ACLI
American Council
of Life Insurers
Creating Connections
Seizing Opportunities
ACLI Annual Conference 2018

Creating Connections & Seizing Opportunities

ACLI
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Dorothy L. Andrews

Consulting Actuary
Merlinos & Associates

ACLI Annual Conference 2018

The Life Insurance Industry

Undisrupted

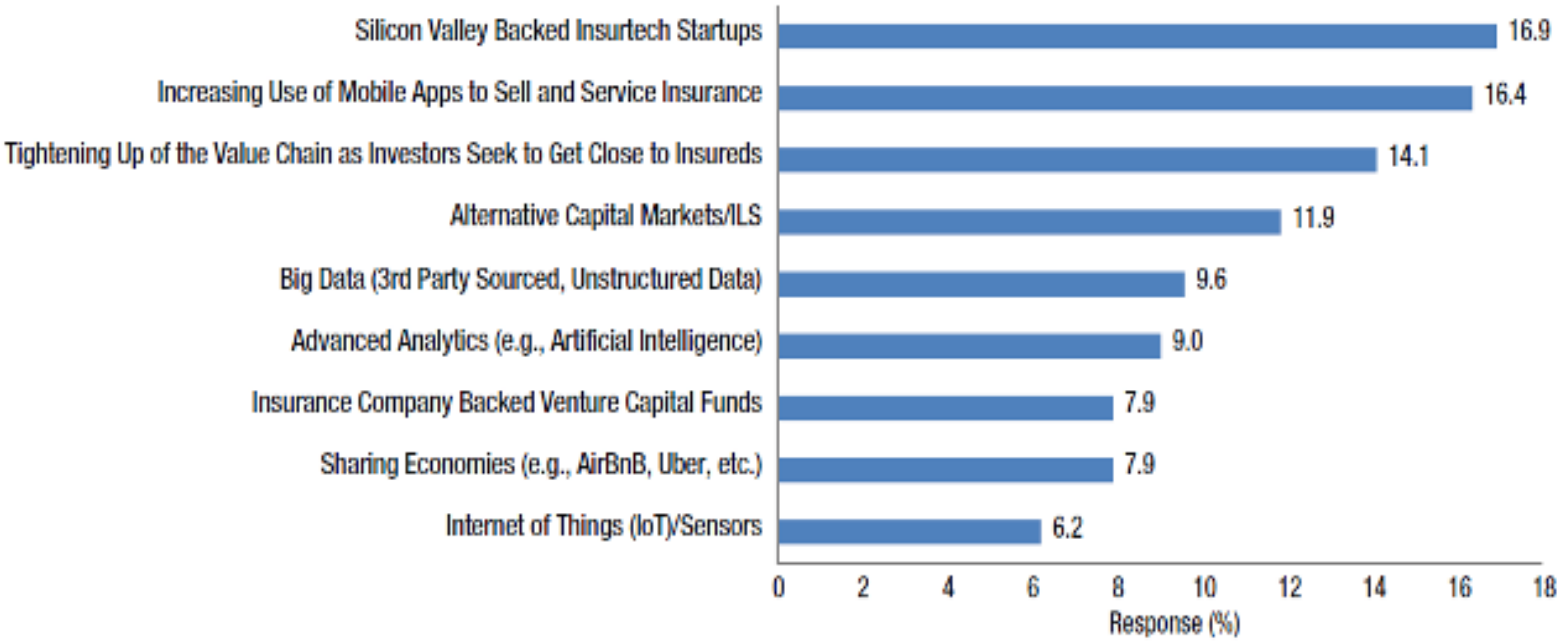
The Life Insurance Industry

Disrupted by InsurTech

Creating Connections X Seizing Opportunities

ACLI Annual Conference 2018

Greatest Threats



Source: A.M. Best data and research

at&t

The Real Yellow Pages

at&t

The Real Yellow Pages

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Harnessing the Power of InsurTech

Agenda

- Overview of the Academy Report
- Discuss issues raised by the application of Insurance Technology a.k.a InsurTech
- Anatomy of InsurTech Applications
- Keys to a Successful InsurTech

Big Data and the Role of the Actuary

JUNE 2018

American Academy of Actuaries
Big Data Task Force

Bob Beverlein, MAAA, FSA, FCA, CERA—Chairperson
Dorothy Andrews, MAAA, ASA, CSPA—Vice Chairperson
Mary Balma Nolan, MAAA, FSA, CERA
Elena Black, MAAA, EA, FCA, FSA
Elizabeth Hill, MAAA, FSA
Patrick Cassegrove, MAAA, ACAS
Robert Curry, MAAA, FCAS
Ian Duncan, MAAA, FSA, FCIA, FIA
Seong Min Eom, MAAA, FSA
Andy Fenik, MAAA, FCA, FSA
Audrey Halvorson, MAAA, FSA
William Hines, MAAA, FSA
Dave Hoang, MAAA, EA, FCA, FSA
Robert Miscoria, MAAA, FCA, FCAS
David Sandberg, MAAA, FSA, CERA
Martin Snow, MAAA, FSA
Jim Toole, MAAA, CERA, FSA
Jason VanBergen, MAAA, FSA

- Two Substantive Issues:
  - Ethical and professional issues are emerging with the increasing use of Big Data
  - Actuaries, statisticians and data scientists are involved with projects using Big Data

Big Data generally includes the "5 V's":

Volume	Large amounts of data are collected and processed.
Velocity	Data is available and must be processed at lightning speed, frequently instantaneously
Variety	The data being used comes in different forms.
Veracity	The reliability of the data is not uniform.
Value	The data being extracted must be usable or be able to be monetized.

THE 10 Vs OF BIG DATA

Source: www.mstack.com

Professionalism for Actuaries

- The Code of Professional Conduct
- U.S. Qualification Standards (USQS)
- Actuarial Standards of Practice (ASOPs)
- Actuarial Board for Counseling and Discipline (ABCD)

REGULATORY CONSIDERATIONS

Existing Regulatory Framework

- Two categories of regulatory requirements to govern the use of Big Data:
  - To protect consumers in general
  - To prohibit discrimination against certain protected classes of individuals

REGULATORY CONSIDERATIONS

Emerging Regulatory Developments

- NAIC Big Data (EX) Working Group
- Regulatory Sandboxes – A regulatory environment designed to encourage innovation in a regulated industry

PRIVACY AND BIG DATA

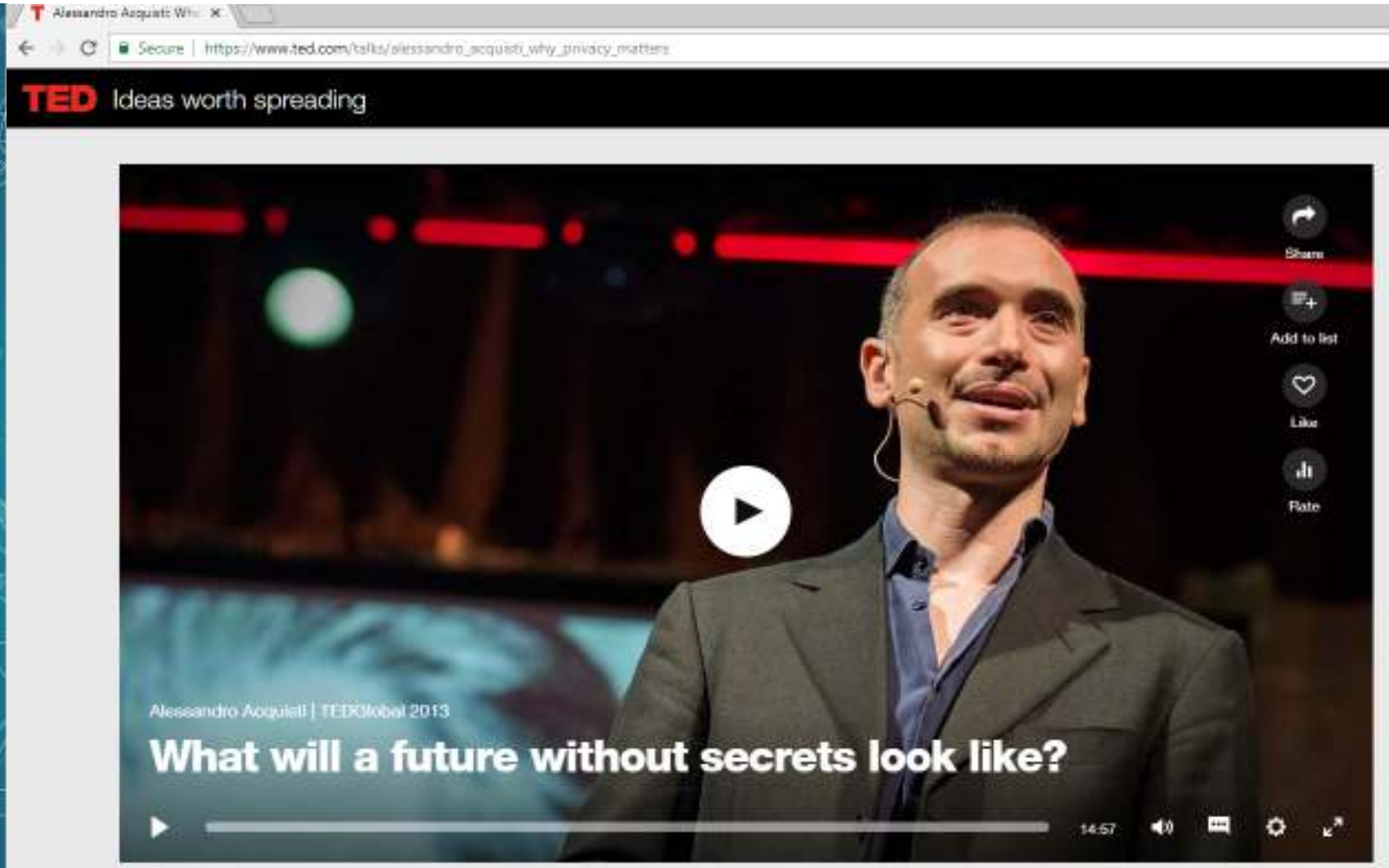
Existing Regulations

Two Protected Areas:

- **Financial Data**
- **Health Data**

Insurance Data Security Model Law

NAIC Approved 2018


Alessandro Acquisti Wh
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Alessandro Acquisti | TEDGlobal 2013
What will a future without secrets look like?
14:57

Chief Media Ethicist

- Independent Agent
- Develop Ethical Brand
- Incorporate Universal Standards
- Operationalize Brand Ethics
- Monitor Company Ethical Behavior
- Identify Ethics Violations
- Remedy Ethics Violations
- Continually Evolve the Brand

The Actuary — EDITORIAL

Media Psychology

Where technology meets human experience

InsurTech Observations

Observation 1: The Rules of Engagement have changed

Observation 2: New areas of risk have emerged

Observation 3: Advanced technology may present conflicts

Observation 4: Simplified U/W viewed as post-claim U/W

Observation 5: Increase in regulatory market conduct scrutiny

Observation 6: Regulators have a steep learning curve

The Early Pioneers in Behaviorism

All Believed the Environment Influenced Behavior

John B. Watson

- **Founder of Behaviorism**

- Science of Behavior
- Behaviorism → Causal Relationships
- Stimuli leads to a Learned Response
- Classical Pavlov Conditioning

B.F. Skinner

- **Founder of Radical Behaviorism**

- Behavior the Outcome of Environment
- Main Focus: Operant Conditioning
- Reinforcement Strengthens Behavior

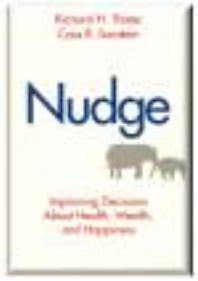
Edward Tolman

- **Founder of Cognitive Behaviorism**

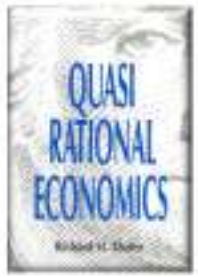
- NO Stimuli Response Mechanism
- Cognitive Learning = Entire Organism
- Reinforcement is Irrelevant
- Goals and Motives Drive Behavior

Richard Thaler

BOOKS

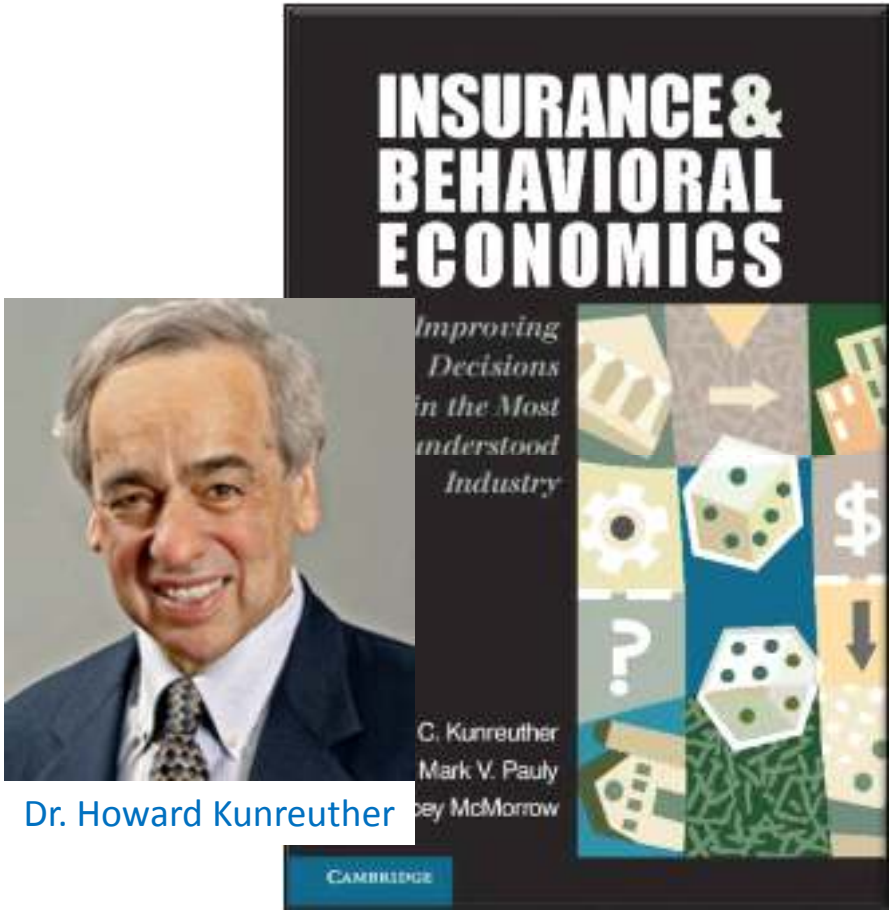

Nudge

MISBEHAVING
Richard H. Thaler


QUASI
RATIONAL
ECONOMICS

Behavioral Economics and Insurance: Principles and Solutions

- Methods to induce more honest behavior
- Low-probability, high-consequence events (LP-HC) management
- Processing of LP-HC events often left to intuition & irrational behavior
- Diversification of large, correlated losses a major risk for insurers
- Insurance markets must account for mistakes by buyers and sellers
- Market and regulatory structures are needed to mitigate these risks



Dr. Howard Kunreuther

Lemonade P2P Insurance Startup Names Dan Ariely Chief Behavioral Officer

The noted author and professor of Psychology and Behavioral Economics at Duke University takes a dim view of today's insurer/customer relationship.

Anthony K. O'Donnell // February 24, 2016

InsurTech Applications

Insurance
4
Millennials

The Psychology

Dr. Robert Cialdini would likely say this relationship is one of reciprocity intrinsically linked to social validation. Millennials solicit brands that invest in social causes they care about.

- Robert Cialdini, Ph.D., Social Psychology

InsurTech Applications

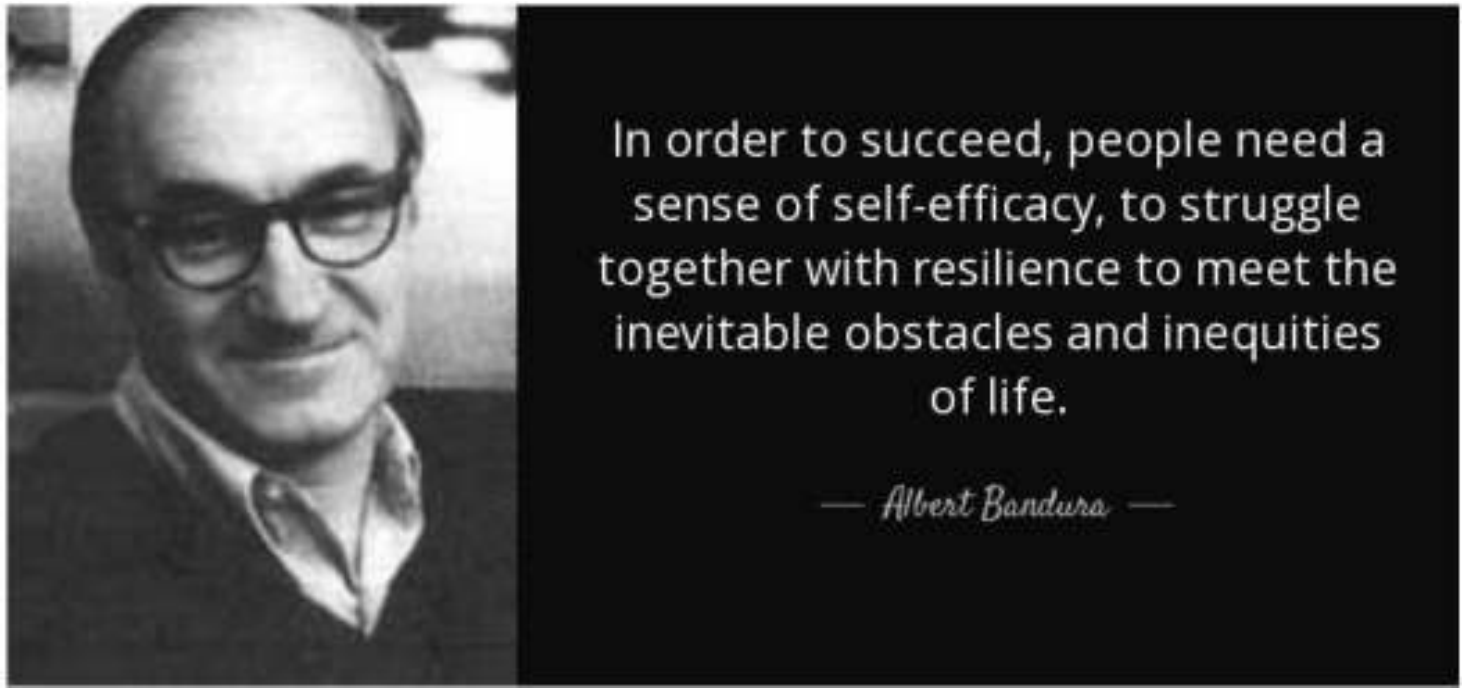
The Psychology

The Vitality program operates as a **health model rather than a disease model** using mobile devices mediated via a technology platform.

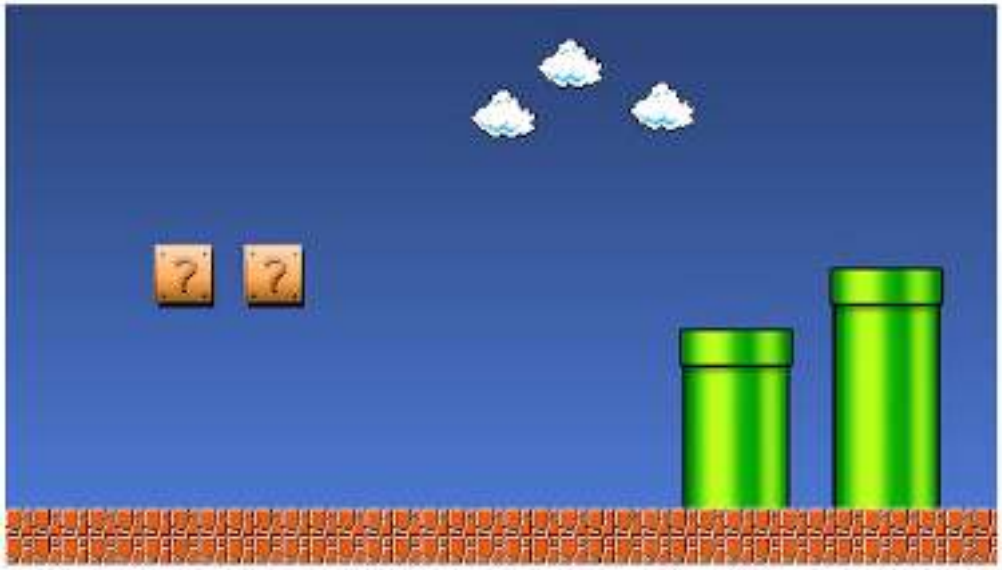
By linking wearable devices to the Vitality program, John Hancock tied **a powerful tool to self-efficacy** to drive the desired outcome, improved health.

- Albert Bandura, Ph.D., Social Psychology
- Pamela Rutledge, Ph.D., Media Psychology

Constructing Self-Efficacy Scales

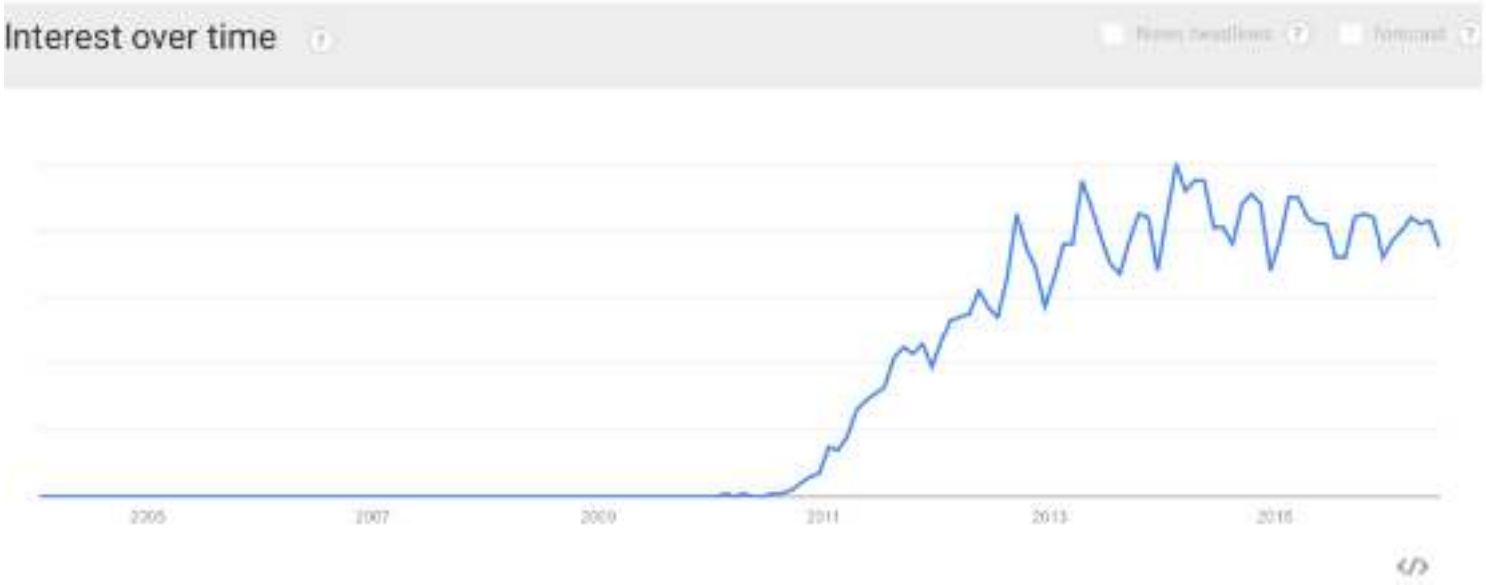


The Psychology of Gamification



Source: https://www.bitcatcha.com/blog/gamify-website-increase-engagement/

Gamification Works!!!



It triggers real, powerful human emotions:
Happiness, intrigue, excitement …

Source: https://www.bitcatcha.com/blog/gamify-website-increase-engagement/

InsurTech Applications

Chatbots give “the illusion of companionship without the demands of friendship.”

- Liraz Margalit, Ph.D.
Social Psychology

The Psychology

Use of broad language	Q: Did you secure your front door when leaving home? A: I always lock my door. This suggests the individual is not entirely comfortable answering this question directly.
Use of negative language	*"I have done nothing wrong", "I am not a criminal".* This tells us something and it is probably an answer to a question yet to be posed. However, the individual is not saying they are honest. We can look for the use of generalisation statements *"as a general rule ...", "in most cases ...", "I usually ..."* These phrases allow the fraudster to distance themselves from whatever it is that they are saying and they are not showing 100% commitment to what is about to be said.
Use of qualifying language	This works in a similar way by blaming poor memory for not telling you the complete truth. Examples of this can include *"to the best of my knowledge ...", "at this point in time ...", "as far as I can recall ...".*

Omission	This can be offered using phrases such as *"I think ..."*, or *"I believe ...".*
To hide other circumstances	The fraudster might wish to unnecessarily bolster his language/statement with phrases such as *"to be honest ...", "to tell you the truth ...", "I swear to God ...".* In these cases one shouldn't necessarily believe what the fraudster is about to say.
Edit information in and out	Phrases such as *"later on ...", "before I knew it ...", "the next thing I remembered ..."* show that something has been left out of the account or that this happened very quickly. Language may be further extended by considering the use of associative language. Here somebody might describe possession of their own in more generic terms. An example might be: *"I left my Rolex by the swimming pool but when I returned I found the watch was gone."* In this case the interviewee seeks to distance himself in emotional terms from the loss of the watch.

LIMRA behavioural study: Social norming message improves attitudes about life insurance

By Ronan McCaughey February 1, 2016

The Psychology

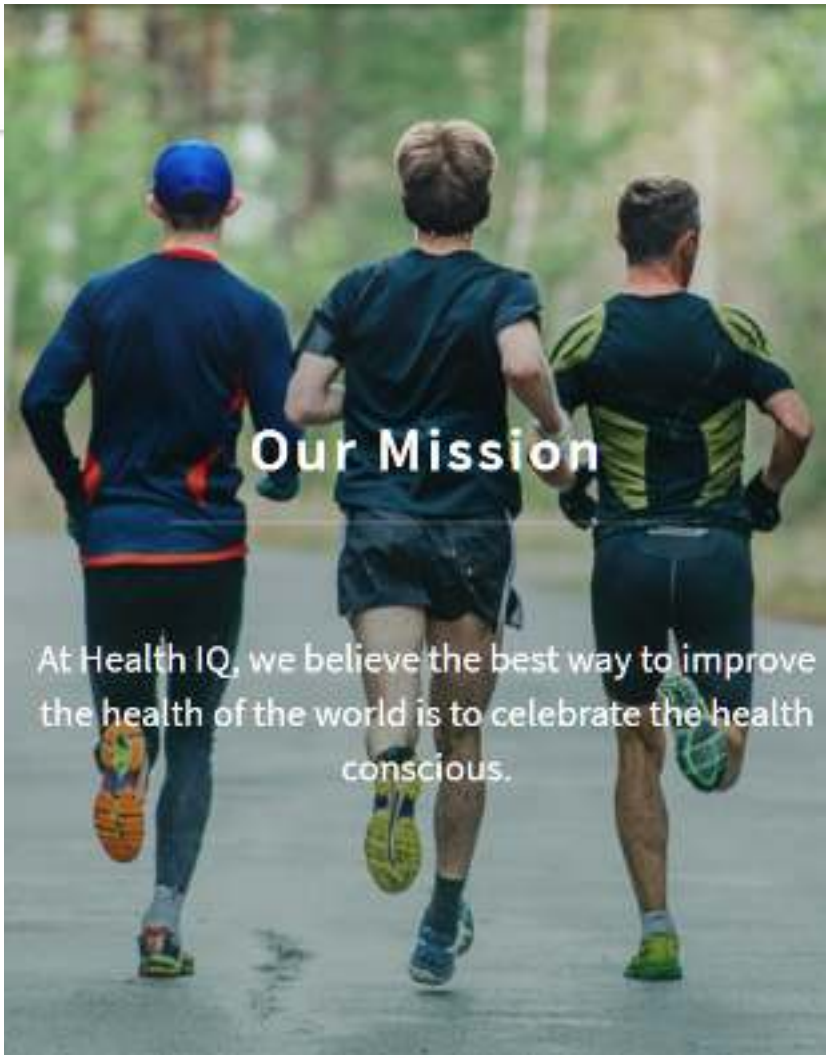
Health I.Q.

The exercise you already do can save you

25.5%* on your Life Insurance.

That's because people who exercise have a

- 56% *Lower risk of heart disease*
- 34% *Lower risk of all-cause mortality*
- 22% *Lower risk of cancer*



Keys to a Successful InsurTech

#1: Product Demand

#2: Identify Target Population

#3: Acquire Big Data

#4: Identify Psychology of Desired Attributes

#5: Develop Gamification to Drive Engagement

#6: Develop a Mobile App

#7: Embrace a Set of Digital Ethics

The Psychology

"If you want better data, you need to influence better behavior!"

- **Dorothy L. Andrews, Ph.D. Student**
Media Psychology, Fielding Graduate University

Media Psychology
Where technology meets human experience

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