Canadian Institute of Actuaries | Institut canadien des actuaires

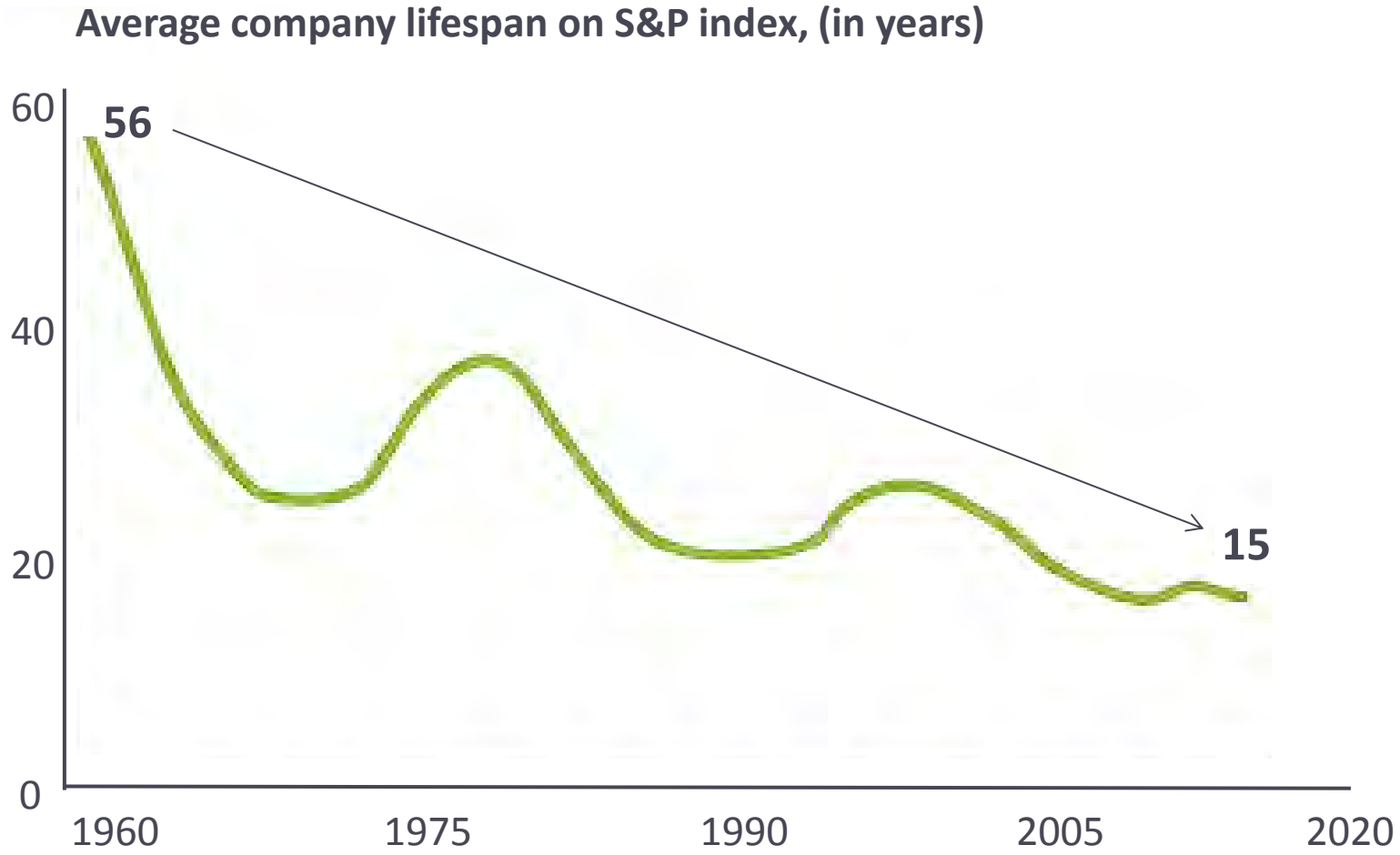
50 ans years

Session 10- Disruptive technologies and other trends: Impact on insurance and the actuarial profession

Cindy Forbes

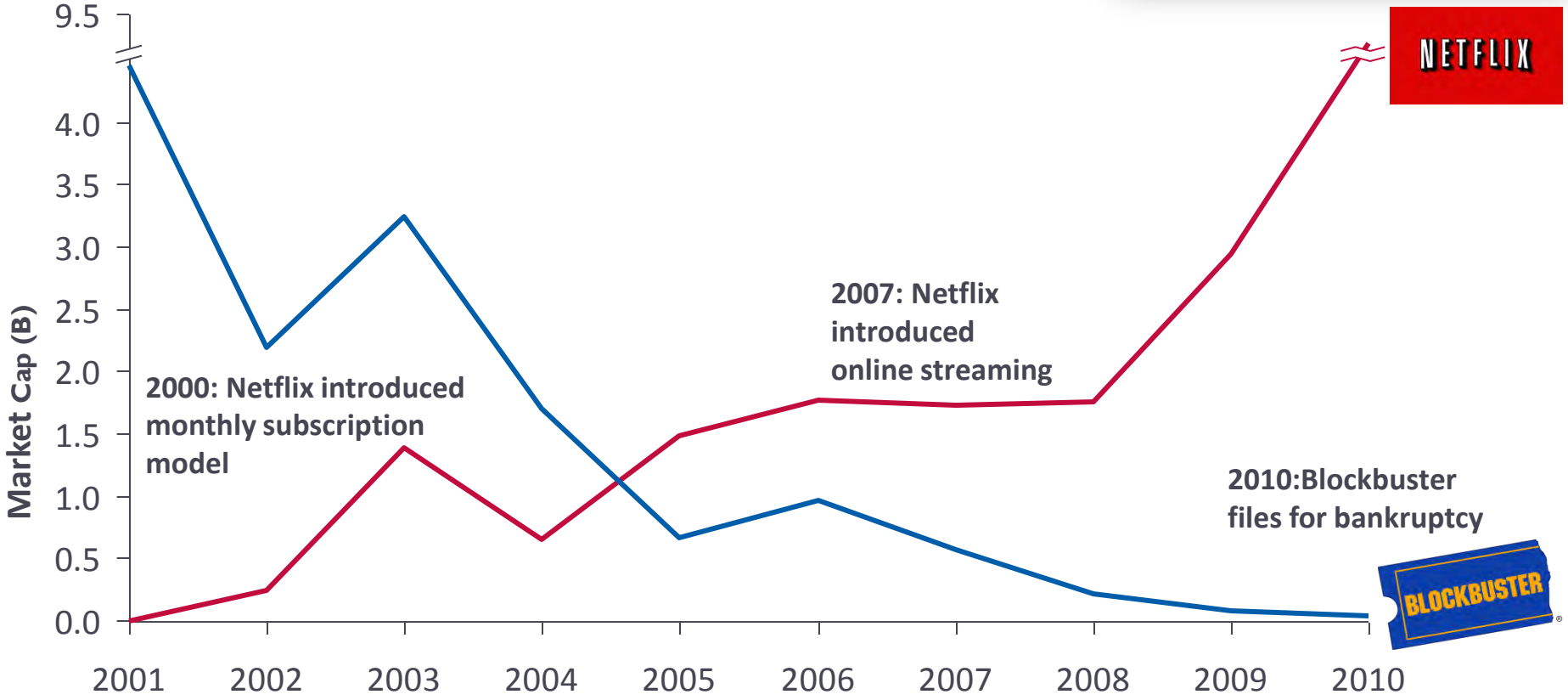
Executive Vice President & Chief Actuary, Manulife

Average company lifespan on the S&P index has shortened



Source: Certify, Google Finance

A Business Disrupted: Blockbuster



Disruptive technologies are turning data into business insights

Data Proliferation	Disruptive Technology	Business Insight

Mobile Internet

Social media

Internet of things

Advanced Analytics

Medical Nanotechnology

- Risk Selection
- Product & Pricing
- Customer Interface
- Customer Insights
- Claims Management
- Daily Operations
- Longevity Protection

Within our industry, some early signs… (1 of 2)

New uses of data and analytics being explored

Fitbit

Vitality

AXA Data Innovation Lab

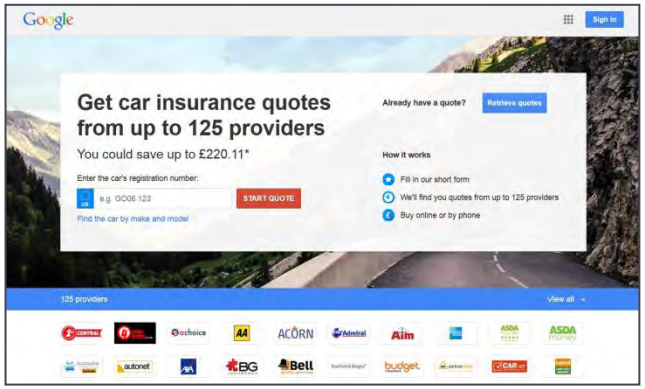
Simpler customer interfaces being created

Within our industry, some early signs… (2 of 2)

New business models being developed

friendsurance
individuell versichern, gemeinsam sparen

Non-traditional players entering adjacent spaces



Google compare

Key trends driving disruption across industries

1. **The breadth and depth of mobile devices are rapidly increasing**

2. **Data is ubiquitous and becoming more interconnected**

3. **Consumers expect greater control of their well-being**

4. **Cloud computing provides unlimited capacity to analyze data**

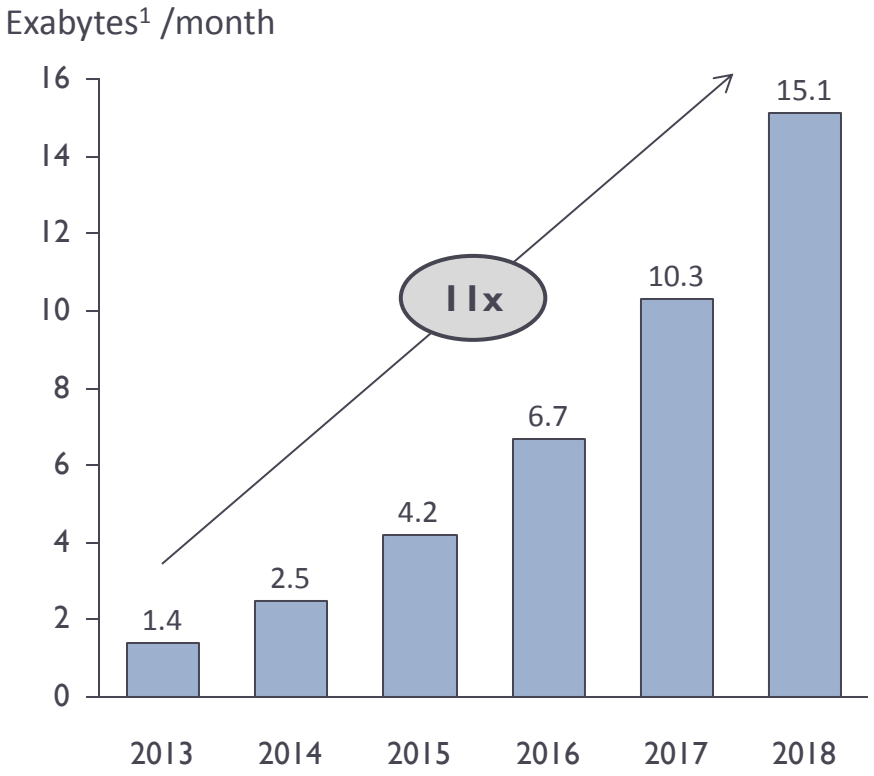
5. **Advancements in medical technology extending average life expectancies**

6. **Advanced analytics driving real value creation**

IBM Watson

1 The breadth and depth of mobile devices are rapidly increasing

Global Mobile traffic forecast to grow 11x by 2018



	2015	2020
World Population	7.2 Billion	7.6 Billion
Connected Devices	25 Billion	50 Billion
Connected Devices per person	3.5	6.6

Source: BCG analysis, Cisco IBSG; 1. Exabytes: unit of computer data storage, equivalent to 10^{18} bytes

2 Data is ubiquitous…

Every 60 seconds…

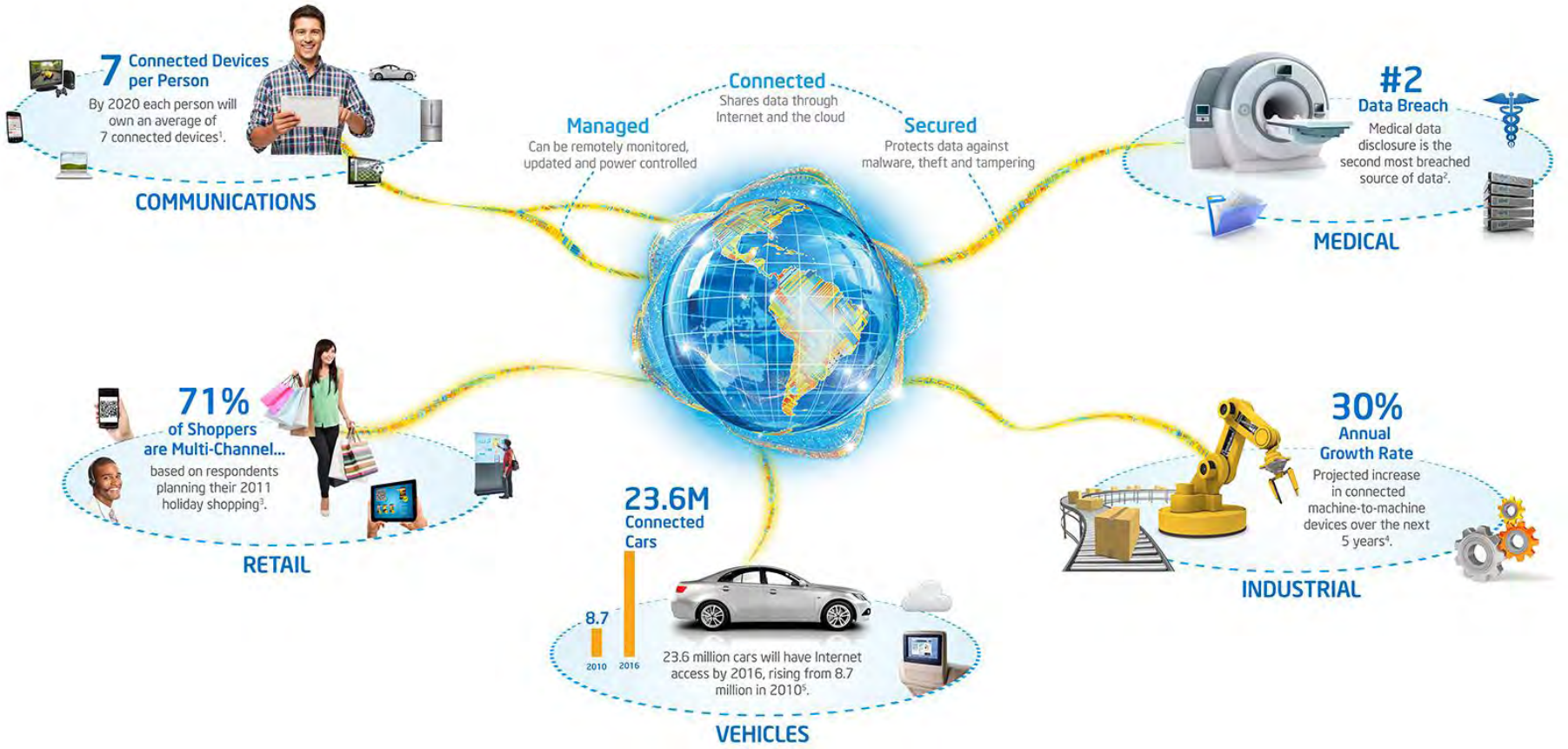
- **98,000+** tweets
- **695,000** status updates
- **698,445** Google searches
- **11 million** instant messages
- **168 million+** emails sent

- **1,820TB** of data created

"Let's shrink Big Data into Small Data …
and hope it magically becomes Great Data."

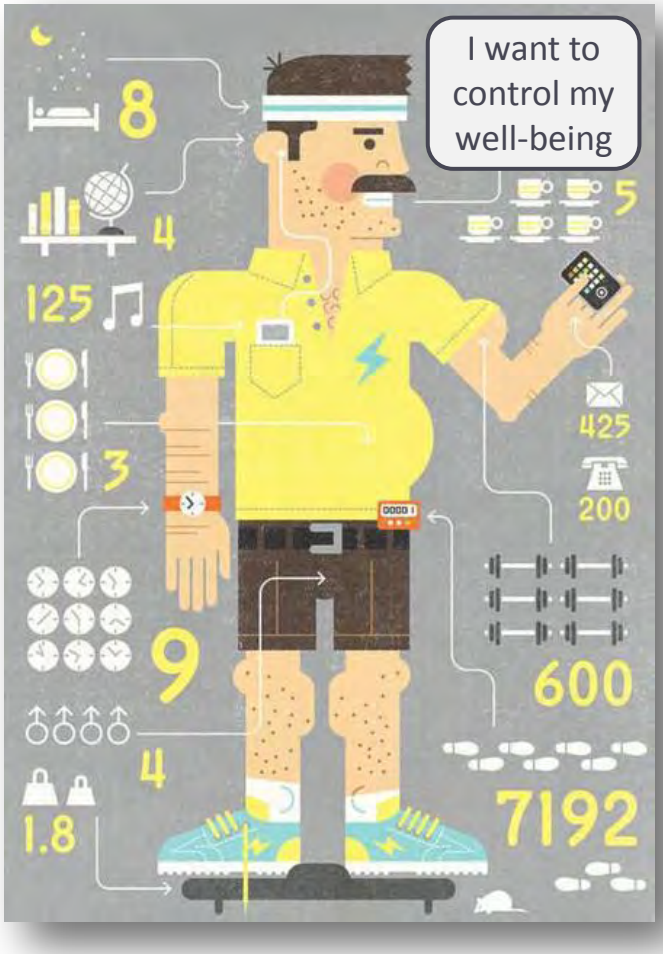
2 … and becoming more interconnected

Internet of Things (IoT)



Source: Intel.com

3 Consumers expect greater control of their well-being…



Connected devices

+

The Quantified Self

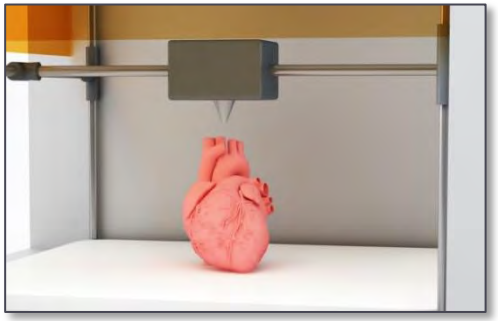
=

3 … and are looking to peers for advice

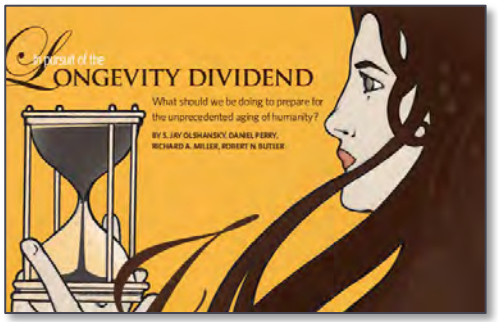
4 Cloud computing provides unlimited capacity to analyze data

5 Advanced medical technology extending life expectancies

Next-generation genomics



3D Printing

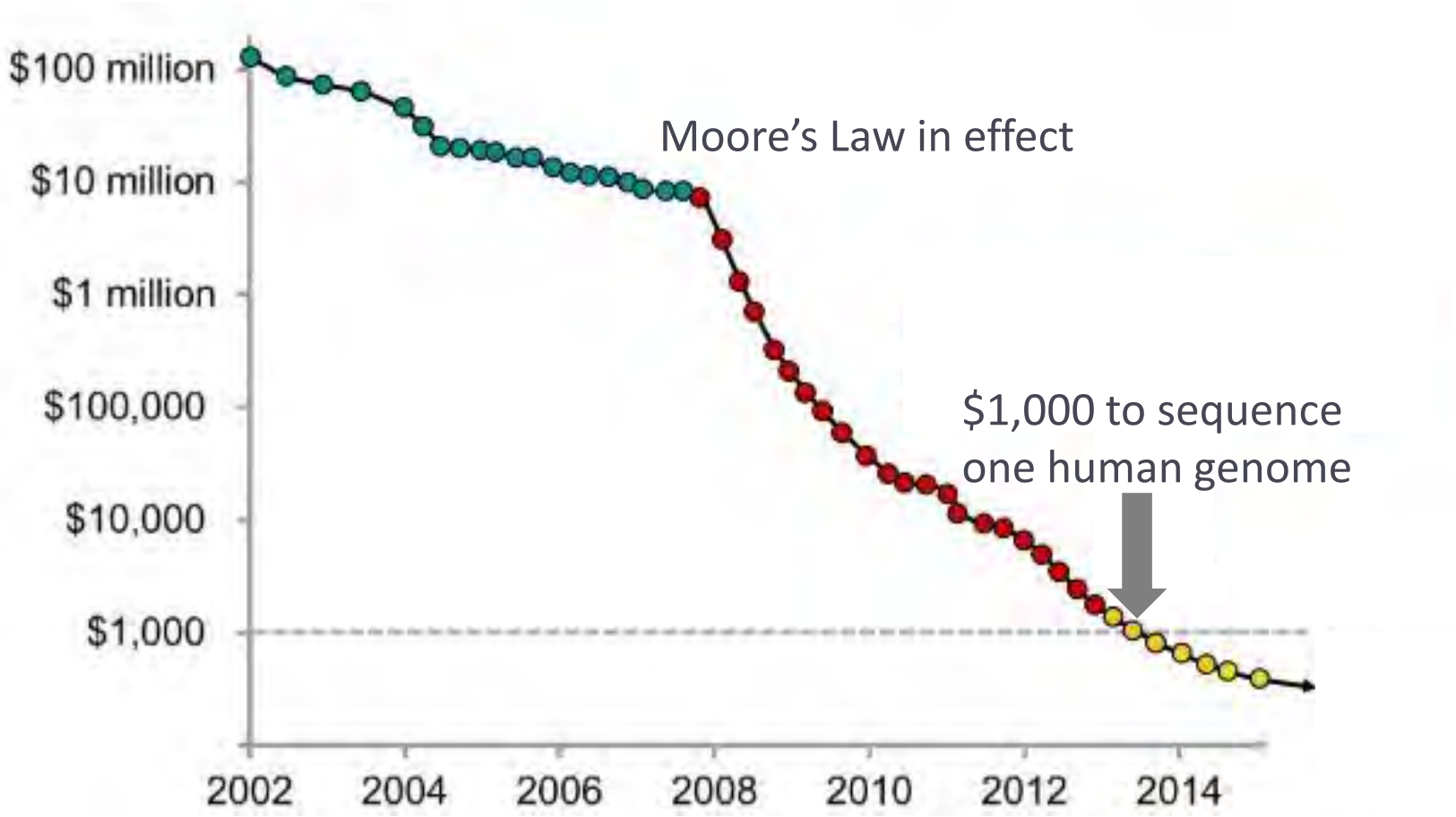


Longevity dividend to slow aging

Google is launching a venture to extend human life span

5 Low cost of genome sequencing

Cost of genome sequencing



Source: National Human Genome Research Institute

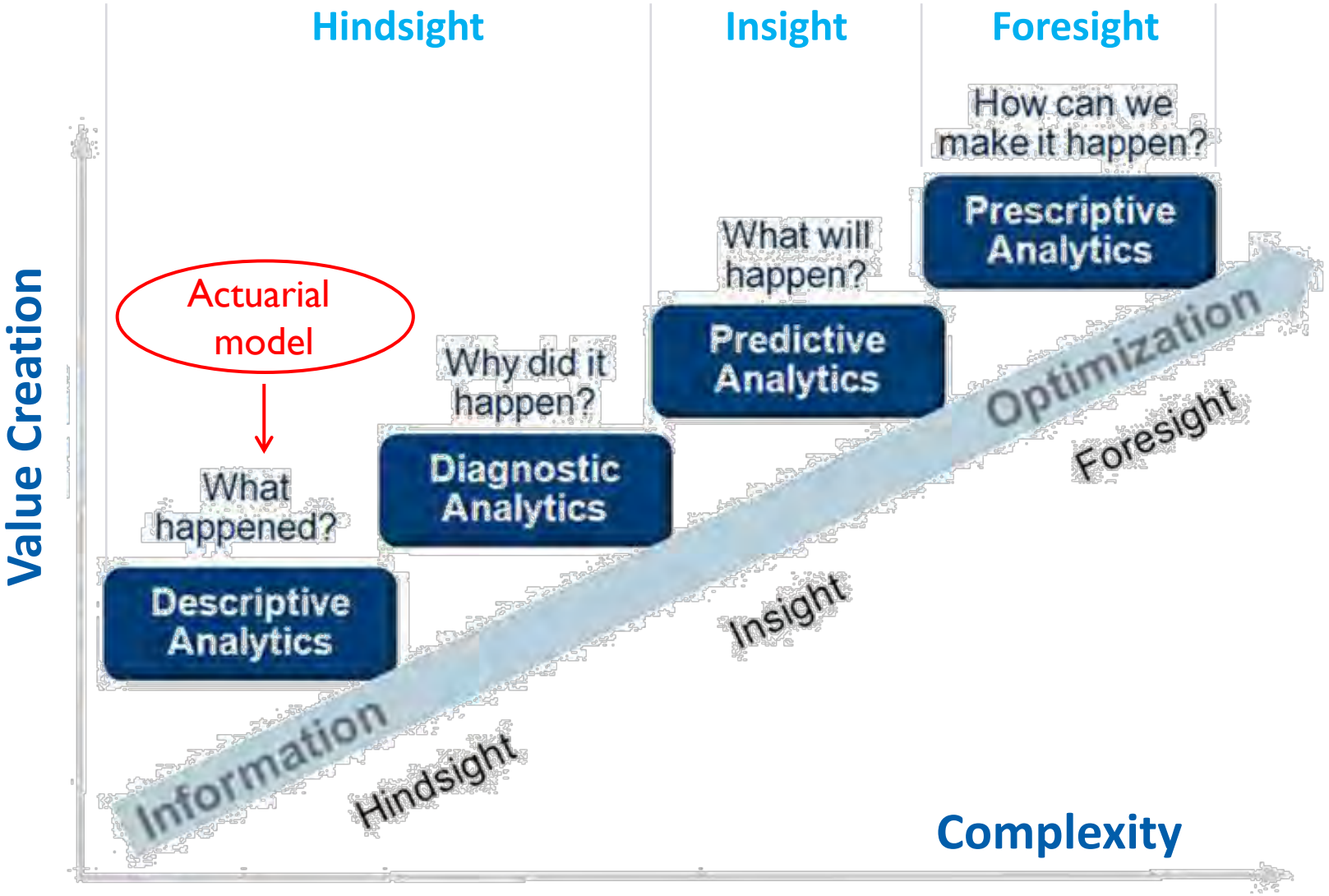
5 Possible counter trends to future mortality improvements

Obesity

Pollution

Infectious diseases

6 Advanced analytics driving real value creation



6 The new ROI: Return on data

THEN

Data overload without easy access for execs

NOW

Real-time analytics

Data dividend:

69% Increased revenue **+** 43% Improved productivity **+** 66% Lowered costs **=**

$ 1.6 trillion

Return on data

Source: IDC Study: Realizing the Data Dividend, 2014

Putting it all together

Data Proliferation	Disruptive Technology	Business Insight

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