



Tapping Your Inner Futurist

The Future of Government Services



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www.garrygolden.com/Oct19

Start

End



***In the News
Foresight 101***



**Demographic + Digital
Transformations**



***Learning
More***

More or Less Change Ahead?

**Last
ten years**

2006 – 2016



**Next
ten years**

2017-2007





In the News

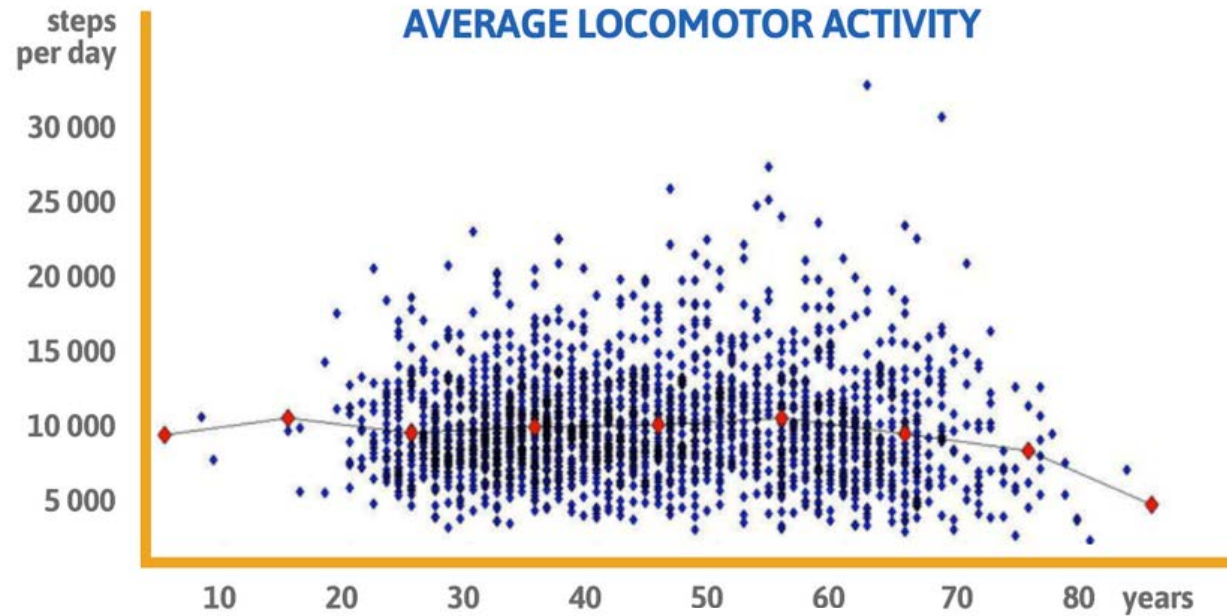
By 2018, all senior residents in the Japanese city of Nara must have wearable devices that connect to the city's secured data feed used by families and local health & service agencies.



True

False

Wearables + Early Warning Signals = Interventions



Innovation Debate = Creepy Line or Compelling Outcomes?



Thank you



for the Creepy Line Debate



**Social
Data**



**Health
Data**



**Device +
Infrastructure**



“I did this...”

**Learning & Life
Experience Data**

Assumption to Explore:

**Data-Analytics (+A.I.) will drive local government innovations
in community level behavior change & system-level outcomes**

Is this dynamic inevitable for...

Local Government

In the era of creepy lines + compelling outcomes

How do we...

lead very difficult conversations?

sustain behavior change?

tell our story of bringing value to communities?

integrate data + protect privacy?

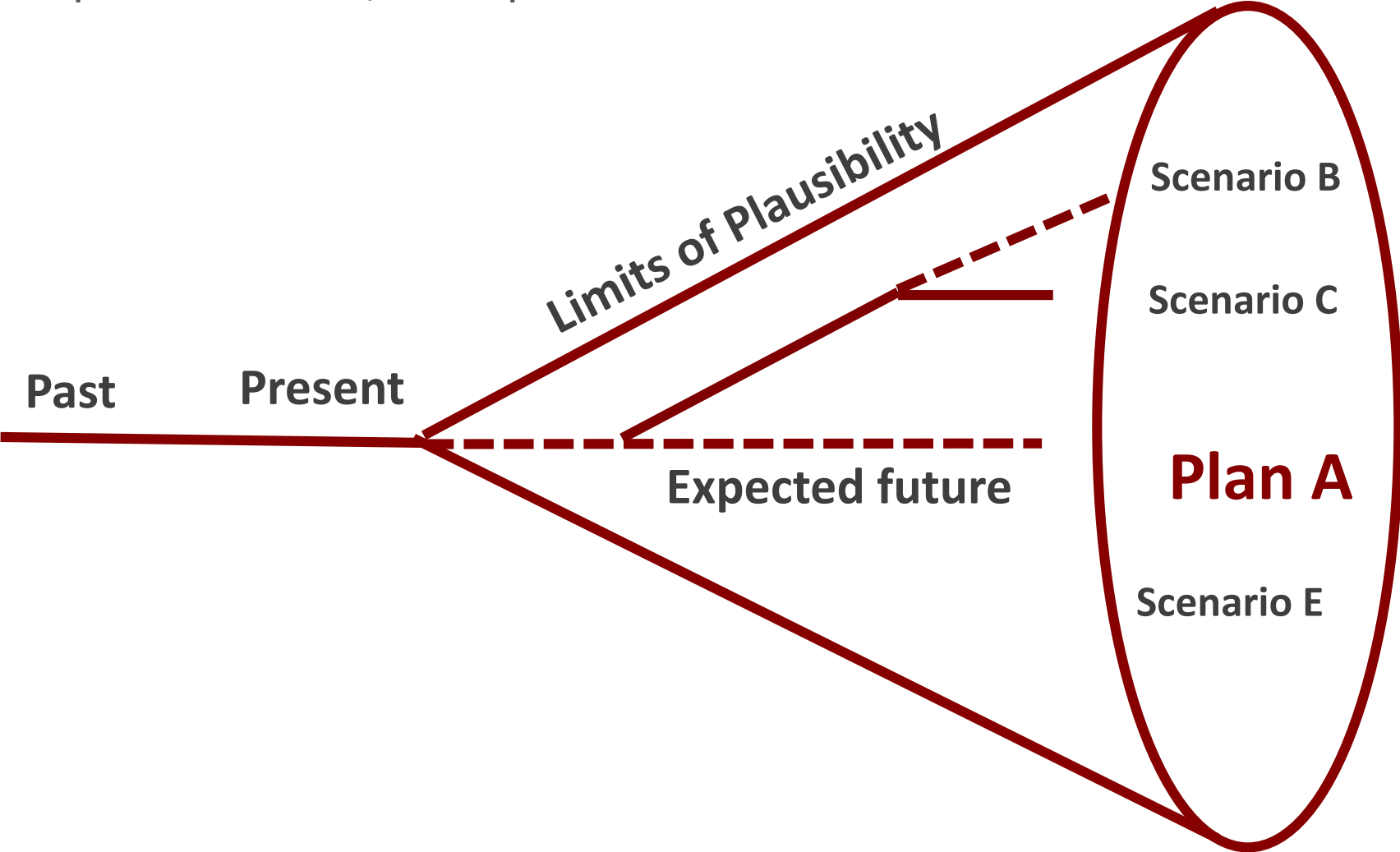
brokers partnerships?

Tapping Your Inner Futurist?



Foresight 101: Cone of Plausibility

Multiple Outcomes, Multiple Time Horizons



Images Removed

**Every day I make an effort to move toward
what I do not understand.**

- Cellist, Yo-Yo Ma

Four Futures Thinking

?



**Continued
Growth**

**Disciplined
- Constrained**



Transformed

BlackBerry.



**Decline
- Collapse**

Four Futures Thinking: Government Services



**Continued
Growth**



**Disciplined
- Constrained**



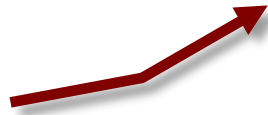
Transformed



**Decline
- Collapse**

Foresight: Three Mechanisms of Change

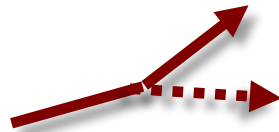
Trends
(Continuities)



Plausible
Future

Forecasts

Events
(Discontinuities)



Possible
Futures

Scenarios

Choices
(Discontinuities)



Preferred
Future

Visions

End



*In the News
Foresight 101*



**Demographic + Digital
Transformations**



***Learning
More***

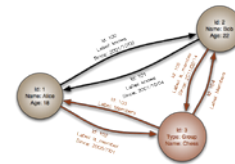
The *Slow Pace of Fast Change*

Exploring Social + Technological Transformations



Demographic Transformations

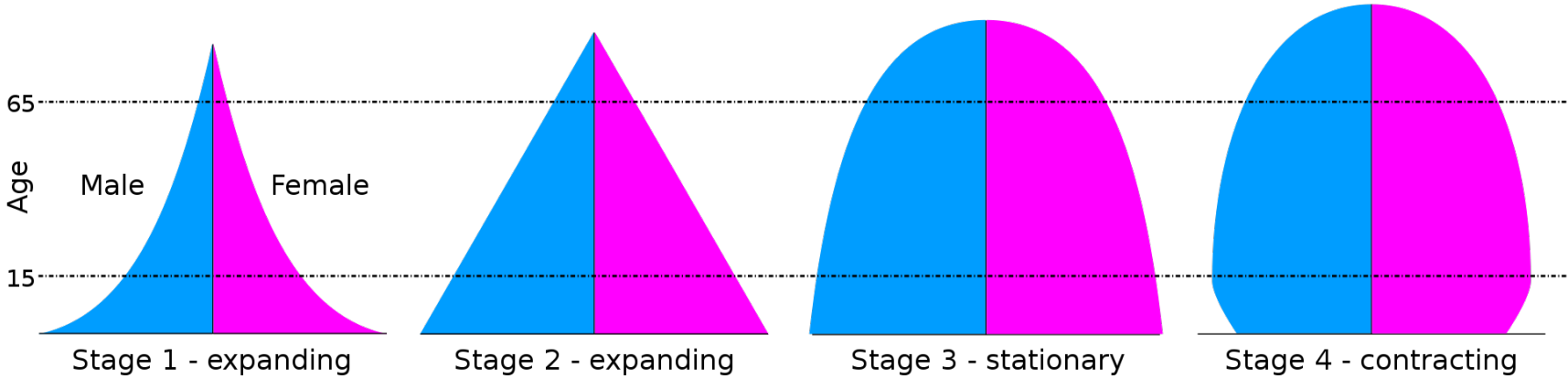
Equity, Access + Inclusion



Digital Transformations

Data + Outcomes, Cognitive Solutions and Blockchain

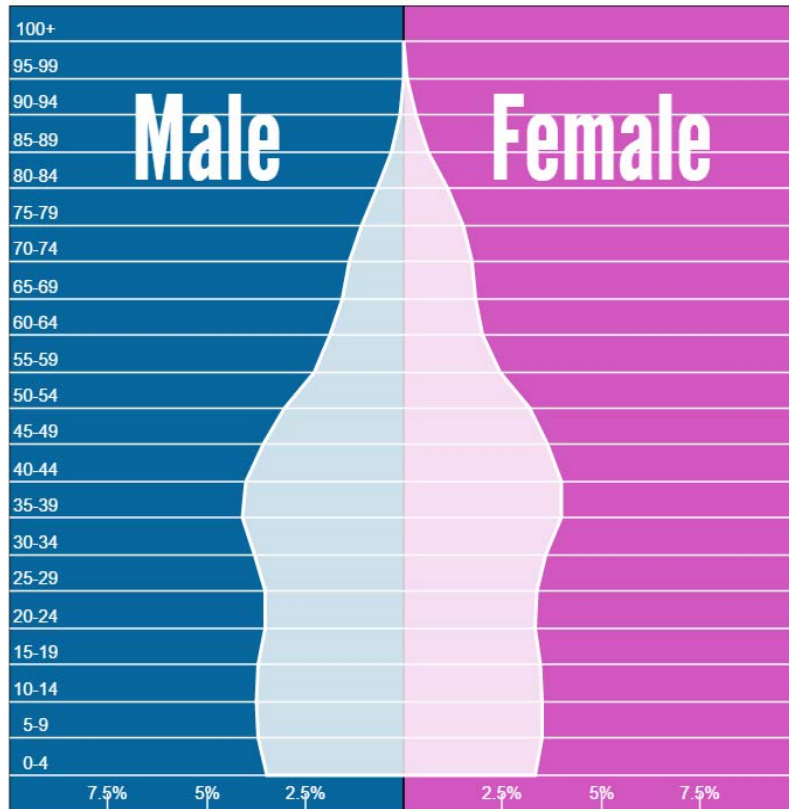
Globalization Reshaped by Demographic Transitions



Our Demographic Destiny = Aging Boomers + Fading *Demographic Dividend*

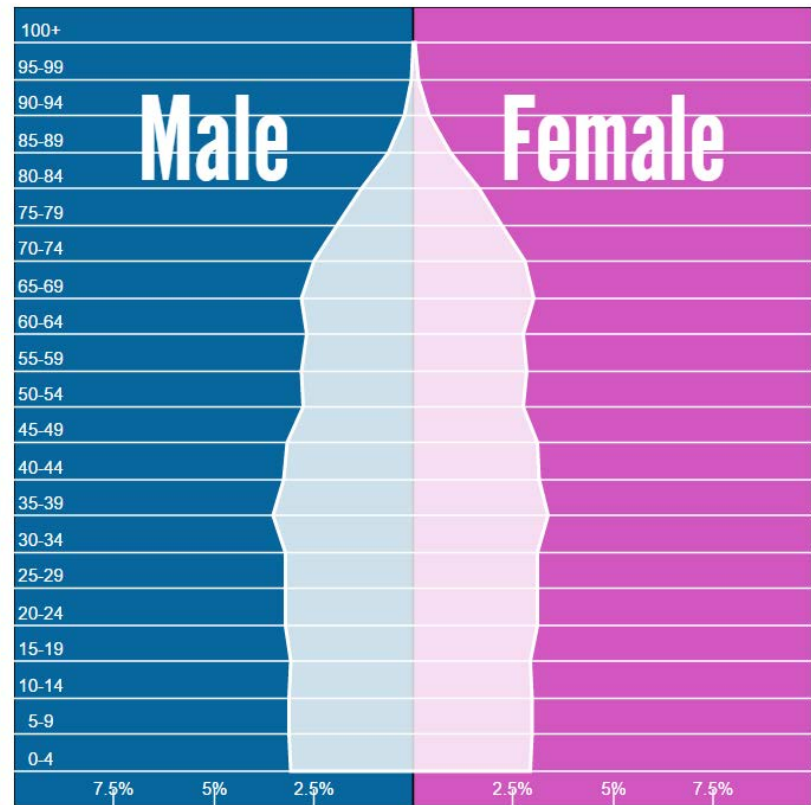
United States of America 2000

Population: 282.895.000



United States of America 2030

Population: 355.764.000

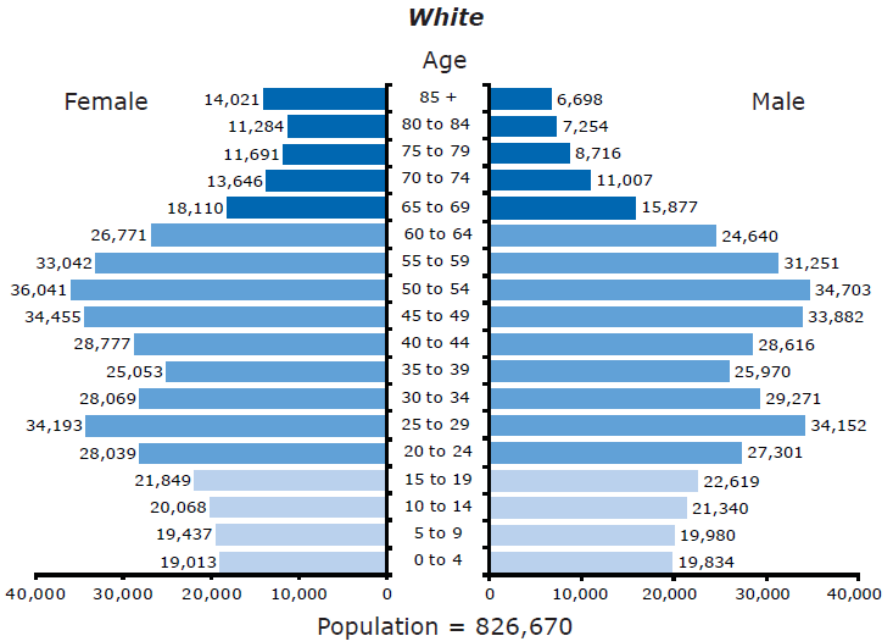


Source: populationpyramid.net

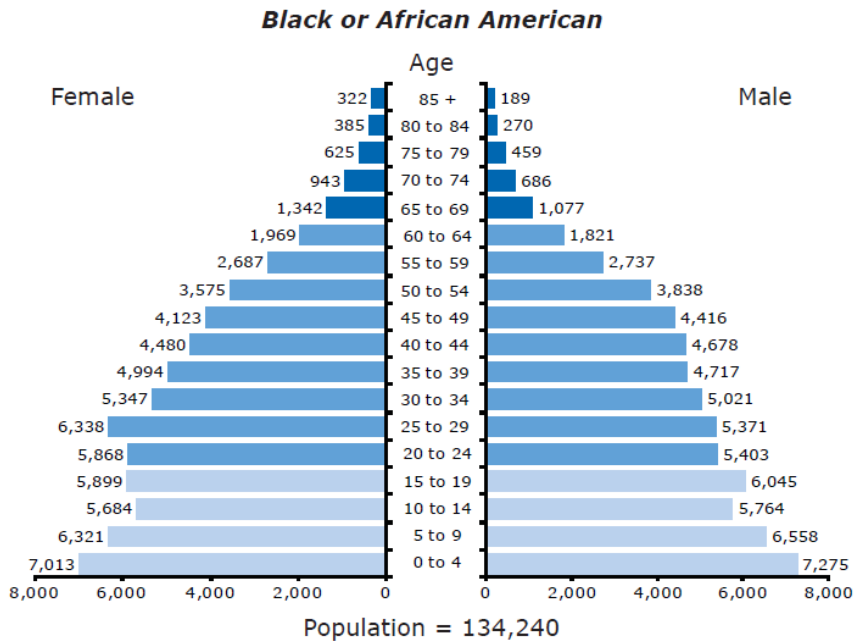
Government Services Aligned to Unique Life stage Dynamics

Race, Age and Gender

Figure 3. Hennepin County population by age, race/ethnicity and gender, 2010



White

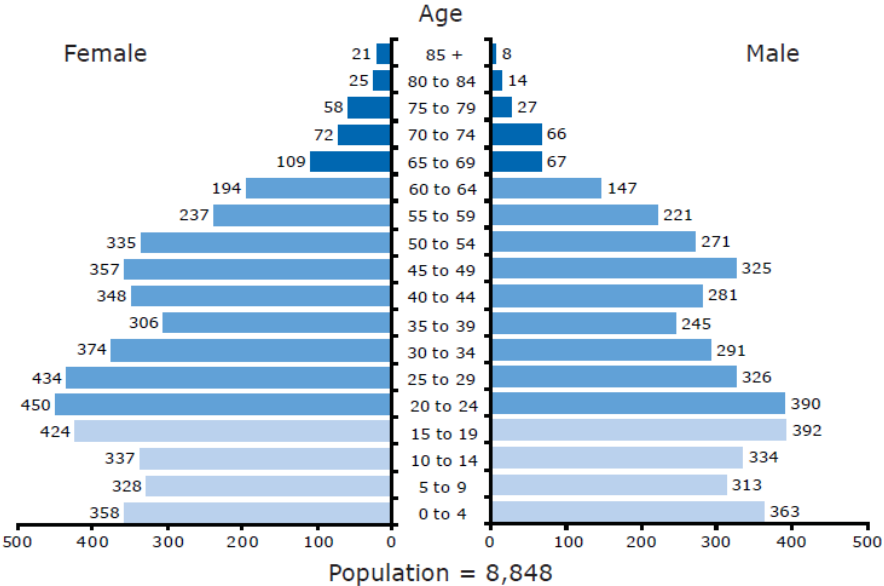


Black of African American



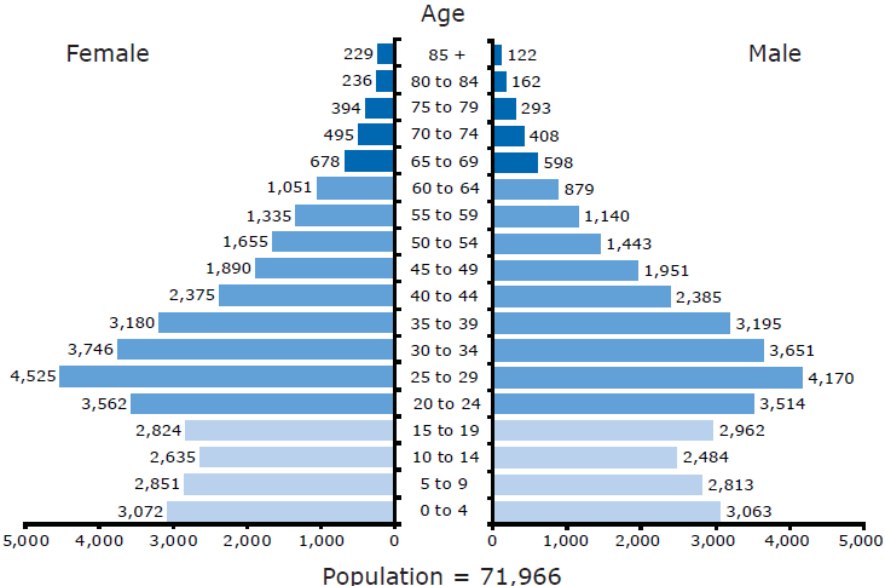
Government Services Aligned to Unique Life stage Dynamics

American Indian and Alaskan Native



American Indian and Alaskan Native

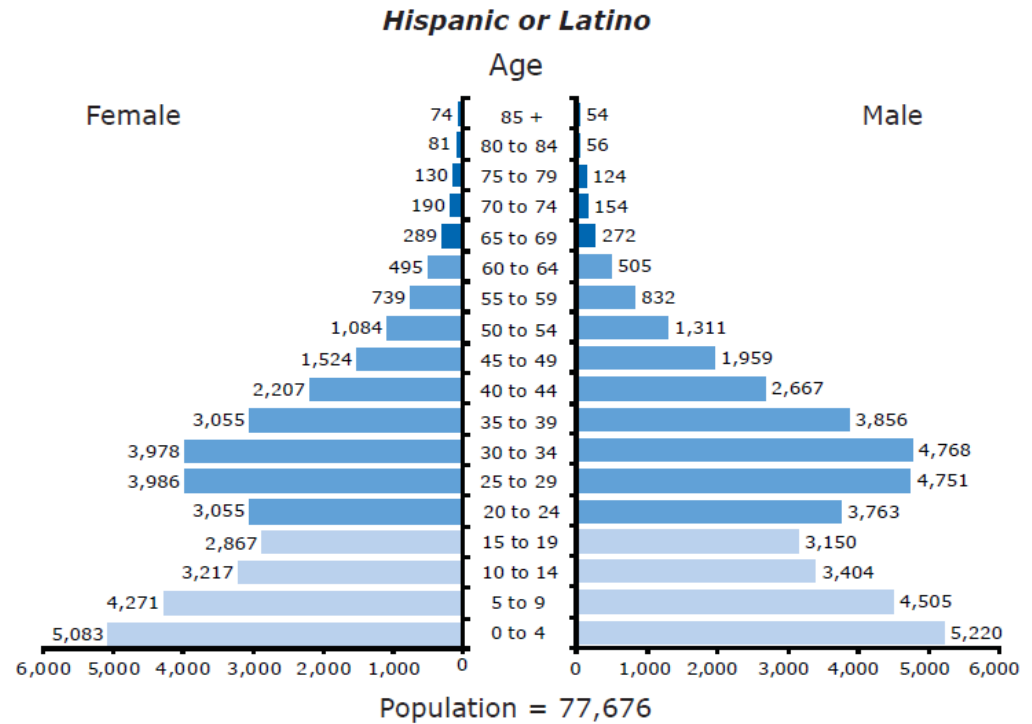
Asian and Pacific Islander



Asian and Pacific Islander



Equity + Inclusion
Government Services
Based on Nuanced
Understanding of
Demographic Transitions



Hispanic or Latino

Anticipating Broad Shifts Related to Aging Boomers

Spending
60%
wealth

40%
consumer
spending

Lifestyle Shifts


Cleveland
Clinic



Regional Dynamics



Design Advantages

Aligning Services + Experiences to Aging Strategy Memes

Aging-in-Place
Active Aging
Creative Aging

In-Home Solutions

Tapping Community Assets

Emphasis on Social Experiences

Active Lifestyles

Learn More



Connect the Dots

Demographic Transition Model Concepts
(+market-policy formation; +technology adoption)

Garry's Diigo Tags
diigo.com/user/garrygolden/aging
www.diigo.com/user/garrygolden/millennials
diigo.com/user/garrygolden/demographics

Sites: Census.org; Policymap.com

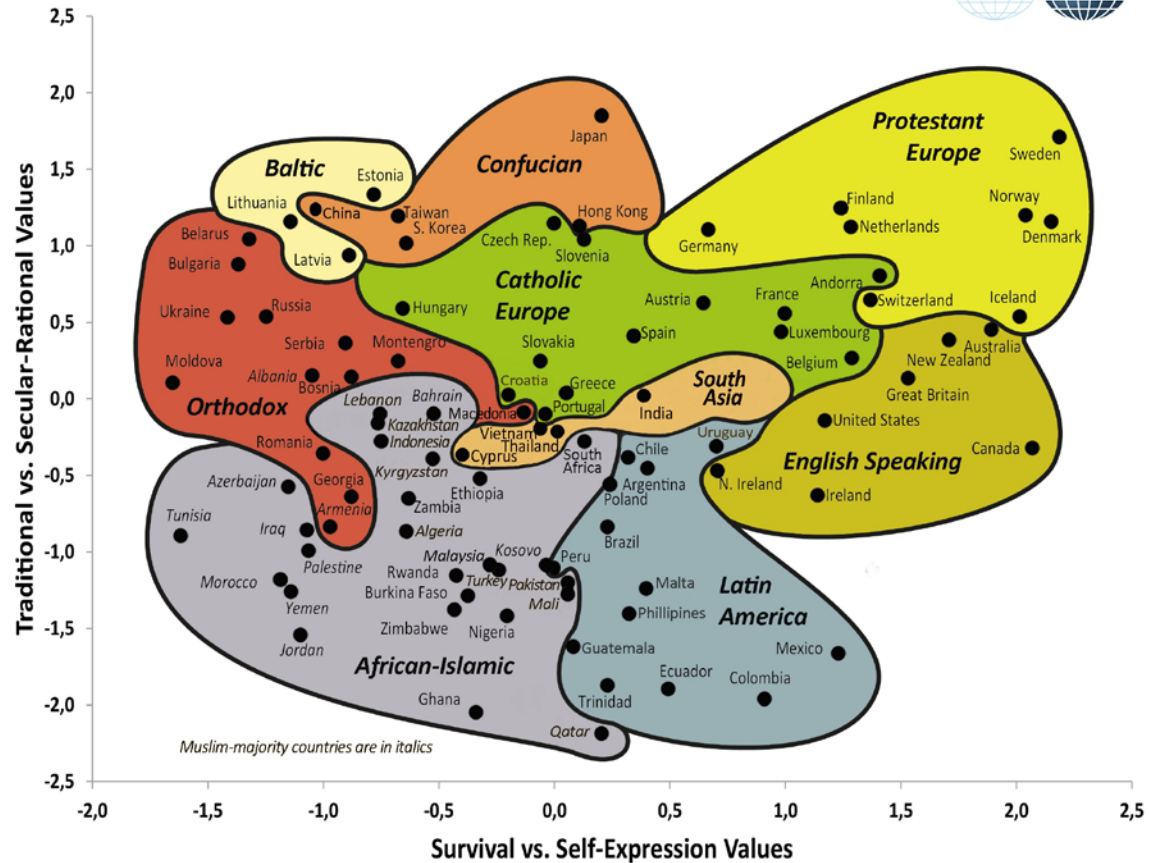
World Values Survey (University of Michigan)

Demographic Meets Values Systems

Inglehart–Welzel Cultural Map

Foresight + Designing Thinking

Government Solutions aligned to
Social Norms + Cultural Interpretations



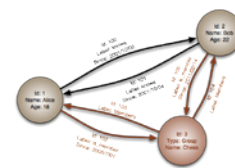
The *Slow Pace of Fast Change*

Exploring Social + Technological Transformations



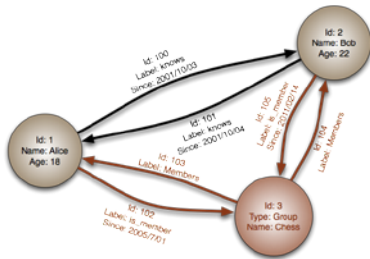
Demographic Transformations

Equity, Access + Inclusion



Digital Transformations

Digital Transformations



**Connected Data
+ Outcomes**




**Cognitive
Solutions**



**Blockchain
Trusted Transactions**

Online Age vs Data + AI Driven Outcomes

What it now means to be innovative with technology?

- Online vs Offline
 - Desktop or Mobile
 - Web-based or App
- 
- *Software-Guided or Not*
 - *Does it improve behavior or Not*
 - *Does it Guide Outcomes or Not*

**Social Norms for the
Anonymous-Access Web**

1993




“On the Internet, nobody knows you’re a dog.”

“On Facebook, 273 people know I’m a dog.
The rest can only see my limited profile.”

Social Norms & the Social Web

2008



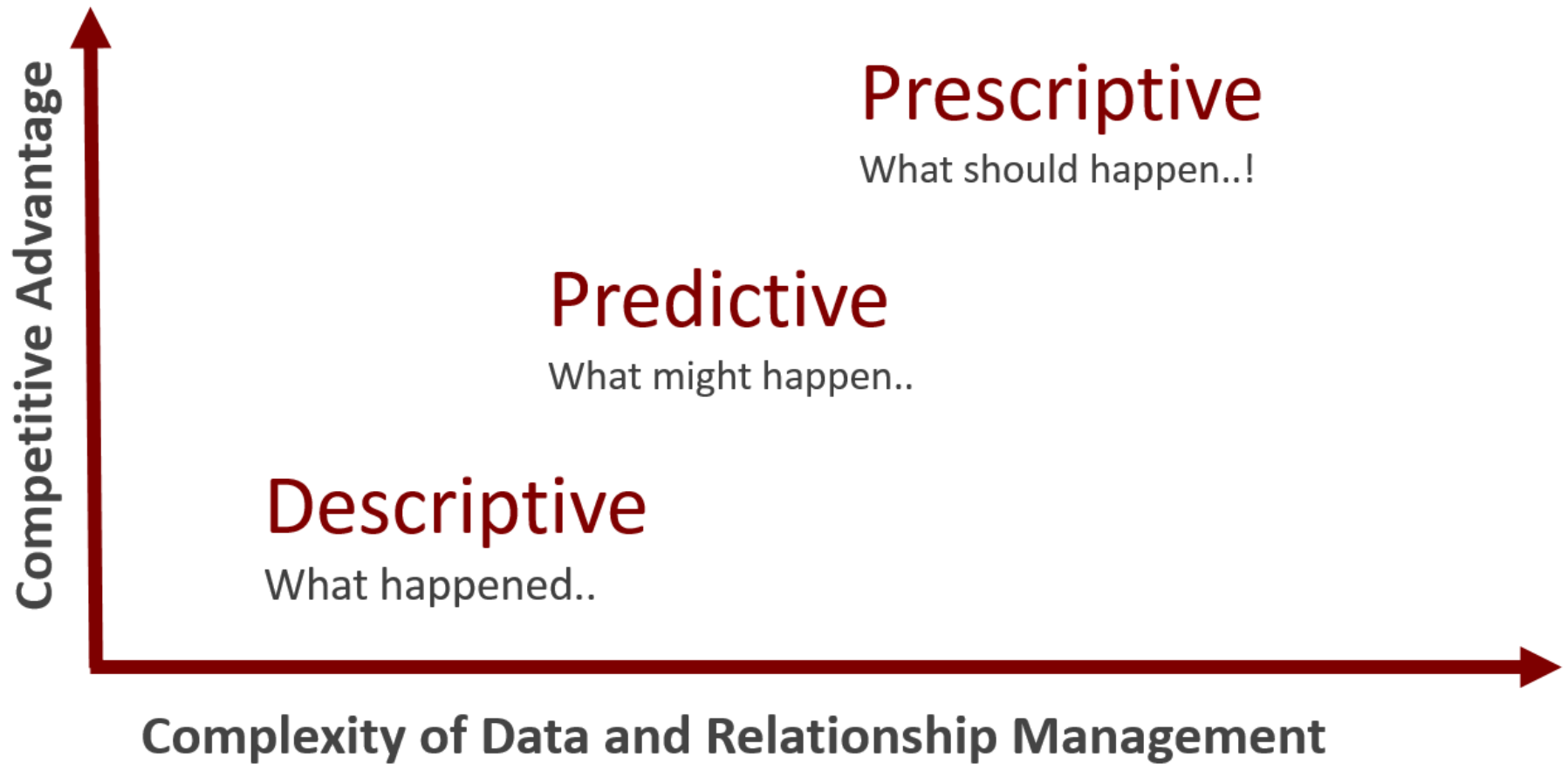


Everyone knows I'm
working on some
personal growth issues

How do local government
services and our communities
evolve around a web that helps
drive outcomes & personal
behavior change?

Outcomes-based Value Creation

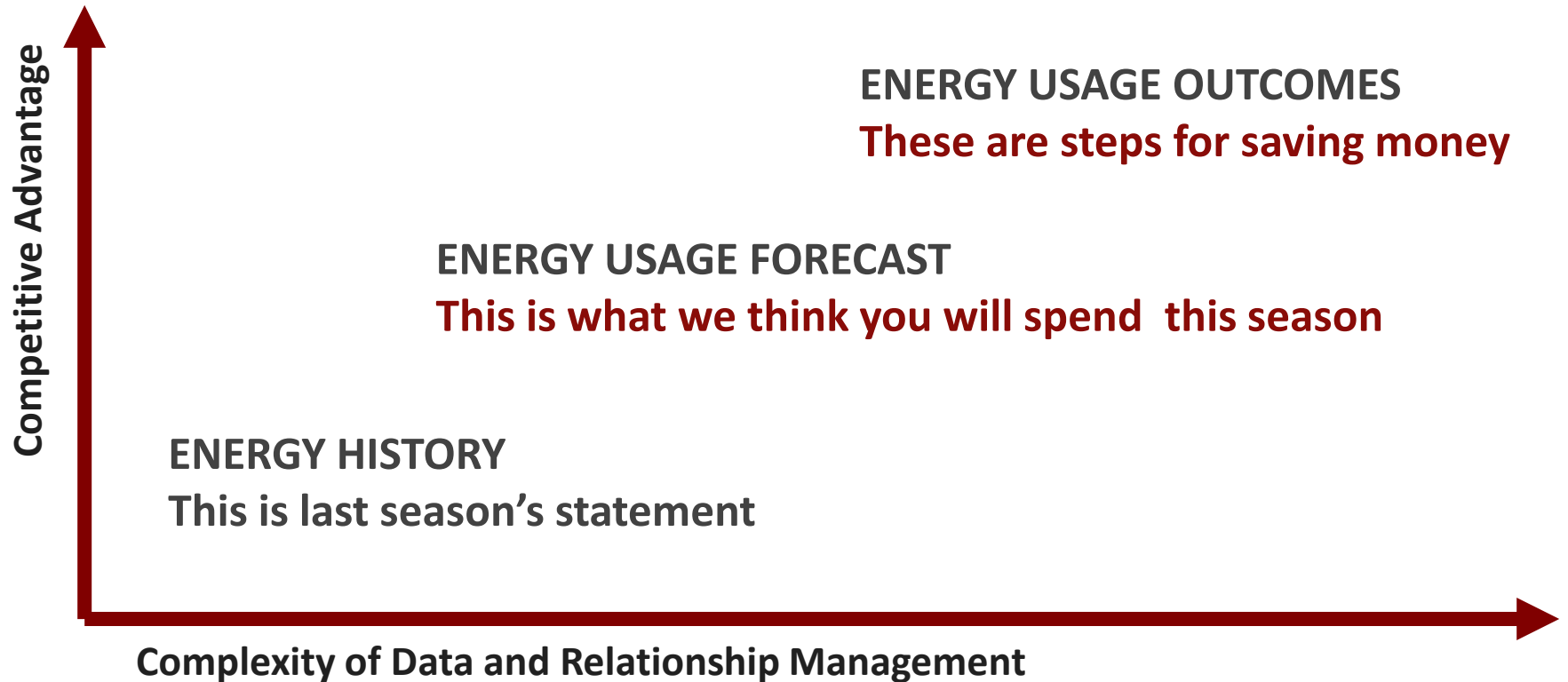
Government Service-Experience Design via Prescriptive Analytics



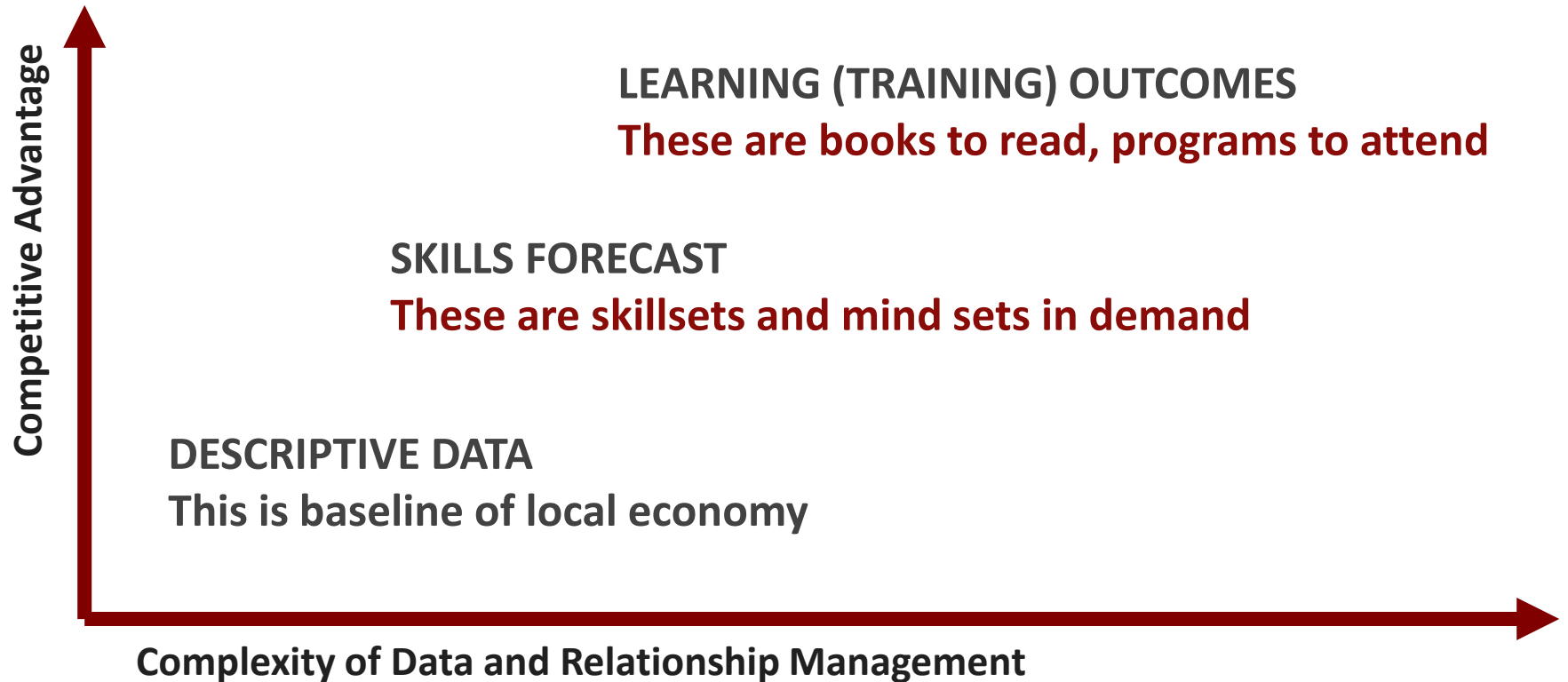
Guided Financial Experiences



Guided Public Utility Experiences



Guided Public Library (Workforce) Experiences



Implications for 2020-25

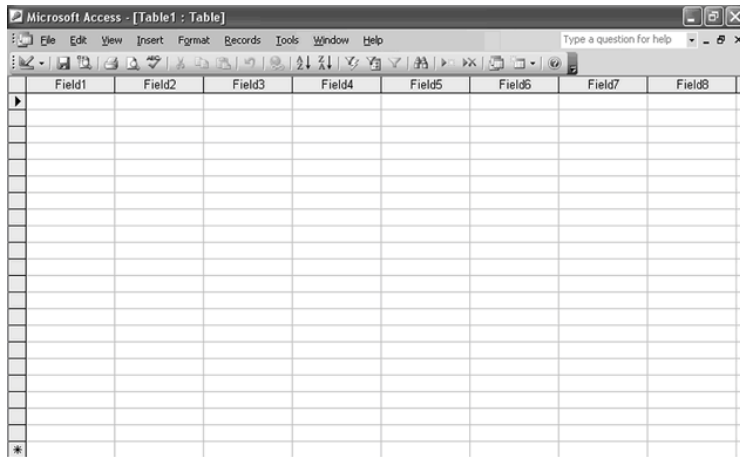
How we might evolve service design using prescriptive analytics to drive outcomes across our communities?

- Population Health Programs
- Workforce Training
- Permitting Processes
- Civic + Culture Institutions
- Public Safety
- Early Childhood Development
- Caring for Aging Populations

Guided Government Experience Design

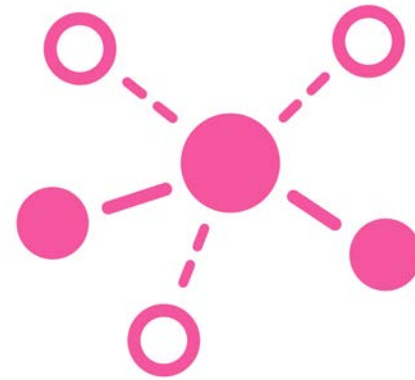


Connected Data is foundation for outcomes-based community services and government experiences



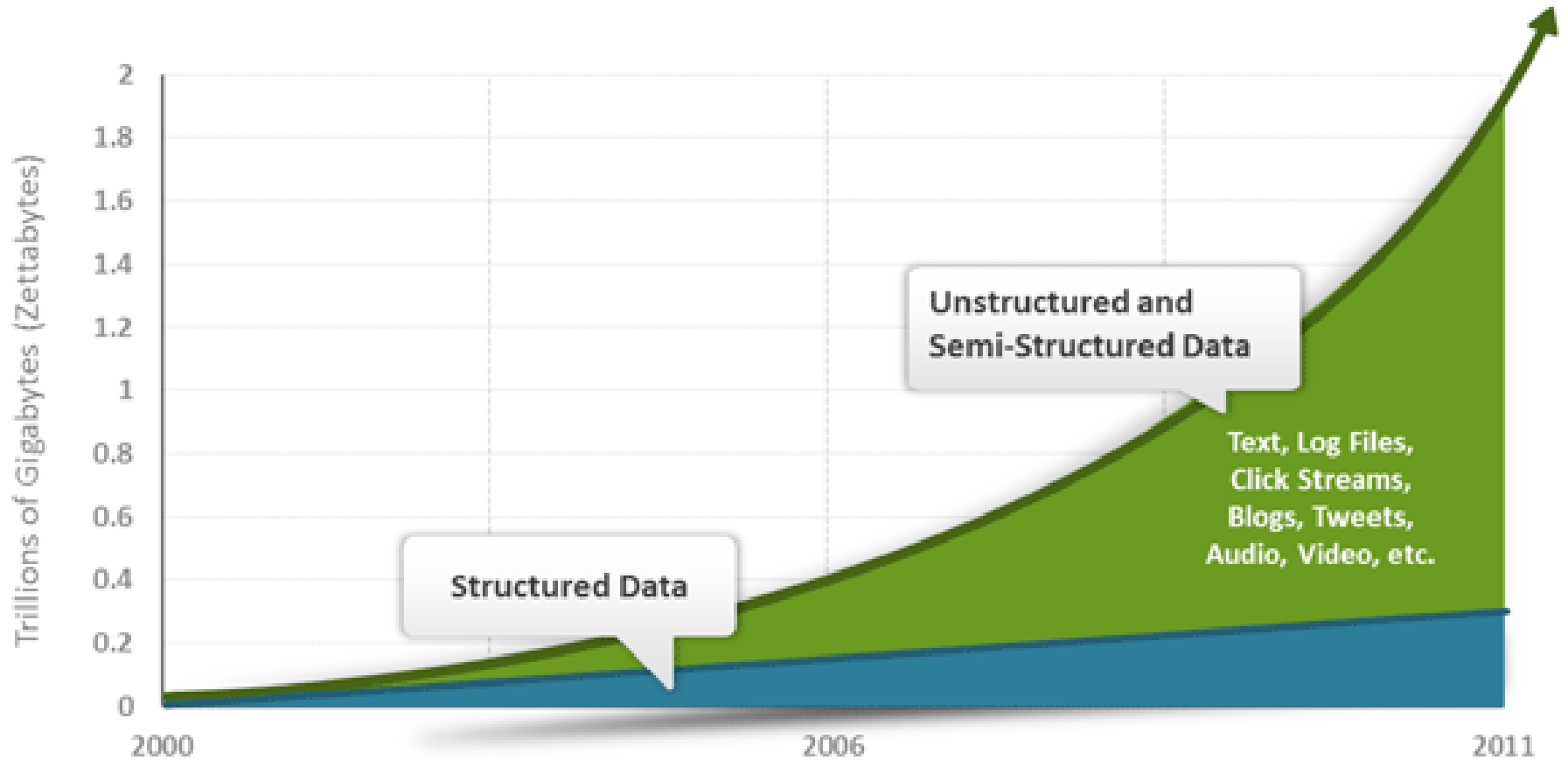
A screenshot of a Microsoft Access window titled "Microsoft Access - [Table1 : Table]". The window shows a standard menu bar (File, Edit, View, Insert, Format, Records, Tools, Window, Help) and a toolbar with various icons. Below the toolbar is a table with 8 columns labeled Field1 through Field8. The table is currently empty, showing a grid of rows. The first row is highlighted with a mouse cursor. The status bar at the bottom left shows an asterisk (*).

Tables = Past



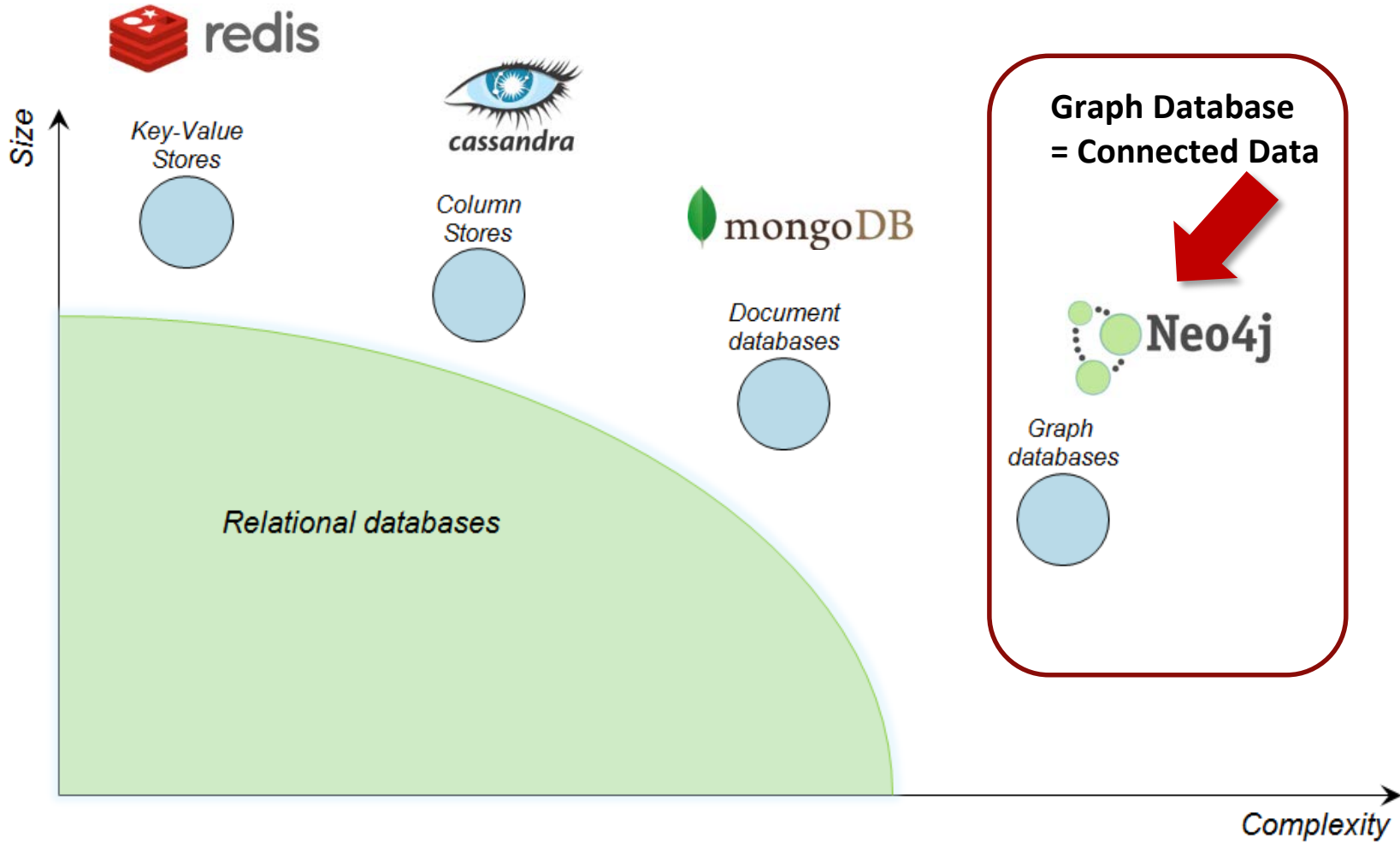
Graph Thinking

Tables vs Growing Spectrum of Data

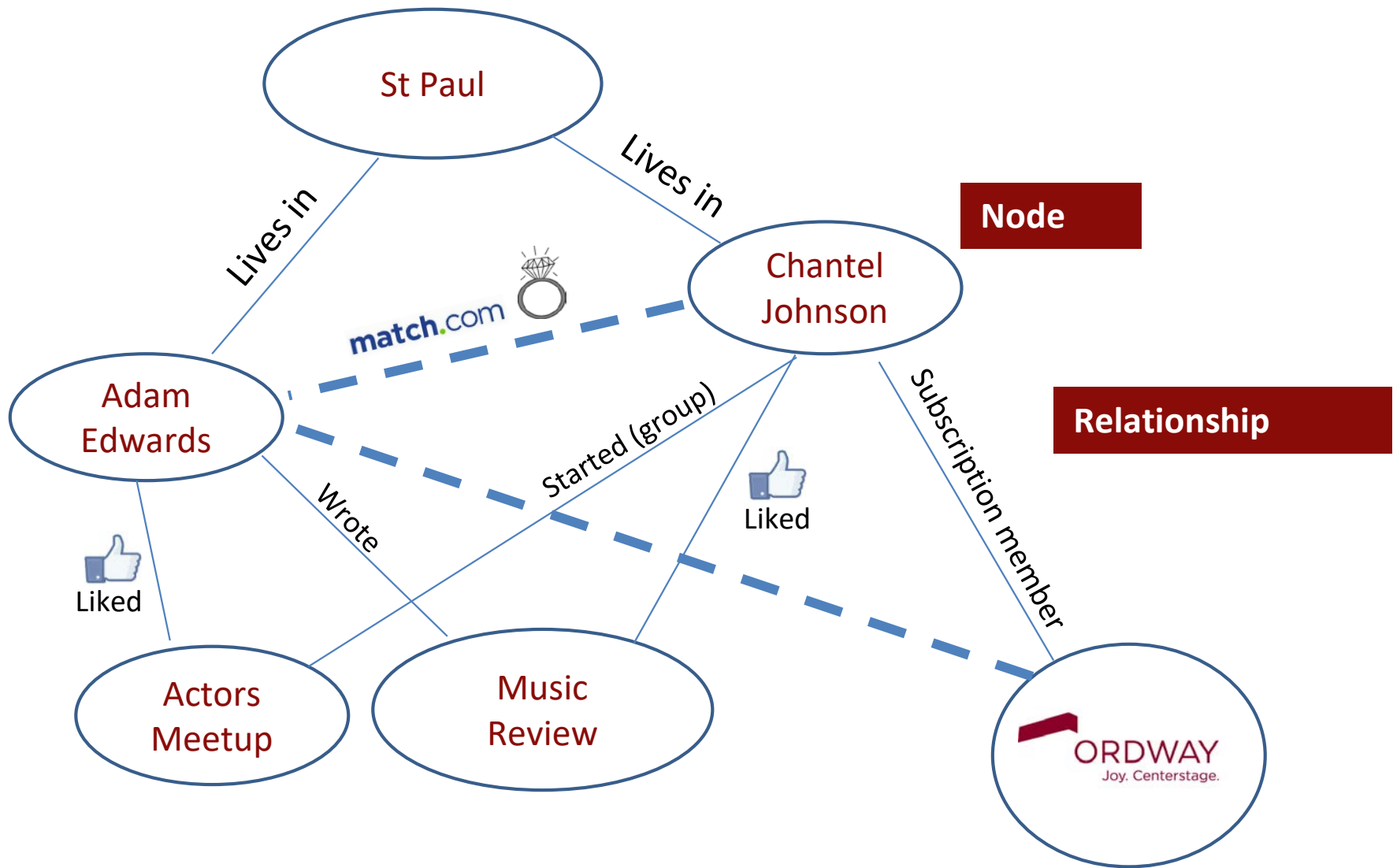


Source: IDC 2011 Digital Universe Study (<http://www.emc.com/collateral/demos/microsites/emc-digital-universe-2011/index.htm>)

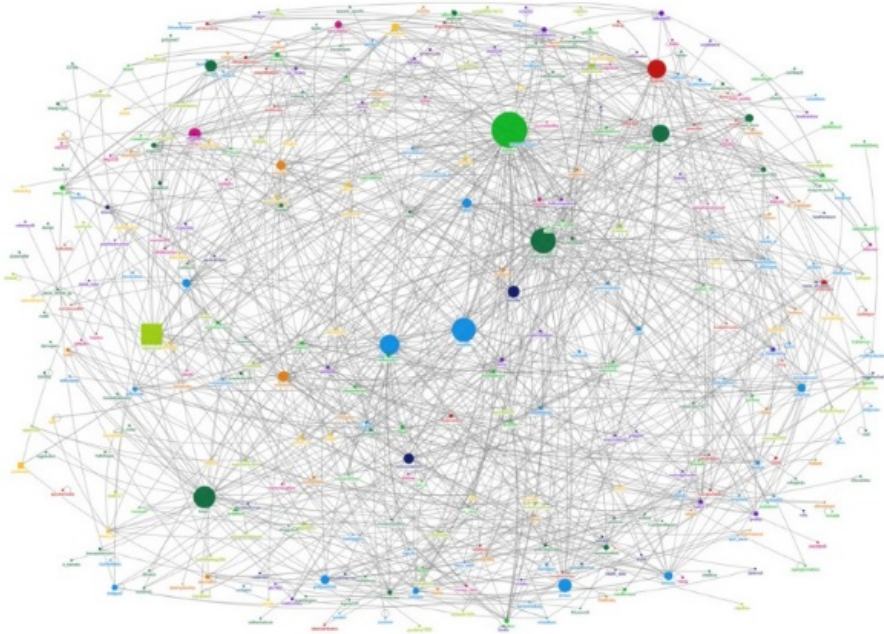
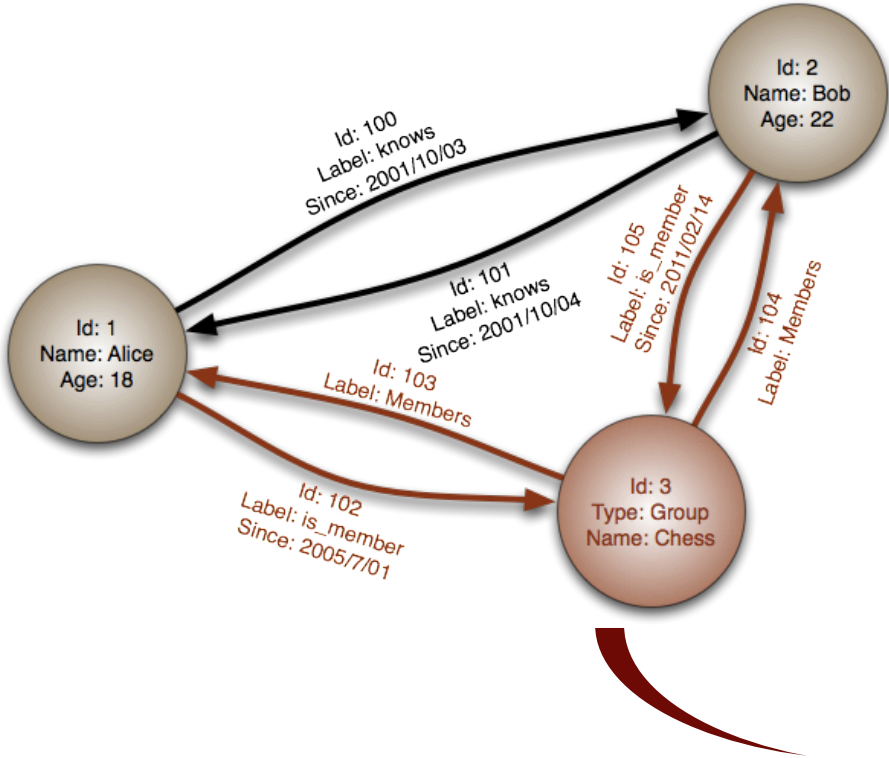
We are moving beyond rows & columns (SQL Tables)



Graph Database = Understanding Relationships + Connections

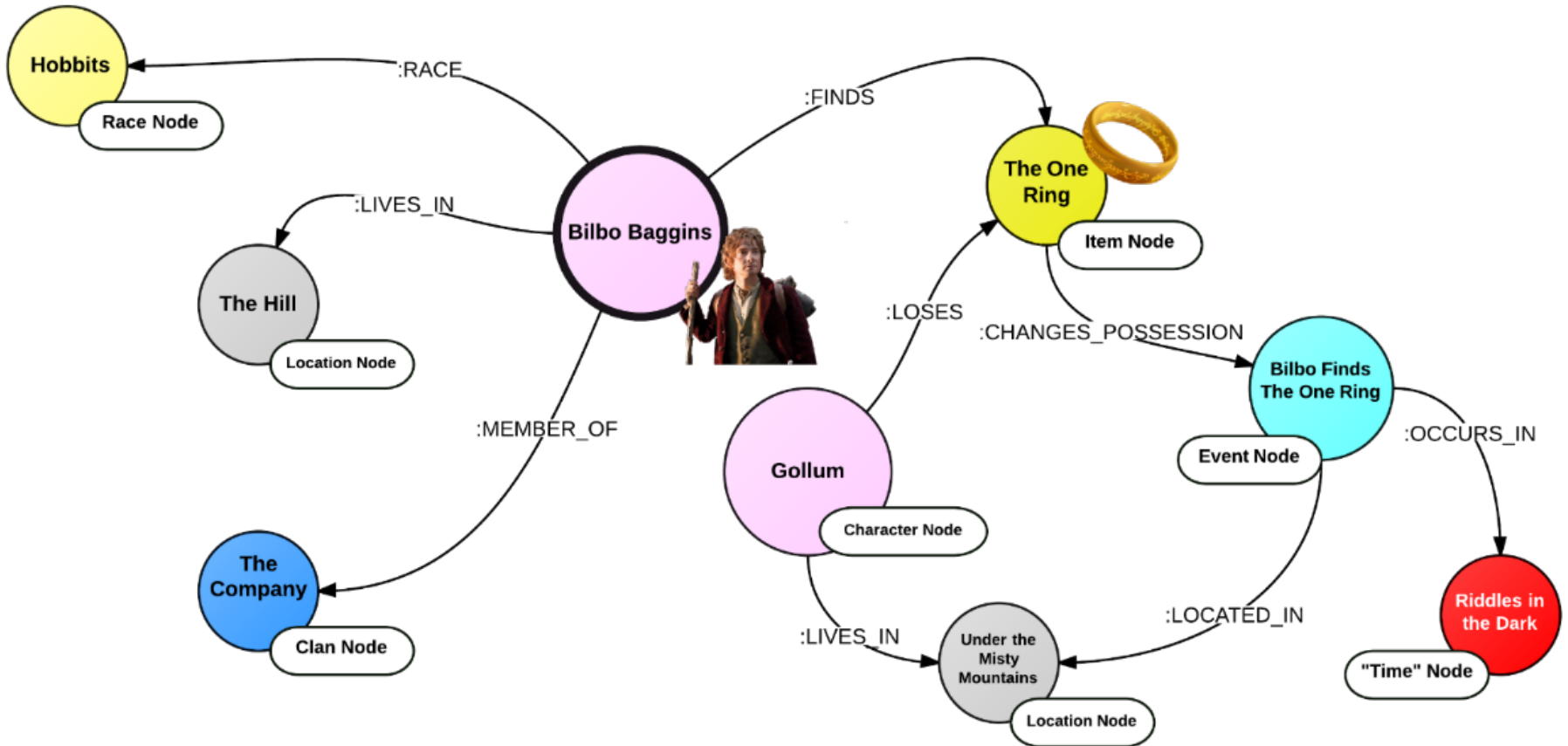


Graph Analytics = Mirror the *Real World* to Reveal Influencer Profiles, Decision Pathways and Recommendations

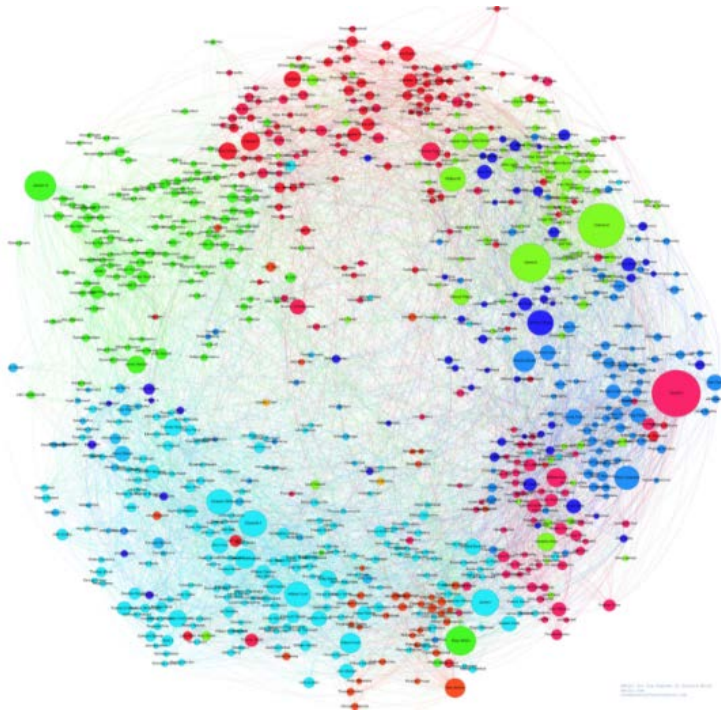


Longitudinal-based Graph Applications

Graph data strategy to avoid 'getting lost in system'?



Industries & Innovators are Connecting Dots



Link Graph

Google

Interest Graph

Twitter match.com
Pinterest

Social Graph

facebook

Economic Graph

LinkedIn

Health Graph

???

Learning Graph

EXPERIENCE API

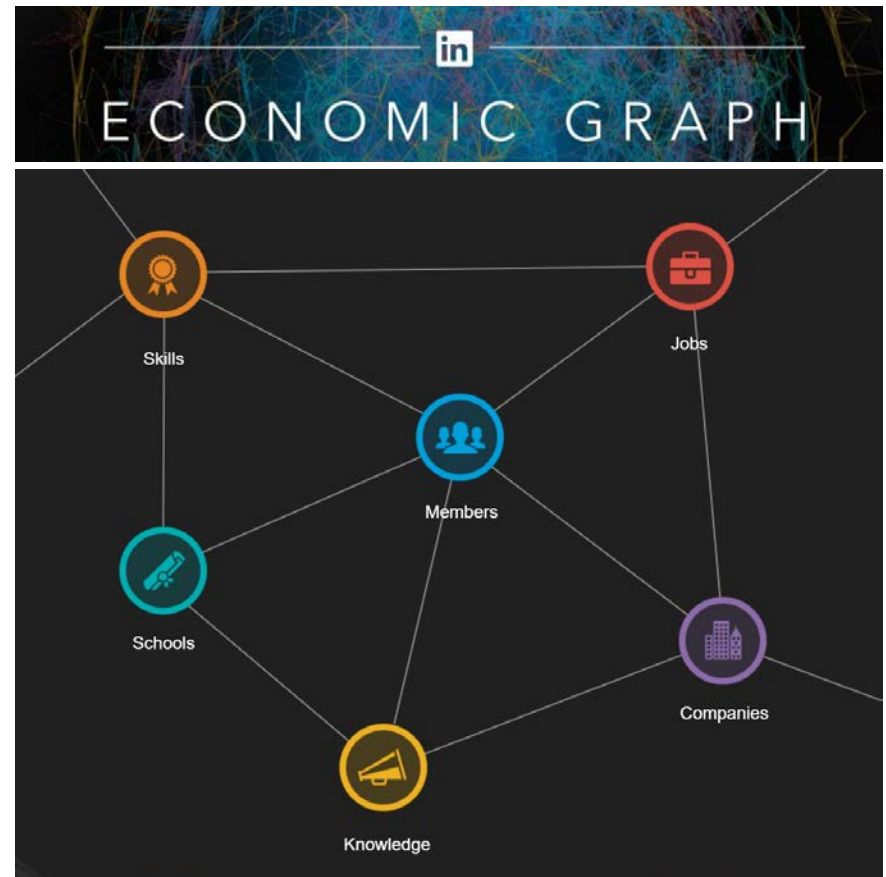
Transportation Graph

???

Connected Data 2020

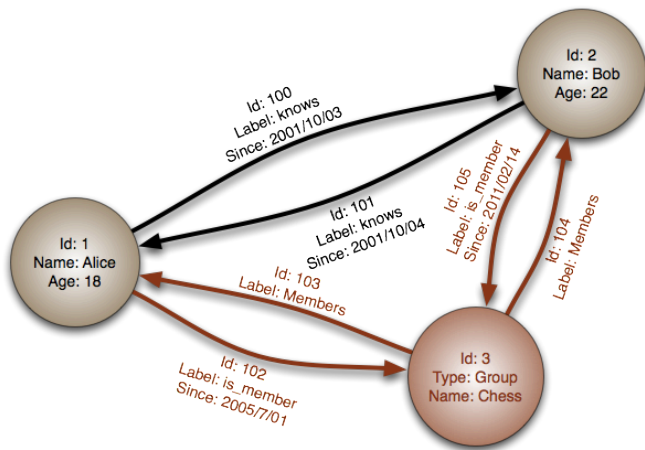
Who might know more about our community dynamics than we do?

- What information might be missing?
- Risks of *privatizing* insight generation
- Upsides to new types of data partnerships



LinkedIn Economic Graph

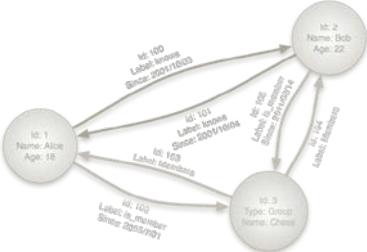
By 2025, what types of questions might we be able to ask about our communities?



Graph Thinking + Analytics could help to transform:

- Social Services
- Youth 'Pathway' Programs
- Education (Learning Culture)
Library Experiences
- Influencer led Civic Engagement
- Transit Networks

Digital Transformations



Connected Data
+ Outcomes



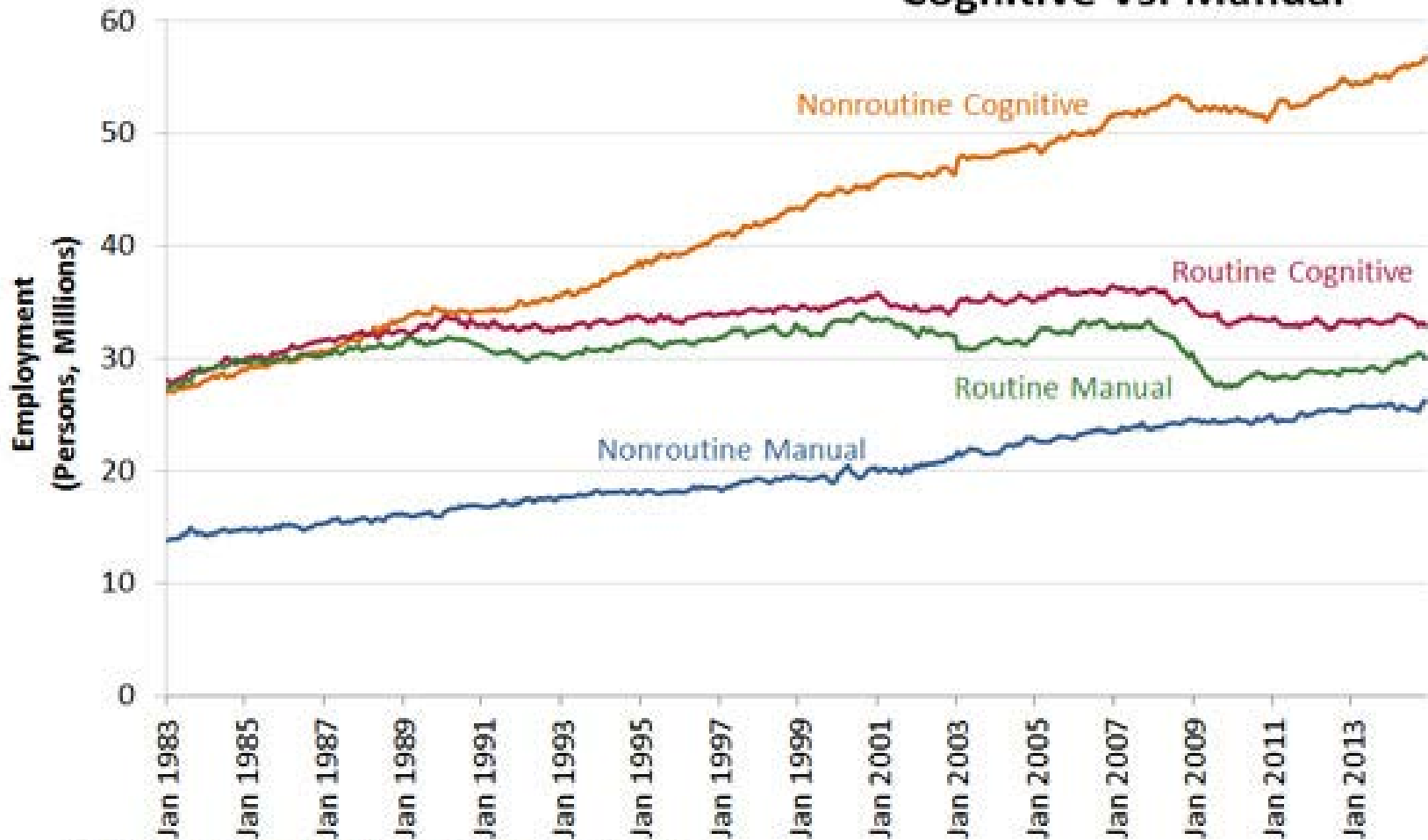
Cognitive
Solutions



Blockchain
Trusted Transactions

Cognitive Jobs, Meet Cognitive Software

Jobs: Routine Vs. Nonroutine, Cognitive Vs. Manual



SOURCE: Current Population Survey and author's calculations.

Cognitive Solutions

- ❑ Natural Interactions
- ❑ Support Human Decision-making, Discovery + Creativity
- ❑ Adaptive Engagement (UX)
- ❑ Always Learning

The Race to Build Enterprise-Grade Intelligent Assistants



“...it is clear that the most powerful technology companies are investing immense resources to make virtual intelligent assistants ubiquitous before the end of the decade”

- Daniel Nadler, CEO of Kensho

Phase of Rolling Eyes at *Chatbots*

Microsoft is betting that bots 'are the new apps'

MICROSOFT / 31 MARCH 16 / by MATTHEW REYNOLDS



Buzzwords to Watch:

ChatOps

Chatbots

Intelligent Texting

Messaging Apps

Conversational Commerce

Intelligent Assistants

Facebook launches a bot platform for Messenger

Google follows Facebook into chatbots

Published: May 19, 2016 8:43 a.m. ET

Visit Orlando turns to IBM's Watson for new augmented reality app

Posted By [Ken Storey](#) on Mon, Aug 29, 2016 at 10:14 am

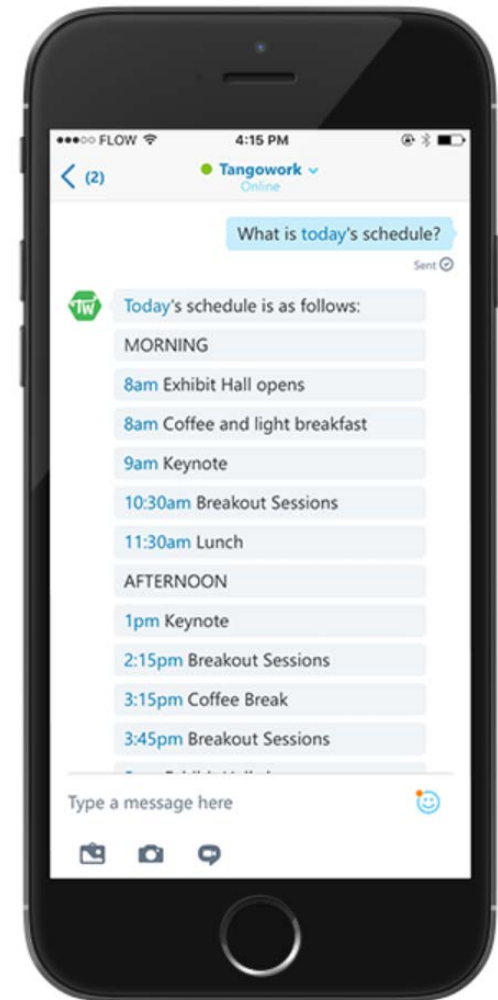


Photo via Visit Orlando

**First Wave of Bots + Apps via
Travel + Tourism**

Internal Bots Easier Support for... Feedback from Frontline Public Sector Employees

Tangowork



Weak Signal: Orchestration of Home, Work, Play + Government Services

Will the Smart Phone still be our central digital experience?



INTRODUCING
amazon echo

Always ready, connected,
and fast. **Just ask.**

How the Amazon Echo won me over and became the center of my smart home

Brandt Ranj, Insider Picks [✉](#) [🐦](#)
🕒 Jun. 6, 2016, 1:00 PM 🔥 3,504 💬 1

Amazon's Virtual Assistant Alexa Now Boasts More Than 1,000 Skills

by Leena Rao [@leenarao](#) JUNE 3, 2016, 10:53 AM EDT

Why Banks Have an Ear to Amazon's Echo

Utah launches first state government 'skills' for Amazon Echo

A new app for Amazon's digital assistant helps users study for their driver's license test, and another delivers fun facts about the state.



By *Jake Williams*

MAY 19, 2016 5:30 PM

BIO ▾

statescoop



How do we...?

Avoid rolling eyes

Understand chatbot

versus Intelligent Assistants

Imagine Path to Pilots:

Parks

Libraries

Social Services

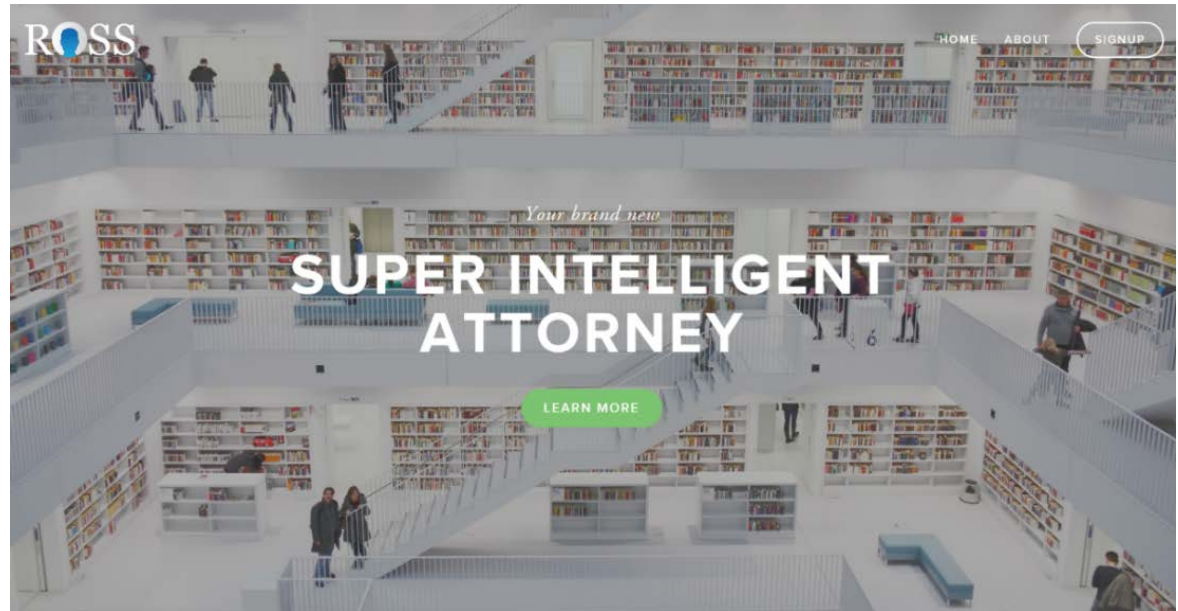
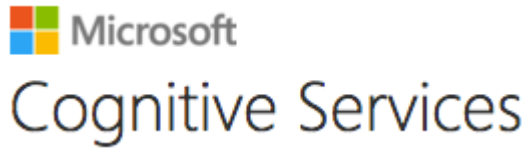
Voting

Transit systems

Budget Forecasting

Event Calendars, et al

Decision-Support in Age of Big Data Coming to the Cloud (Cognitive-Apps-as-Service)



Don't Rush... but Pay Attention to Signals

Miami-Dade County taps cognitive computing to handle citizen requests

Working with IBM's Watson, Miami-Dade County's water and sewer departments have developed and are rolling out smart chat bots to help citizens on city websites.



By *Jake Williams*

JULY 22, 2016 2:30 PM

BIO ▾



Government Technology News

May 18 · 🌐

Wisconsin CIO David Cagigal thinks every time a citizen interacts with government, it should make government smarter.

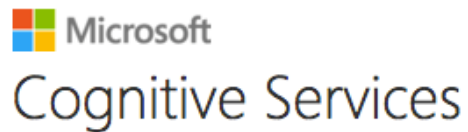
See more 60-second insights at <http://bit.ly/1Nyryc1>



38 Views

Romania's government and IBM plan to develop cognitive computing center

By **IT** | July 06, 2016 17:51 | 0 comments



How might cognitive systems transform collaboration, innovation and productivity?

- Data + *Algo* Strategy
- Hiring Strategy
- Partnership Strategies
- L&D for Age of Augmented Work
- Rethinking the Role of Managers
- Ensuring Data + Privacy Controls
- Simulation + Innovation
- Preserving Pride in Work
- Best Arena for Proof of Concept and Pilot

**Make him
stop....**

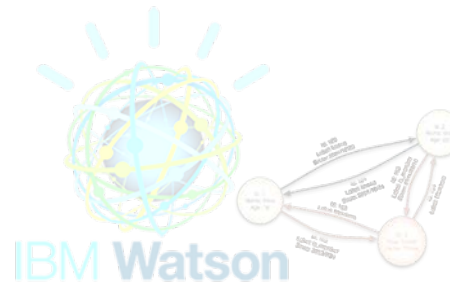


Slow Pace of *Fast Change*

Big Ideas to Explore



Demographic
Transitions



Cognitive Solutions +
Community Outcomes



Blockchain
Automating
Trust-based Transactions

It Was Hard to Explain the Internet in 1994

All descriptions failed:

- It's a billboard
- It's a massive network
- You write to it, like mail*
- Great for emergencies
- 'You don't need a phone line to operate the Internet?'



1994: "Today Show": "What is the Internet, Anyway?"



World Economic Forum Survey Projects Blockchain 'Tipping Point' by 2023

**By 2025, 10% of of Global GDP will be
orchestrated by blockchain applications.**

What is going on here....?

Dubai Wants All Government Documents on Blockchain By 2020

Michael del Castillo (@DeIRayMan) | Published on October 5, 2016 at 16:40 BST



NEWS

The Wired World In 2016

How the blockchain will enable self-service government

Evolution of the Web



***Internet of Files
(Websites)***



***Internet of
Social Networks***



***Internet of
Transactions***

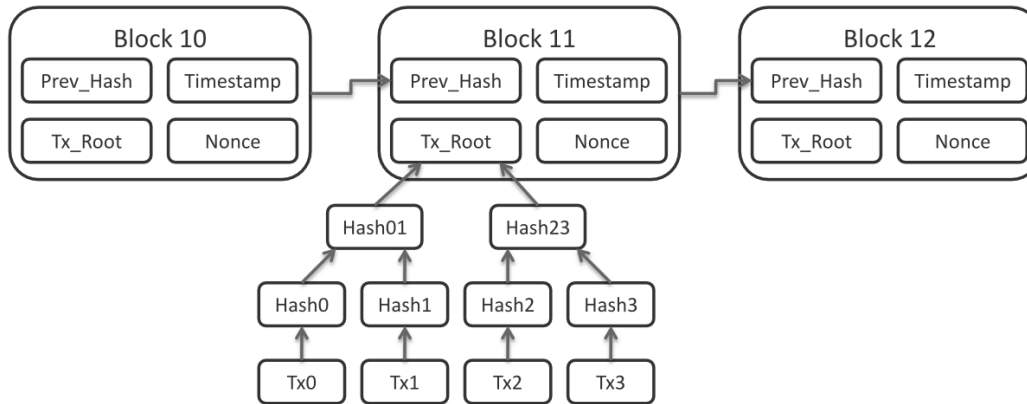
Low Cost + High Security in Low-trust Environment

It's just Decentralized Databases + Process Automation!

Assets get entered onto the ledger

Network Consensus on who did what...

Smart Contracts execute business processes



The Transaction is the Settlement

A sample of EtherScript

```
note: ""An Ethereum smart contract to sell website for "5000 by March"
note: First, store buyer's ethereum address:
put: 6af267736363738ghgs7726337373737 in storage slot BUYER
note: Then, store seller's ethereum address:
put: 6af267736363738ghgs7726337373737 in storage slot SELLER
note: April 1, 2014 is 13929639948 in "computer time"
put: 16365437465 in storage slot DEADLINE
note: If the agreed amount is received on time...
When: transaction value is 50000 ether
and block timestamp is storage slot DEADLINE
then note: ... then designate the buyer as the new website admin and pay the seller
put storage slot BUYER in storage slot WEBSITE_ADMIN
Spend contract balance to storage slot SELLER
```

Assumption to Explore (even if it confusing!)

By 2022 the public sector will use the blockchain for decentralized applications (DApps) and *smart contracts* to:

- Reduce internal operation costs
- Reduce costs of compliance and regulation
- Drive Public Private Partnerships
- Deliver Identity Solutions (and new Challenges)
- Transform peer-to-peer and business led transactions
- Confront cybersecurity issues
- Transform voting system
- Branding: Transparency + Accountability

Early Stages of Application Development Ecosystems

Public Blockchains



*tokens; side-chains



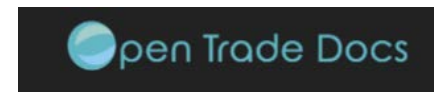
Private Blockchains



R3 Corda™

Blockchain Procurement: Supply Chains + Logistics

Distributed Supply Chains for efficiency, low cost, transparency and automation for origin verification, manufacturing logs, OEM assembly, shipping, fulfillment, financing, factoring, taxes and retail payment settlement.



Enhance Trust. Access Capital.

Should government support conditions of blockchain driven trade?

Blockchain Marketplaces

Decentralized exchanges to disrupt* the third-party while opening up service stack for new value driven services. *Low fees may still apply.



OpenBazaar

iTunes without iTunes

Smart Contracts disperse payments

ebay without ebay

Distributed Marketplace

Should government encourage creation of community marketplaces?

Blockchain for P2P + Sharing Economy

Decentralized exchanges to disrupt* the third-party while opening up service stack for new value driven services. *Low fees may still apply.



Uber without Uber

Distributed Ridesharing Network

Peer-to-Peer

Energy Trading Network

Should government support evolution of P2P culture?

Blockchain for Healthcare + Wellness

Improve efficiencies, reduce fraud, and use smart contracts for programmable compliance and reward systems to scale behavior change.



Could blockchain transform population health management?



Government departments to reduce the cost and complexity of tasks:

- Data Collection + Authentication
- Taxation
- Procurement
- Identity (Passports; Birth certificates)
- Asset Registries (including land)
- Voting
- Access Control to Documents
- Permitting Processes (Soft costs)
- Community Crypto Currencies (Financial inclusion)
- Cyber Security
- DAOs (Autonomous Govt Structures)

Embrace the Jargon! Blockchain-as-a-Service (BaaS)

Public services to be put on blockchain in UK

28 April 2016 Hits: 568



Skyscape Cloud Services Ltd partners Credits to put the British public sector on blockchain, providing central and local governments, as well as health, defence and other industries with BaaS tools.

Source



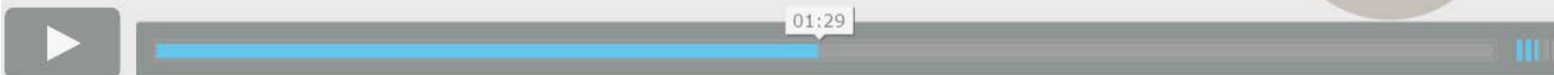
Be Prepared: Ideology Drives Innovative Thinking

How Blockchains Bring Full Accountability To Government

from **MayorsChain** 11 months ago | [more](#)

HOW IT WORKS

- 1) The government puts, say, £18 billion into its 2016 budgetary account
- 2) It creates a crypto-asset consisting of 18 billion digital tokens
- 3) It sends budgetary tokens to each dept, district, team, project, etc.
- 4) Departments spend funds by spending tokens
- 5) Every time a token is used, anyone can see it happen on the blockchain
- 6) If any party needs GBP, tokens are redeemable for funds in the account
(Technical note: to redeem GBP, parties will in fact *provably destroy* tokens in order for the total number of tokens to precisely match the amount of GBP in the account. Similarly, if funds are added to the budget, new tokens will be created.)
- 7) If money is paid from the account without trace on the blockchain, everyone knows an illicit act has taken place.



Focus on Analogs! What can you learn from loyalty + rewards?



Why loyyal?



Interoperability



Multi-Branded
Coalitions



Dynamic Issuance &
Redemption



Superior Liability
Management

Images Removed

Urgency to Get Culture Aligned Around Anticipation



On the Plateau 'Managing the Decline'



- Incumbent mindset
- Incremental Improvement
- Fear, Uncertainty,
Doubt & Denial

Big Bets, Small Steps

- Entrepreneurial mindset
- *Prototyping*
Transformative Change
- *Failing Forward*

Practice Telling Stories + Taking Mental Leaps:

Scenarios from Trend Card Poker

Designing for Behavior Change

In 2016 wearable device shipments are expected to surpass \$140 million and \$90 billion in revenue.

- Companies are integrating the design of user experiences, real-time analytics and the psychology of behavior change to influence or shape behavior to guide people to desired outcomes with their products and services.
- The Fogg Behavior Model (FBM) highlights three elements to affect behavior: Motivation, Ability, and Trigger. Behavior design strategies include reduction, nudging, tailoring, suggestions, self-monitoring, surveillance, and repetitive conditioning.
- Buzzwords to Watch: Gamification, Quantified Self, Movement, Neuromarketing, Persuasive Technology, Wearables.

Mindfulness + Mental Health

- Mindfulness is a practice aimed at developing a sense of non-judgmental focus and active awareness to the present. The practice has shown scientifically variable benefits to health, productivity and collaboration.
- World Health Organization estimates stress costs American businesses \$300 billion annually.
- International business school INSEAD and Singapore Management University found employees who practice mindfulness have less stress, are more open to feedback and are better at making decisions, seeing ethical challenges, and generating insights.
- Mindfulness programs have been implemented at AT&T Bank of America, Google, General Mills, Intel and Kellogg's.

Millennials Grow Up

By 2020, the global population of Millennials (Gen Y) is expected to reach 2.56 billion.

- Millennials are typically defined as those born after 1980 and before the year 2000. They will soon become the majority adult population in the US.
- This cohort makes up 25% of the global population; 37% of Millennials will live in India and China.
- Millennials will gain control over consumer and discretionary spending as they shift into household formation years (starting families, buying homes, etc.).
- A Visa survey estimates Millennials will earn more than preceding Baby Boomer workforce.

Opportunity Examples:

Design for Incentives, Rewards + Desired Outcomes

- Baym's Design is a glucose monitoring program linked to mobile gaming platform Nintendo DS. Played correctly with diabetes are rewarded for testing blood levels.
- John Hancock policyholders who wear Fitbit device get discounts of up to 15% on their life insurance policy.
- Progressive's Snapshot and State Farm's In-Drive both provide devices to track and transmit information on driving habits in return for lower insurance rates.
- KFC repackaged its "No Go" food containers to fit automobile cupholders to reduce pain point of drive experience.
- Moven and Simple allow bank users to set saving goals and then receive real-time spending recommendations to guide people to desired savings outcomes.
- HelloWallet is an application and program design to help employees track behavior and build financial wellness.
- Unistyle partner with Ambient Devices to deliver behavior based on objects that glow green, red or yellow indicate real-time energy use against monthly goals.

Opportunity Examples:

Show Connections to Decision Making

- INSEAD and The Wharton School of the University of Pennsylvania have demonstrated that mindful employees to better avoid negative decisions with "sunk costs" where organizations could tie money at worsening problems.

Quantify and Show Bottom Line Connections

- Aetna estimates savings of \$3,000 per year per employee who took mindfulness training, an average 26% reduction in employees' stress, improvement in sleep quality, and a 19% reduction in sick days.

The Benefits of Focusing and Situations

- Mindfulness practice can help reduce error distraction and a culture of short attention spans. The average employee visits Facebook 21 times a day, 74 times, and looks at their phone 144 times.
- Keurig Green Mountain has developed a session for warehouse distribution workers to reduce workplace injuries.

Opportunity Examples:

Aligning with Values + Personal Growth:

- Millennials connect with brands that support social values and social responsibility.
- A PwC survey found 57% of Millennials agreed: "access to 'sharing' and 'on-demand' economy, using services that allow individuals to borrow or reuse things like cars (Uber), rooms (Airbnb) or clothes (ThreadUp; RentRunway)." Millennials seek out development opportunities.
- Deloitte survey found 29% of Millennials feel their current organization is making full use of their skills. More than 52% aspire to become the leader or senior most executive within their current organization.

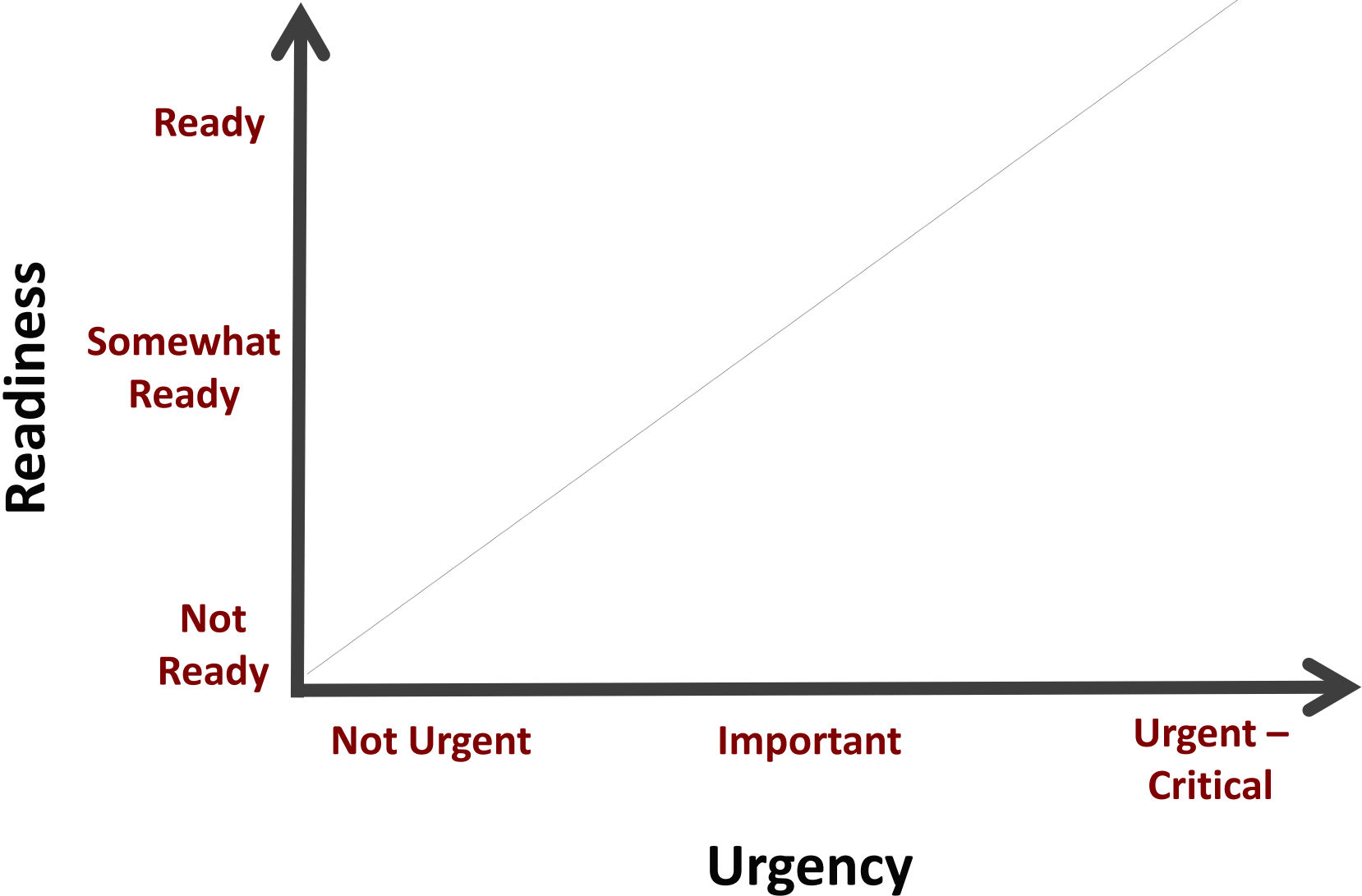
Connecting via Big & Small Social Media:

- Millennials will continue to use social media as they grow up, join the workforce, and start families of their own. The successful sensation of the "Old Spice Guy" campaign was largely because of a social media reinforcement strategy that allowed the Millennial audience to push the brand message among friends.
- Many brands see the upside of niche social sites (e.g. "Mommylogs", Beauty Vloggers) that appear more peer-based and authentic to Millennial audiences.

Fictional Future Events:

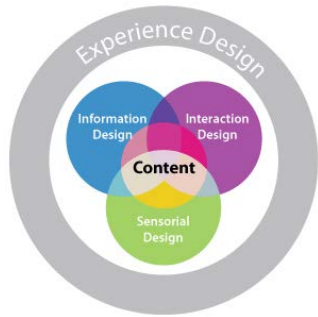
- New Laws + Regulations
- New Competitors
- New Internal Rules
- New Leadership
- Disruptive Wildcards

Survey the Community on Emerging Trends + Opportunities



Follow Ten People Outside the World of Local Government

Learn from people who are navigating creepy-compelling lines



Experience Design



'The Blockchain'



Neuro Science

ATA
Association of Teaching Artists



Teaching Artists



Data Scientists



Community Members

Give Structure to Innovative Thinking!

Use 'Killer Questions' to Brainstorm Ideas

Following the success of HP's Chief Innovation Officer Phil McKinney, generate a weekly 'Killer Question' email message or 'Twitter' conversation that spurs conversation about the future of local government.

What is a government department that does not exist today but will be our most innovative citizen lever of change in five years?

Which popular consumer brand today could make one of our government departments irrelevant in five years?

Thank you!

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