allows us to retain our self-image as reasonably honest individuals. This is possible when:</td>
<td>We make unconscious mistakes when:</td>
</tr>
<tr>
<td>• It’s easy</td>
<td>• We don’t have enough experience to use System 1 effectively</td>
</tr>
<tr>
<td>• It doesn’t force us to question the type of person we are</td>
<td>• When questions don’t make it easy to use our rules-of-thumb</td>
</tr>
<tr>
<td>• When rules are open to interpretation</td>
<td>• Being mistaken has become a habit</td>
</tr>
<tr>
<td>• We think other people like us are doing the same</td>
<td></td>
</tr>
<tr>
<td>• We believe someone is lying to or cheating us</td>
<td></td>
</tr>
<tr>
<td>• When monetary value is not explicit</td>
<td></td>
</tr>
<tr>
<td>• It has become a habit</td>
<td></td>
</tr>
<tr>
<td>• To avoid shame and social stigma</td>
<td></td>
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</tbody>
</table>

| **The Simple Model of Rational Crime (SMORC)** suggests that our lying is based upon a perceived Cost Benefit Analysis. | **Even when trying to be accurate, we can make mistakes when we:** |
| The only successful interventions are therefore: | • Don’t have the information |
| 1. Increase probability of being caught | • Don’t have the skills |
| 2. Reduce benefit of lying (eg premium differential) | • Don’t have the knowledge |
| 3. Increase severity of punishment | Solution is to educate and inform |

**Note:**
- **System 1** refers to intentional behaviors, which are driven by self-interest and rational decision-making.
- **System 2** refers to unintentional behaviors, which are often the result of unconscious mistakes or errors in judgment.

**Solution:**
Educate and inform to reduce the likelihood of both intentional and unintentional errors.
Example - closing the disclosure gap

Step 3
Develop potential solutions to impact behavior

Ease
• Make it easy to be accurate and hard to lie
Ease
Example - closing the disclosure gap

Make it easy to be accurate and hard to lie

1. Start accurate and honest
2. Simplify questions
3. Use anchoring
4. Reduce the stigma

Step 4
Test and learn
1. Start accurate and honest
2. Simplify questions

- Have you ever had, or been told that you have, or are under current investigation for cancer, carcinoma in situ, tumor, lump, cyst, polyp, growth of any kind, or liver disease?
2. Simplify questions

We are now going to ask about your medical history.

Please confirm which of the following conditions you have had or have been investigated for:

- Cancer
- Lump, growth, cyst or polyp
- Liver disease
- Tumour
- Carcinoma in situ
- None of the above
3. Use anchoring

GROUP A
Original question:
When was your condition diagnosed?
- Less than a year
- 1-3 years
- 3-5 years
- 5-10 years
- 10-15 years
- 15+ years

Less effective disclosure. Average was 4 years.

GROUP B
Revised question:
When was your condition diagnosed?
- 15+ years
- 10-15 years
- 5-10 years
- 3-5 years
- 1-3 years
- Less than a year

More effective disclosure. Average was 5 years.
4. Reduce the stigma

GROUP A
Original question:
Have you smoked in the past 12 months?
☐ Yes
☐ No

20% disclosed they were a smoker

GROUP B
Revised question:
Please confirm how many cigarettes a day you smoke?
☐ More than 30
☐ 21-30
☐ 10-20
☐ Less than 10
☐ None in the past 12 months
☐ Never

33% disclosed they were a smoker
Step 1
Identify behaviors that impact business goals
Norms
Norms

Reducing energy use

Norms

Attracting talent

Norms

Reducing unnecessary antibiotic prescriptions

“The great majority (80%) of practices in Birmingham prescribe fewer antibiotics than yours.”

Hallsworth, M., Chadborn, T., Sallis, A., Sanders, M., Berry, D. et al. (2016). ‘Provision of social norm feedback to high prescribers of antibiotics in general practice: a pragmatic national randomised controlled trial’. The Lancet
Norms

Life insurance ownership

Life insurance isn’t something most people talk about with their friends and neighbors, so often people aren’t aware of whether others like them have the coverage. In truth, most Americans do own life insurance, including people like you. A majority of men/women over 30 own life insurance, particularly if they have children/ even if their children are grown/ even if they don’t have children.

**Norms**

Don’t normalize the bad!

One in four breadwinners don't have life insurance leaving their families with a cover gap of £263 billion

- £8.5 million adults with dependents do not have life cover in place
- Without cover families may struggle with finances after a family death
- Just 45 per cent of male and 38 per cent of female breadwinners have cover
- Life insurance policies start from £6 per month for a 25-year old

By REBECCA RUTT FOR THISISMONEY.CO.UK
PUBLISHED: 07:19, 7 January 2016 | UPDATED: 07:18, 7 January 2016

One in four breadwinners in the UK do not have a life insurance policy in place potentially leaving their families open to financial problems if they died.

This equates to almost 8.5 million people in the UK and with average life insurance
Creating new norms

“2 months’ salary showed the future Mrs. Smith what the future will be like.”

You can’t look at Jane and tell me she’s not worth 2 months’ salary. I mean just look at her. So I wanted to get her a diamond engagement ring that had exactly that ‘just look’. I found out that a good spending guideline today is about 2 months’ salary. That got me the biggest and best diamond I could afford without breaking my budget. Now the only thing that other men ask her is, ‘When is the wedding day?’

How can you make two months’ salary last forever?

The Diamond Engagement Ring.

When you’ve found the woman of your dreams, give her the diamond of her dreams. The two months’ salary guideline helps you find a diamond of quality, brilliance and breathtaking beauty. For other tips on buying, and the 4Cs—cut, color, clarity and carat weight—consult your jeweler. Or call 1-800-GEMBUYER for a free diamond buying guide.

A diamond is forever.

De Beers
Creating new norms
Store and Share Everything Important

An Everplan is a secure, digital archive of everything your loved ones will need should something happen to you. It contains:

✔ Wills, Trusts, and insurance policies
✔ Important accounts and passwords
✔ Info about your home: bills, vendors, etc.
✔ Health and medical information
✔ Advance Directives and DNRs
✔ Final wishes and funeral preferences
✔ And much more...

Enter your email address

Start Your Free Trial »
Get creative.
Get giving.

#01. Create a bucket
#02. Choose an amount
#03. Add friends & family

£5,000
Massive Pillow Fight

£60,000
Mum & Dad’s Mortgage

£60,000
Life-time Spotify account

£50,000
Charity Donation

Say goodbye in your own way by deciding why, when and who.

Provide unique experiences for you, your mates, a bit of noodle help for your family or even donations to the charities you care about. It’s all a bit but.
Step 1
Identify behaviors that impact business goals

HEALTHY LIFESTYLES & BEHAVIORS
Making plans and setting goals
Making plans and goalsetting

1. Set a goal
2. Make a commitment
3. Make a plan
4. Show progress
1. Set a goal

Reducing harmful levels of drinking

“Is alcohol affecting your health? Cutting down on alcohol can reduce your risk of …, breast and bowel cancer and liver disease”

Is alcohol affecting your appearance? Cutting down on alcohol can reduce your risk of … saggy skin, obesity and premature ageing”

2. Make a commitment

Medication adherence

Not taking my medication as prescribed could risk my health.

I want to do all I can to improve my health, so I commit to taking this medication exactly as prescribed, or I will speak to my GP or pharmacist if I have a concern.

Signed: ..........................................................

Date: ..........................................................

- percentage of patients not taking their medication
3. Make a plan

Regular cycling

MY CYCLING PLAN FOR 2017

I am taking part in the HSBC UK City Ride for:

To help me cycle more, my 2017 goals are:
[Talk about how many more times per week]

Things I could do to help me achieve my goals:
[Talk about who, when and where]

I know I might not cycle it:

To overcome this challenge, I will:

I’m pledging my goal:

HSBC UK City Ride celebrates your pledges.
4. Show progress

Loyalty card
Buy 5, get the next one free
4. Illusion of progress
Getting started
Tackling our biggest challenges

- Inadequate demand at reasonable premiums
- Large demand at excessive premiums
- Purchasing wrong amount of coverage
- Adverse selection

- Inaccurate disclosures
- Non-completion and conversion

- Unhealthy lifestyles and behaviors
- Inaccurate claims
- Slow recovery
- Lapse and non-renewal

Sales Process
(product development and marketing)

Underwriting Process
(risk management)

On-going Servicing
(cost management)
The intersection of Insurance & Behavioral Finance

Part II

May 2018
So what is the problem?

... It’s really difficult to sell Life Insurance
Life Insurance density and Penetration %

Life premiums per capita in USD in 2016

Life Insurance Penetration
As a % of GDP

Swiss Re Sigma 2017 report
So what is the solution?

- Kick the reinsurers
  - Cheaper rates
  - Less underwriting
  - Pay more claims
- Lobby for more tax incentives on premium payment
- Create a super iPhone app

Dare I suggest that we try to understand the customer?
Is this the customer?

“What a piece of work is a man, how noble in reason, how infinite in faculties, in form and moving, how express and admirable in action, how like an angel in apprehension, how like a god!”
A picture tells a thousand words...
Behavioral Economics 101…
The Chimp and The Human

Emotional – lives by the law of the jungle: F.F.F.

Rational, logical, in perspective
Chimp vs Human

5 Times stronger than Human

The true you!
Chimpanzee & the Human...
Who usually designs, develops, prices life-insurance & pension products???

An Actuary
## Actuaries are not irrational…

<table>
<thead>
<tr>
<th>Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuaries think logically</td>
</tr>
<tr>
<td>The brain cannot cope with numerical problems</td>
</tr>
<tr>
<td>Your brain can cope better than most</td>
</tr>
<tr>
<td>You are comfortable with large amounts of money</td>
</tr>
<tr>
<td>You understand the time value of money</td>
</tr>
<tr>
<td>You think to the future</td>
</tr>
<tr>
<td>You will fore-go now for the future</td>
</tr>
<tr>
<td>Life insurers generally assume that their clients purchase protection because it is the logical thing to do</td>
</tr>
<tr>
<td>May be defensive of their own ideas.. for too long. Not invented here bias</td>
</tr>
</tbody>
</table>
What the chimp thinks about Insurance

- Logically life insurance is a good thing, but make excuses:
  - Intrusive
  - Time-consuming
  - Expensive
  - Complicated
  - Don’t trust advisers and insurers

- Sufficing – “I’ve got enough”

- Optimistic – “It won’t happen to me”
So what can we do?

“INSANITY IS DOING THE SAME THING OVER AND OVER AND EXPECTING A DIFFERENT RESULT.”

-- ALBERT EINSTEIN
Some ideas…

- Traditional Sales process assumes that consumers are rational. Reconsider `how we sell` insurance` to non actuaries
- Provide a `nudge` appealing to our protective instincts
- Reconsider how we package product offering
- Claims as a business
- Make people feel good
So what can we do?
So what can

Missing Life
Insurance
Life insurance terminology is not “tempting”

- Accidental death
- Dread Disease
- Total & Permanent Disability
- Inability to perform Activities of Daily Living
- Reference to Suicide waiting period
- Terminal Illness benefit
- Accidental Death & Dismemberment
  • We might then refer to the “butcher’s table”
We can’t look away from a good train wreck
Rubbernecking at scene of accident

- Carl Jung might explain why we are enamored with disaster:
  - our mental health depends on our shadow, that part of our psyche that harbors our darkest energies.

- We feel more vulnerable after we read about:
  - Plane crash
  - Earthquake
  - We drive more cautiously after we see a fatal car accident.
Claims as a Business: How it works

**Input**

- Medical Claims Data

**Process**

- Underwriting Engine
  - Claim Diagnosis by Impairment Code
  - Treatment Received by Surgical Code
  - Complications or recurrence (if any)
  - Other Parameters e.g. length of confinement

**Output**

- SIO Offer
- GIO Offer
- No Upsell Offer to impaired lives
Claims as a Business

Competitive Advantage

- Regular lead generation for distribution
- Provides Claims Director with a “sales target”
- Rejuvenate customer base at a time where they recognise the importance of insurance – timing of offer is key
- Upsell to majority of Medical benefit claimants:
  - Depends on data fields available
  - Depends on underwriting philosophy – questions, accept/decline or accept/load/decline philosophy
Peer to Peer ... with a twist of lemon
The Diversity of Diversity…

Ever hear the story about

- A tech guy
- An insurance guy
- A behavioral economist
- A philanthropist
- A venture capitalist

who meet in a bar??
Insurance gets shaken & stirred...

Lemonade: World’s First Peer-to-Peer Insurance Platform Receives Backing from Lloyds & Berkshire Hathaway

February 9, 2013 @ 2:40 pm By JD Alots
Peer to Peer in a nutshell

Profit sharing/charity donation
Elevator pitch

- Licensed insurance carrier
- Available via iOS and Android apps, and website
- Offering homeowners and renters insurance
- Powered by bots, artificial intelligence and behavioral economics.
- Replaces brokers and bureaucracy with Technology
- Promises zero paperwork and instant everything.
- Underwriting profits go to nonprofits
- Chief Behavioral Officer Dan Ariely

Lemonade is remaking insurance as a social good
Professor Dan Ariely
Summary

- Traditional Sales process assumes that consumers are rational. Reconsider `how we sell` insurance` to non actuaries
- Provide a `nudge` appealing to our protective instincts
- Reconsider how we package product offering
- Claims as a business
- Make people feel good
RONALD POON AFFAT
CEO RGA Brazil

rpoonaffat@rgare.com
Recommended Reading.. In order of `fun`:

- The Chimp Paradox – Dr. Steve Peters
- Dan Ariely – TedTalks, Google Talks, You Tube
- Thinking fast & slow - Daniel Kahneman
- Misbehaving - Richard H. Thaler
- Nudge - Richard H. Thaler & Cass Sunstein
- The Undoing Project – Michael Lewis