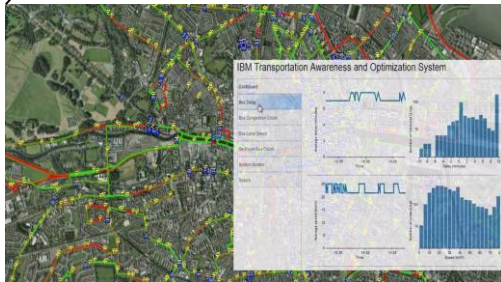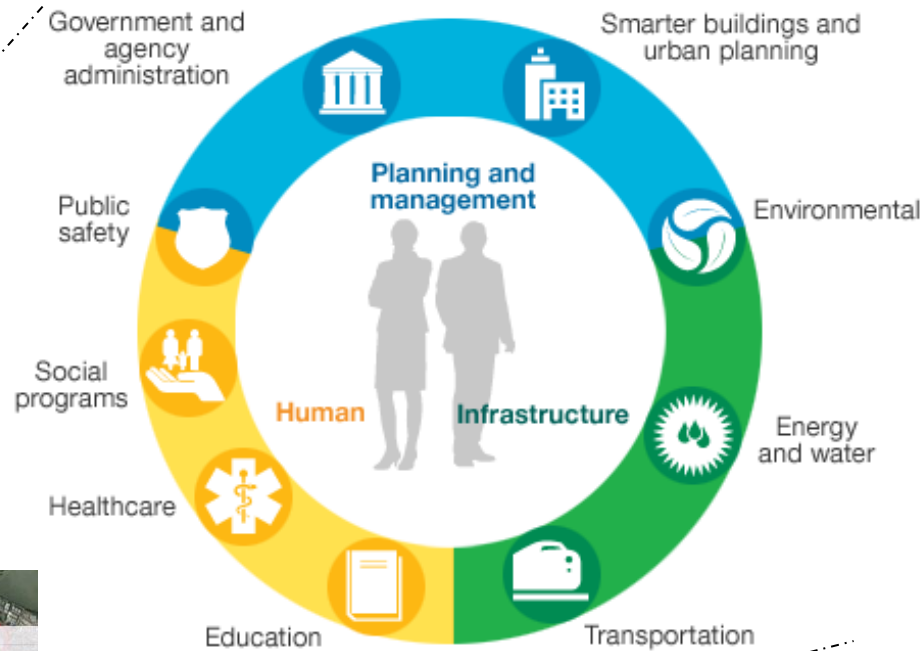# Christina Peters
Chief Privacy Officer - IBM Corporation

Demonstrating the Data-Driven Value Proposition

Big Data Breaks the Traditional Analytics Model

Traditional Approach
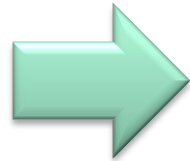
Organizational Users
Determine what question to ask

IT
Structures the data to answer that question

Structured & Repeatable Analytics
• Query-based – questions drive data

VS.

Big Data Approach

IT
Delivers a platform to enable creative discovery

Organization
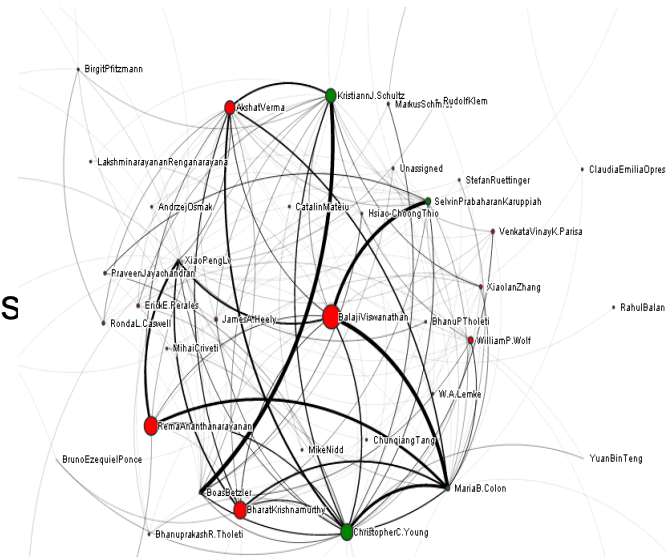Explores what questions could be asked

Iterative & Exploratory Analytics
• Autonomic -- insight drives answers

• All the data – every last bit – might be interesting

• It is not about validating assumptions, but establishing correlations that may be unexpected

• It starts with understanding the data available, and the "Art of the Possible"
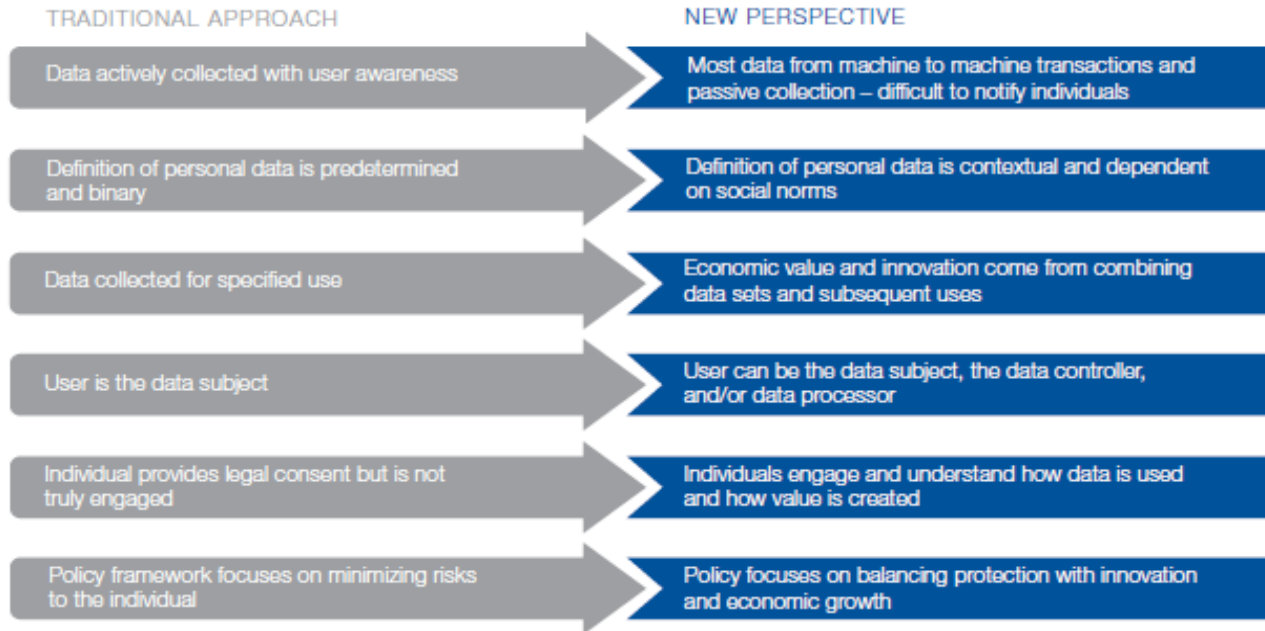
APPROACH TO POLICY CAN DETERMINE OUTCOMES

- Reductions in the amount and kinds of data can produce diminished or inaccurate results.

- Policy must take into account the value received by individuals for the use of their personal data.

- Enforced data localization may decrease analytical completeness unless we can move intermediate results or the site of computation.

The World of Data is Changing

Figure 2: New perspectives on the use of data

TRADITIONAL APPROACH	NEW PERSPECTIVE
Data actively collected with user awareness	Most data from machine to machine transactions and passive collection – difficult to notify individuals
Definition of personal data is predetermined and binary	Definition of personal data is contextual and dependent on social norms
Data collected for specified use	Economic value and innovation come from combining data sets and subsequent uses
User is the data subject	User can be the data subject, the data controller, and/or data processor
Individual provides legal consent but is not truly engaged	Individuals engage and understand how data is used and how value is created
Policy framework focuses on minimizing risks to the individual	Policy focuses on balancing protection with innovation and economic growth

Source: World Economic Forum and The Boston Consulting Group

Source: World Economic Forum "Unlocking the value of personal data: from collection to usage" February 2013

Legacy Data Protection in the Big Data Context

- While FIPPs provide guidance, Big Data challenges the way we apply them

- Long recognized instruments of data protection and guidance assume a world where individuals and organizations interact in simple and structured ways. Yet the world of Big Data doesn't result from such one-on-one interactions:

  - **Collection** is the nexus for governance
    - but much of the data today is "generated", not "provided"

  - **Purpose specification** is required
    - yet useful purposes in Big Data world may not be known at the time of data collection or generation, and may be difficult to predict with precision

  - **Consent** is often the legal basis for processing
    - yet consent may be difficult to obtain outside the "collection" context or at a later time, when purpose clearer; challenge of vastly increased complexity of processing

  - **Data minimization** is expected
    - yet large quantities and variety of data may lead to better insights

  - **Access and correction** rights
    - may be difficult to conceptualize or exercise in this context

  - **Accuracy**
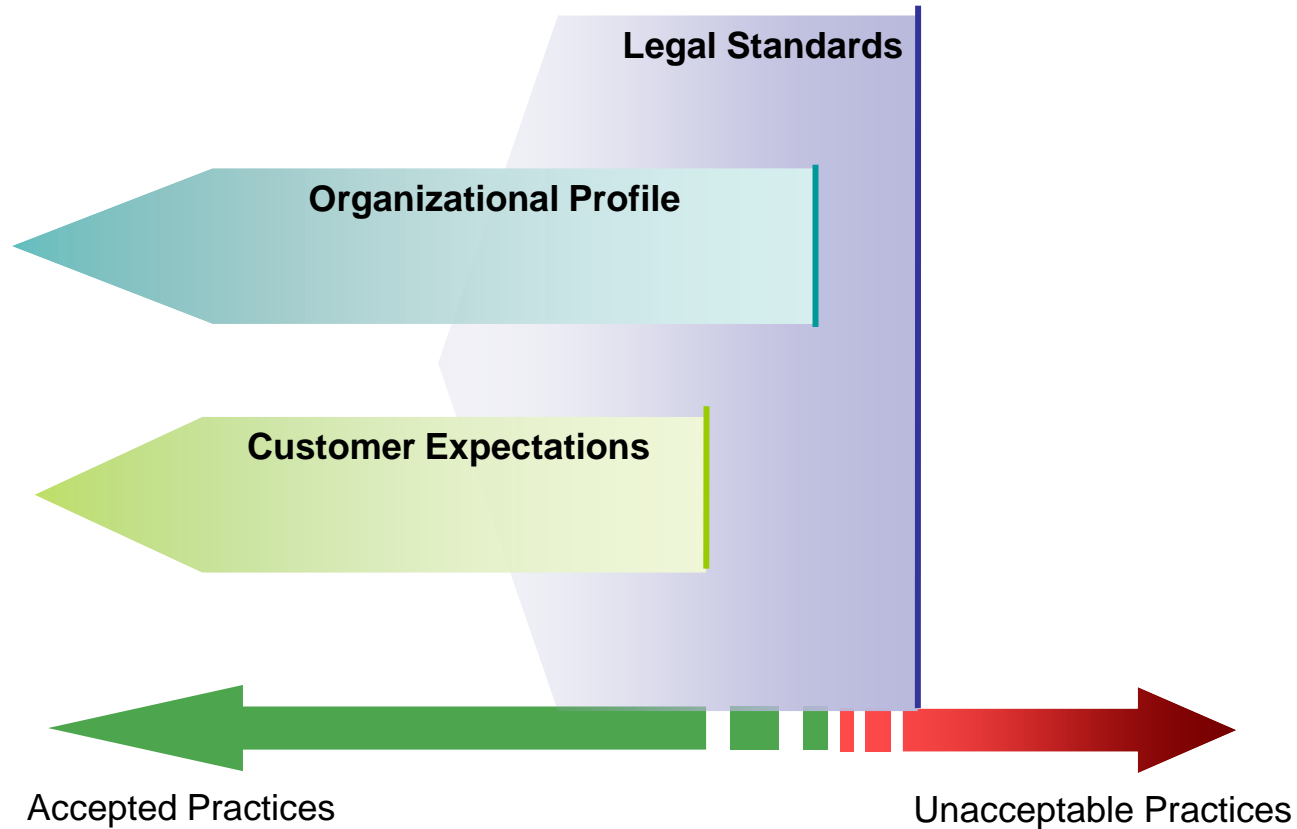   - yet predictions by nature have a range of uncertainty

Questions Posed by Big Data

- Can the data be used? What are the reasonable expectations of the individuals concerned?

- Algorithms and data whose quality is suspect can yield faulty results. What kind of decision-making can legitimately be made based on the data?

- What if predictions about individuals are perceived as invasive or as precluding choices?
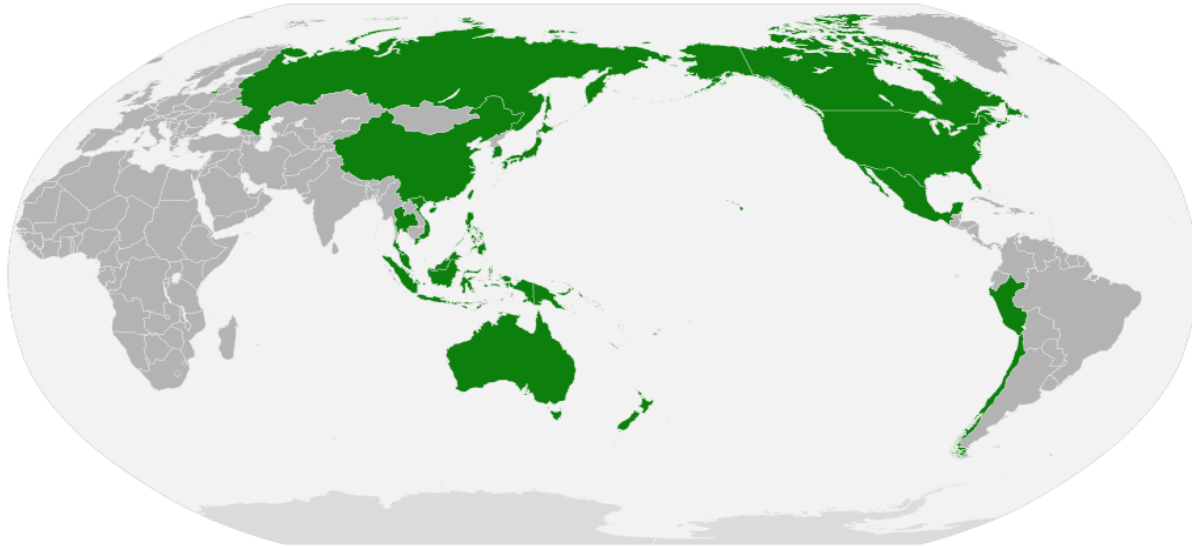
Global Privacy Assessment

Standards

Legal Standards

Organizational Profile

Customer Expectations

Accepted Practices

Unacceptable Practices

A Word about APEC

21 Member Economies

41%
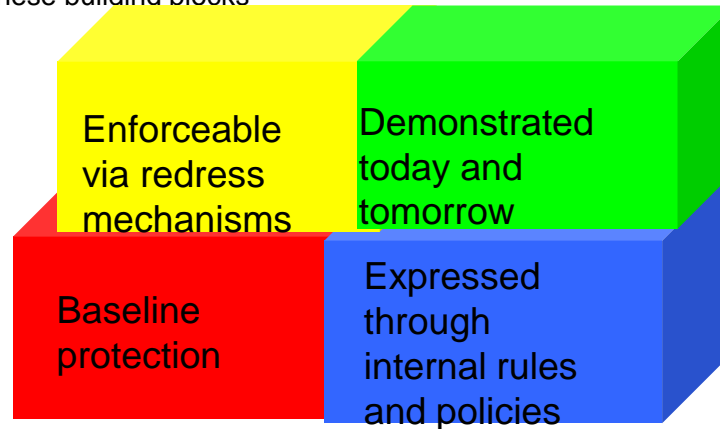
Population

55%

GDP

43%

World Trade

APEC Objectives:

Enhance economic growth through open trade, investment facilitation and practical economic cooperation

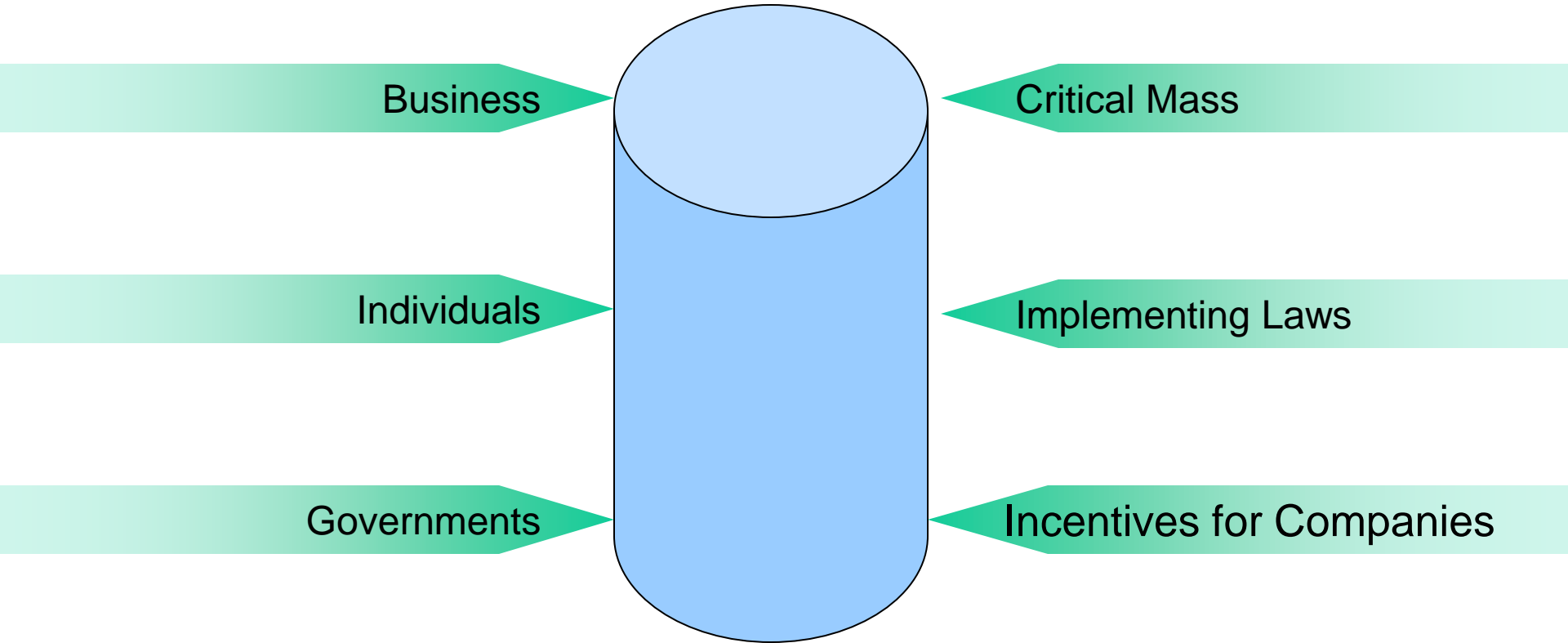# Certified accountability as a basis for interoperability

➢ Regional "interoperability"- the ability of diverse systems to work together- through certified accountability is already in effect in the EU and is underway in APEC

➢ Interoperability between countries and regions is desirable and achievable

➢ We must look for these building blocks

Enforceable via redress mechanisms

Demonstrated today and tomorrow

Baseline protection

Expressed through internal rules and policies

PRACTICAL STEPS FOR PRIVACY-SENSITIVE ANALYTICS

-Design privacy into the analytics program.
-Know the data. Understand where the data comes from, and whether there are legal and
     other restrictions that may apply.
-Consider de-identification/anonymization. This technique allows organizations to work
     with Big Data sets while mitigating privacy concerns, and has been used in many realms,
     including healthcare.
-Understand your use and how it may affect people. Know the goal being pursued and its
     intended and unintended results for individuals. Differentiate between diffuse effects on
     broad populations and individually targeted effects – the latter requires thoughtful
     focus in particular.
-Be transparent. Tell individuals what you're doing, why and explain the benefits.
-Secure and safeguard your systems. Appropriately secure data and systems, and adjust that
     security over time as needed.
-Build in accountability and oversight. Establish appropriate governance structures and
     practices.
-Measure outcomes. Measure results to assess and improve processes and appropriate uses.
-Use your judgment. Do not substitute a checklist for good judgment. Application of these
     steps always depends on context.