

**Technology
Innovation in
Financial
Services**
An Industry Perspective

2do FORO

DE INGENIERÍA DE LA INFORMACIÓN

Dr. Fabio Corzo

Big Data: Innovación desde la
ingeniería de la información
para transformar la sociedad

INTERNAL

Machine
Data-Federation
Semantic-Discovery
Supervised-Machine-Learning
as-a-Service
Learning
Virtual-Agent
Avatar
Unsupervised-Machine-Learning
Artificial-Intelligence
Unsupervised
Peer-to-Peer
Big-Data
Cloud Online-Channel

Financial (FinTech) Innovation is currently transforming our traditional finance industry, with consumers and corporates demanding new innovative solutions for web and mobile platforms.

INTERNAL

Innovation in the industry

Where is the innovation happening

- 'New Financial Services' are financial products delivered outside bank branches through alternative channels, such as the Internet, financial services kiosks, and mobile phones.

- Use innovation technologies to increase effectiveness and or efficiency in existing financial products and services products

- Innovation technologies to find alternative and more cost effective ways of doing front/middle/back office and support capabilities

INTERNAL

1. Examples of Innovation in Financial Services (1 of 2)

Sector/Area	Alternative Service	Tech-Driven Service
Payment Services	Bartering	Web-based payments
	Jam Jar Banking products	Near Field Communication
Lending	Payday Loans	Peer-to-peer
	Microfinance	
	Social Impact Bonds	Trade finance
		Peer-to-peer lending
Investing	Microfinance	
	Angel Investment	Crowdfunding
	Renewable Debentures	
	Green bonds	
		P2P Microfinance

INTERNAL

1. Examples of Innovation in Financial Services (2 of 2)

Product/Service Area	Alternative Service	Tech-Driven Service
Foreign Currency Exchanges	Parallel Currencies Markets	Cloud Solutions
		Online Platforms
		P2P FX Hedging
Currencies		Digital Currencies
		Community Currency LETS
Insurance		P2P Insurance
Stock Exchanges		Alterative SME Stock Markets
		Social Exchanges
		Carbon Credit Exchanges
Foreign Currency Exchanges	Parallel Currencies Markets	Cloud Solutions
		Online Platforms

2. Innovation of existent services improving effectiveness*

Some examples

- Realtime CRM
- Machine Learning in Risk Modelling
- Algorithmic Trading

The approach to managing the complexities and volumes of data require proper automated management of “data about data”

* Much more innovation exists in this space but direct engagement is required to explore and understand

3. Innovation in front, middle and back-office and supporting capabilities



How do we cost effectively exploit and deal with increasing volume and diversity of data, speed of technological change and dynamicity?

Traditional approaches to manage data technological change will not work and innovation with new technological trends are required across front, middle and back office.

A new approach for data technology change requires focus on collaboration, transparency, data management, information based integration, data quality

This is already actively impacting, amongst others, enterprise data strategy, enterprise architecture, corporate functions, data quality, information management and analytics.

The approach to managing the complexities and volumes of data require proper automated management of “data about data”

INTERNAL

Questions

- Sample Enterprise Architecture References

Appendices

Financial Services Innovation Example: Virtual Assistants

(program that understands natural language and responds to user's written or spoken commands). An intelligent personal assistant is a software agent that can perform tasks or services for an individual.

- **Examples of such an agent:**
 - **Apple's Siri,**
 - **Google's Google Now,**
 - **Amazon Alexa/Echo,**
 - **Microsoft's Cortana,**
 - **Braina (application developed by Brainasoft for Microsoft Windows),**
 - **Samsung's S Voice,**
 - **LG's Voice Mate,**
 - **BlackBerry's SILVIA, HTC's Hidi, IBM's Watson_(computer), and Facebook's M.**

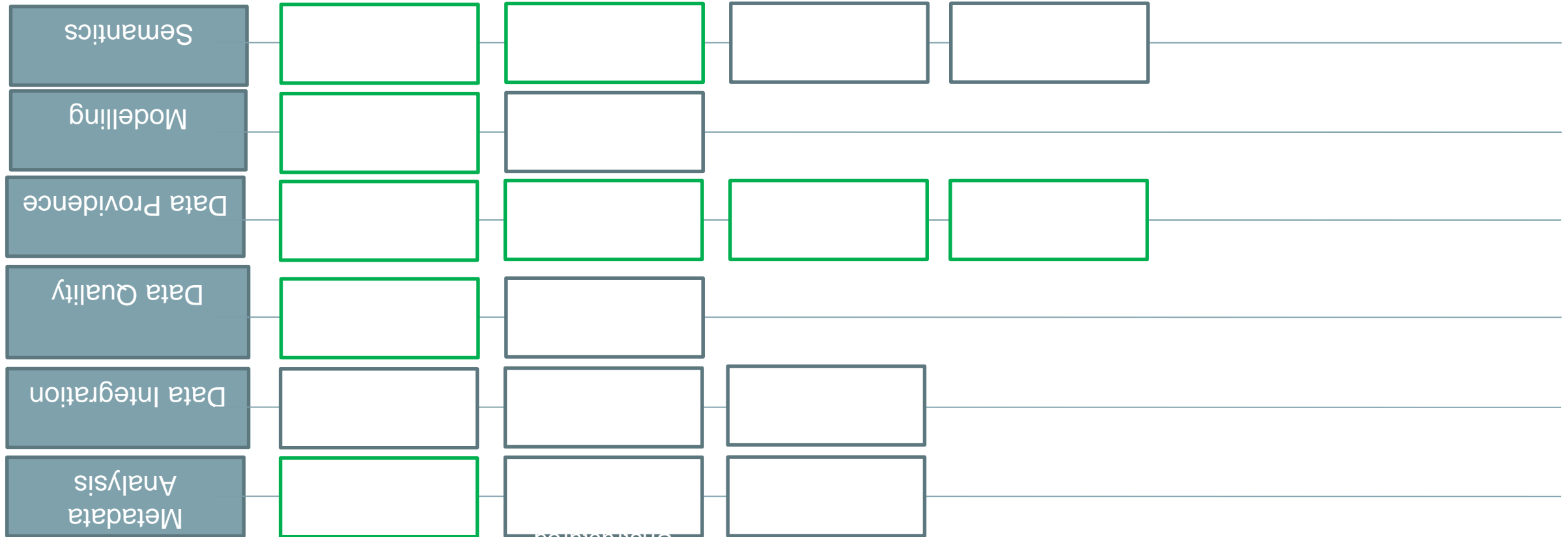
FinTech Example: Virtual or Digital Currencies

- Virtual or Digital currency, among its various names is electronic money that acts as alternative currency.
- Currently, digital currencies are not produced by government-endorsed central banks nor necessarily backed by national currency.
- Cryptocurrency - is a peer-to-peer, decentralized, digital currency whose implementation relies on the principles of cryptography to validate the transactions and generation of the currency its

Currency	Code	Year Est.	Founder	Ledger	Website	Value of <u>money supply</u> (November 2013)	<u>Bitcoin-based</u>	Note
Bitcoin	BTC	2009	Satoshi Nakamoto	P2P network	bitcoin.org	~\$4 billion <u>USD</u>	N/A	Decentralized ledger currency, SHA-256 proof-of-work
Litecoin	LTC	2011	Coblee	P2P network	litecoin.org	~\$100 million <u>USD</u>	Yes	Script proof-of-work
Peercoin	PPC	2012	Sunny King	P2P network	peercoin.net	~\$14 million <u>USD</u>	Yes	SHA-256 proof-of-work/ proof-of-stake , the proof-of-stake means that Peercoin has a small amount of inflation.
Namecoin	NMC	2011	Vinced	P2P network	dot-bit.org	~\$4.5 million <u>USD</u>	Yes	SHA-256 proof-of-work. Namecoin is meant to act as a decentralized DNS , which would make internet censorship very difficult. Namecoin serves the .bit domain.

Sample Innovation Areas in Enterprise Data Management

New areas include specific aspects of enterprise data architecture



To enable cross enterprise data exploitation in a scalable, trusted and flexible innovation is required across the field of EDA