Ethical Market Models in the Personal Data Ecosystem

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ABSTRACT
This presentation outlines three ethical market models within the personal data ecosystem. These are presented within the context of an overall landscape that includes accountability frameworks, and systems of governance including peer-to-peer, legal frameworks, code via standards and Identifier systems.

AUDIENCE
This talk is for people interested in learning about alternatives to the current split between "do not track" and "business as usual" where all companies get to track all data about us generated via our data.

People who work in large companies or exploring work in these firms likely have some concerns about the ethics involved in the current frameworks. This offers innovative ways to think about how to have markets and still respect people and their data.

INTRODUCTION
Meaningful, understandable control over the collection and use of personal data by individuals will enable companies, organizations, and governments to create value while simultaneously increasing public trust. Innovative companies, academics, and regulators are hard at work defining these new models, and three broad categories have emerged: *Vendor Relationship Management, Infomediary Markets, and Data Aggregation Markets*. These models share the goal of placing the user at the center, and reflect ways that context will influence the roles a person might play or how they might behave.

At the heart of each model is a personal cloud that enables people to:

• Securely collect and store the data that they generate in daily life
• Connect to service providers so that they can get value from their data
• Place limits on how the data they provide is used by the service providers
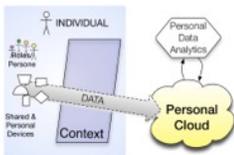
Vendor Relationship Management
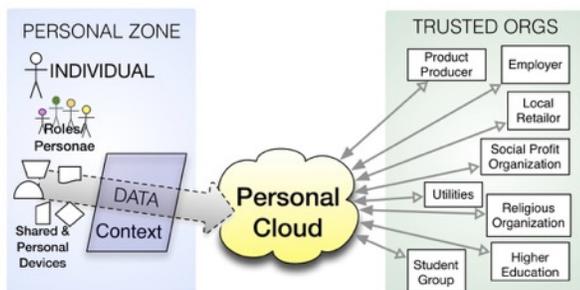
CRM tools are standard in today's businesses where they are used by companies to manage their relationships with customers and potential customers.
Vendor Relationship Management (VRM) tools work on behalf of the individual to connect people to businesses, organizations and public services. Individuals can share more detailed information with companies they like and have a direct channel they control between themselves and the organizations they do business with. Data sharing is governed by terms set by the user. In this model they have the power to withdraw from relating to the vendor and their choice will be respected.

Infomediary Markets
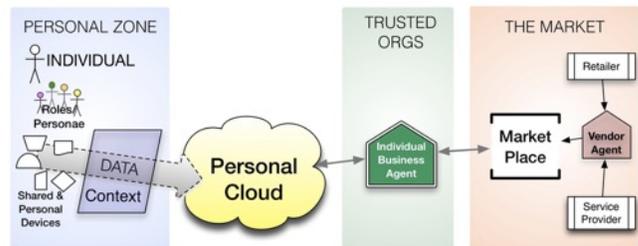
Companies want to find customers for their products and services, governments want to reach citizens with important relevant information and organizations want to attract new interested members. Today's marketing methods are ineffective, annoying and involve intrusive tools and business practices to get at people's personally identifiable information without their awareness or consent.
In markets where vendors seek attention from potential customers, *Infomediaries* act as data brokers on the users' behalf. The Infomediaries create permission-based channels, based on accurate personal data that the user provides, but without revealing personally identifying information in the market.

Data Aggregation Markets
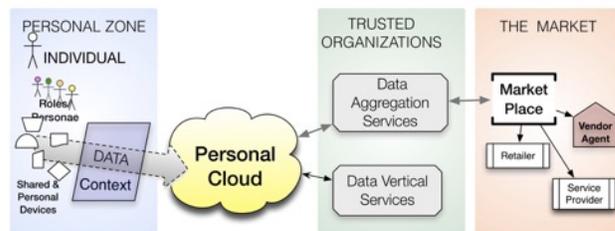
Big Data is big business and many firms today collect vast troves of information about specific individuals and households, from public records (Axiom), social networks

(RapLeaf), foot traffic via phones (Sense Networks). Congress is investigating the current practices and much of the impetus from the organizations advocating for Do Not Track are trying to resist these practices as they are occurring with cookies in our browsers.

There are many legitimate, ethical uses of "big data" for research and marketing, and users will willingly participate if they believe that their privacy will be respected. Data Aggregation Services read the details of users' data, but provide companies, governments, and researchers with summary or aggregate values. Because individuals trust that personally identifiable information will be protected, they are willing to provide more honest, complete, and detailed personal information to these services. This market model is us been used in the for media audience metrics for 50+ years by companies like Neilson and Arbitron.

OUTCOMES/CONCLUSION
Personal Data Landscape

These three market models all fit within a Personal Data Landscape that includes Accountability Frameworks (also known as Trust Frameworks) that provide technical and legal background for these systems to work.

Governance within techno-social systems happens within the existing legal frameworks, via peer-to-peer structures and systems, via code that makes open source standards real and with rules around issuance of identifiers.

Term Definitions

Individual: A person

Devices: Mobile phones, computers, self tracking devices, medical monitoring devices, e-readers.

Context: Where a person is (home, school, work). The Role they are playing (parent, coach, spouse, employee, supervisor, athletic team member). Persona they are presenting (video game player, professional, goofy hobby identity).

Data: The bits generated explicitly such as photos, tweets, status updates.

Frameworks: Contractual mutli-party frameworks connect legal/policy agreements to technical interoperability to protect the individual and enable markets. The Personal Cloud service provider is at the heart of these frameworks, chosen by the end user, and works on their behalf managing their data and its participation in the framework.

Personal Data Analytics: Services that help people gain insight into their own personal data. An example being one's daily health status or a personal annual report.

[Trusted Organizations]

Product Producer: This is an example of a Vendor Relationship Management connection where a consumer who bought a product from a producer manages an open channel with the maker of the product they bought and willingly share information under favorable terms they they the user set.

Infomediary: A service trusted to have insight into a person's data and working on their behalf. They have an individual's personally identifiable information (PII) and protect that data and put it to use.

Data Aggregation Services: Services create aggregate data sets from personal data, like music listening habits. Aggregators may compensate people for their data, people may share altruistically, or people may unknowingly share.

Public Services: Governments delivering services to their constituents can enable use of personal data stores for better access and data quality.

[The Market]

Market Place: This is where an Individual's business agents with PII meet Vendor agents without PII.

Retailers: Companies that sell goods to customers.

Service Providers: Companies that provide services to people.

Vendor Agents: Companies that help retailers and service providers find good potential leads. They do not have personally identifiable information.

[Governance]

How systems are regulated take many forms. Governance starts with laws and regulation but also includes cultural practices, business norms, and, in digital systems, how identifiers are allocated and the code that connects them.

LEGAL:

Government: plays many roles in the systems:

> *Regulator:* Governments set baseline rules for how markets work. They provide the court system where contract law is adjudicated.

> *Public Records:* Governments record births, marriages, divorces, deaths along with licensing, and property title registries.

> *Public Safety:* Policing and law enforcement.

> *Ombudsman:* Many states have a data protection commissioner who protects constituents.

International Treaty Organizations: They support the coordination of international treaties and provide a meta-international law that hold governments accountable to each other.

CODE: Computer code and how it runs determines what is possible in computer systems. The phrase "Code is Law" was popularized by Lawrence Lessig.

> **Standards Development Organizations:** Bruce Sterling said "If code is law then standards are like the Senate." Standards bodies agree on how code

works regardless of the particular language it is written in or system it is running on. For example, the W3C standardizes the HTML specification for presenting web pages.

IDENTIFIER: Networks run on identifiers for each endpoint. How these are allocated, and the terms and conditions of use in a network, govern the network.

Global Identifier Registries: Examples include the phone system, Domain Names, ISBN numbers, RFID.

Private Name Spaces: examples include Twitter, Skype, Google, Facebook etc.

PEER: This kind of governance is the most powerful in many ways and helps social systems operate.

Peer-to-Peer: People have opinions about each other and also about businesses and services they interact with - like Yelp for small businesses.

Professional: Doctors, lawyers, engineers, geologists, and architects are professions that peer regulate.

Institutional: Institutions figure out what other peer institutions are - such as banks worldwide in SWIFT.

Framework Creators: Organizations that create contractual legal-policy/technology frameworks that govern complex multi-party networks.

PARTICIPATION STATEMENT
I will attend the conference if my presentation is accepted.

BIO
Kaliya "Identity Woman" is an independent Advocate for the Rights and Dignity of our digital selves. In 2010 she founded the Personal Data Ecosystem Consortium to connect companies working on building tools for people to collect manage and get value from their personal data. She co-founded and leads the Internet Identity Workshop the world's leading forum for innovation in the field of user-centric digital identity and personal data. She served for over two years on the management council of the Identity Ecosystem Steering Group created by the Obama Administration's Cyberspace effort The National Strategy for Trusted Identities. She was selected in 2012 as a Young Global Leader by the World Economic Forum. She has spoken at SXSW, Gartner's Identity and Access Management Summit in London, Canadian Women in Film and Television along with many other conferences. She founded She's Geeky, a women's only STEM unconference in 2007 and this coming year there will happen in 5 cities around the country.

Personal Data Ecosystem Landscape – Overview