

DataCompliance LLC



MARKET DATA A REVOLUTION IN ACCESS & DISTRIBUTION

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1 ABOUT KEIREN HARRIS

Keiren is a co-founder of DataCompliance LLC with David Toomey-Wilson, a US based consulting practice focused on data IPRs, licences, policies and sourcing. Our extensive expertise and experience in this business critical area positively benefits our clients in real dollar terms and as an operational resource, especially when applied to enterprise information usage, new FinTech distribution and management, including 'The Cloud' and 'Big Data' application.

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In addition, Keiren is also a co-founder of DataContent a forward looking consulting practice advising financial institutions, vendors, and exchanges markets on the strategic management of market data as a dollar earning resource. We work on projects with exchanges, vendors and banks.

www.datacontent.com.

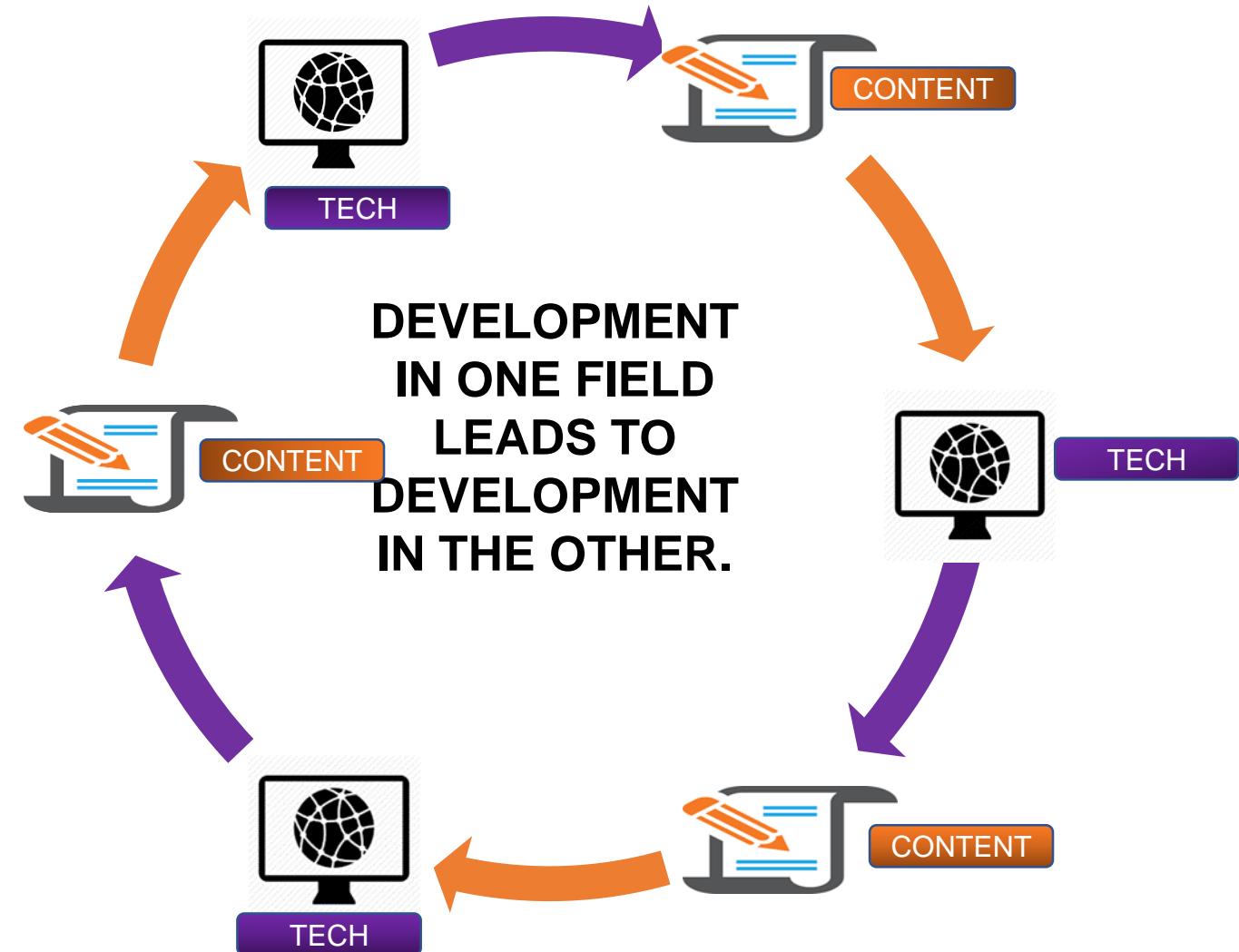
Our website www.marketdata.guru provides unique business oriented analysis for the financial industry.

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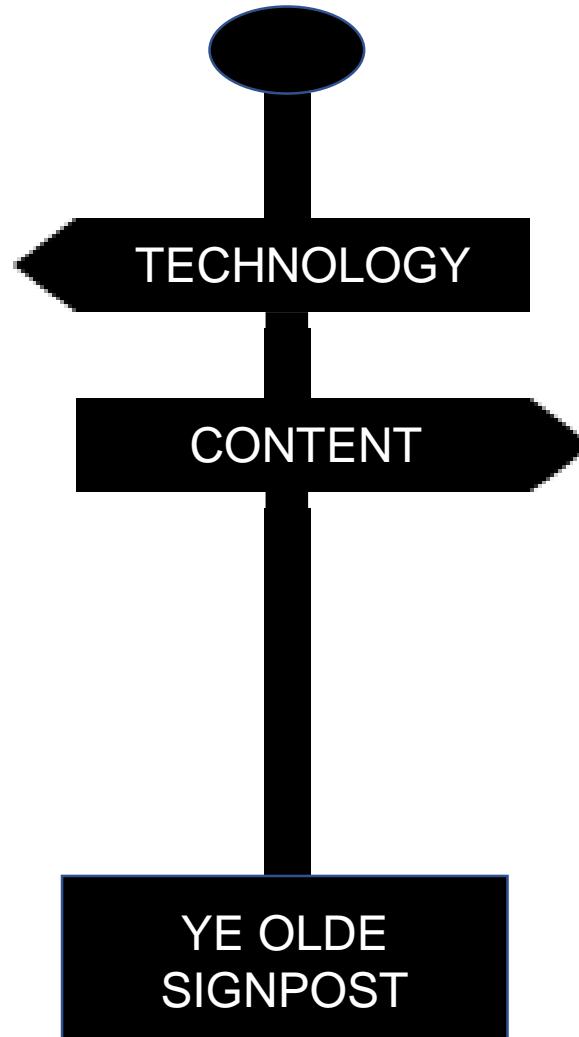
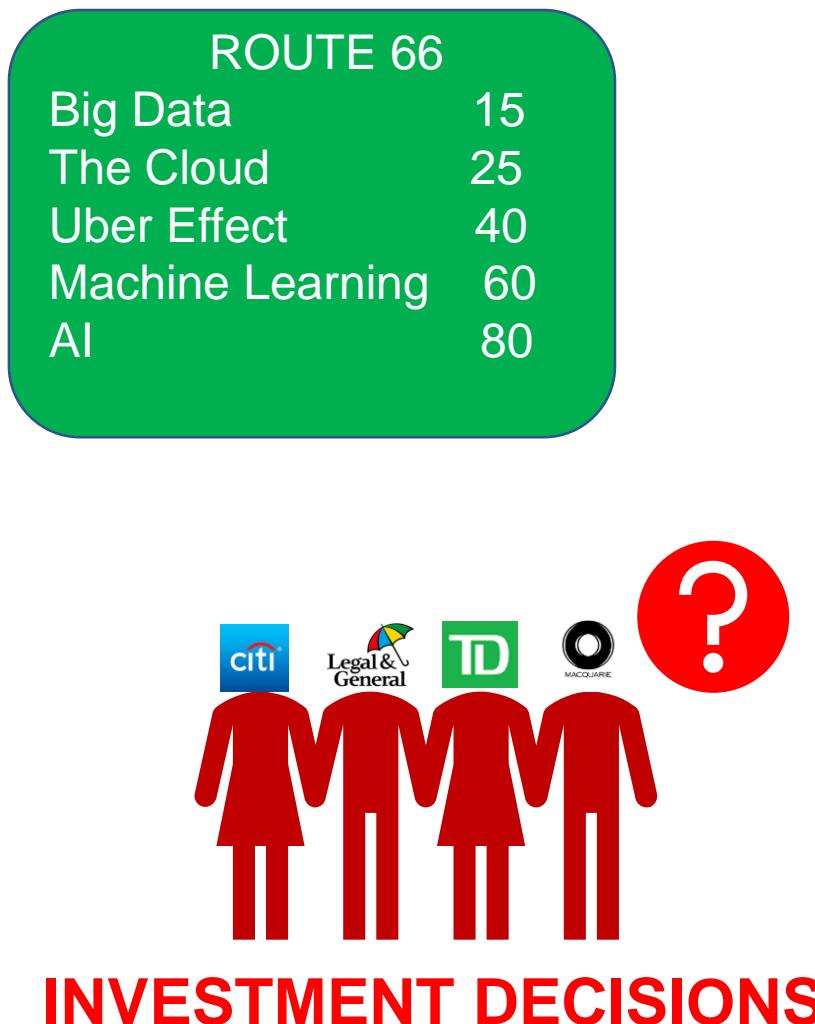
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2 THE MARKET PLACE, DATAFEEDS A CIRCULAR DEVELOPMENT

- Traditionally development in content and technology has been a cyclical progression.
- Content leads technology, then technology leads content, and so on.
- It is easier for both vendors and banks to develop their future strategies in this environment.
- However new technologies, access to a wider range of content sets, and regulatory requirements have broken the cycle.
- Banks' priorities will change according to immediate and projected requirements, leading to the development of tailored solutions.



2 THE MARKET PLACE, DIVERGENT PATHS, NEW CHOICES

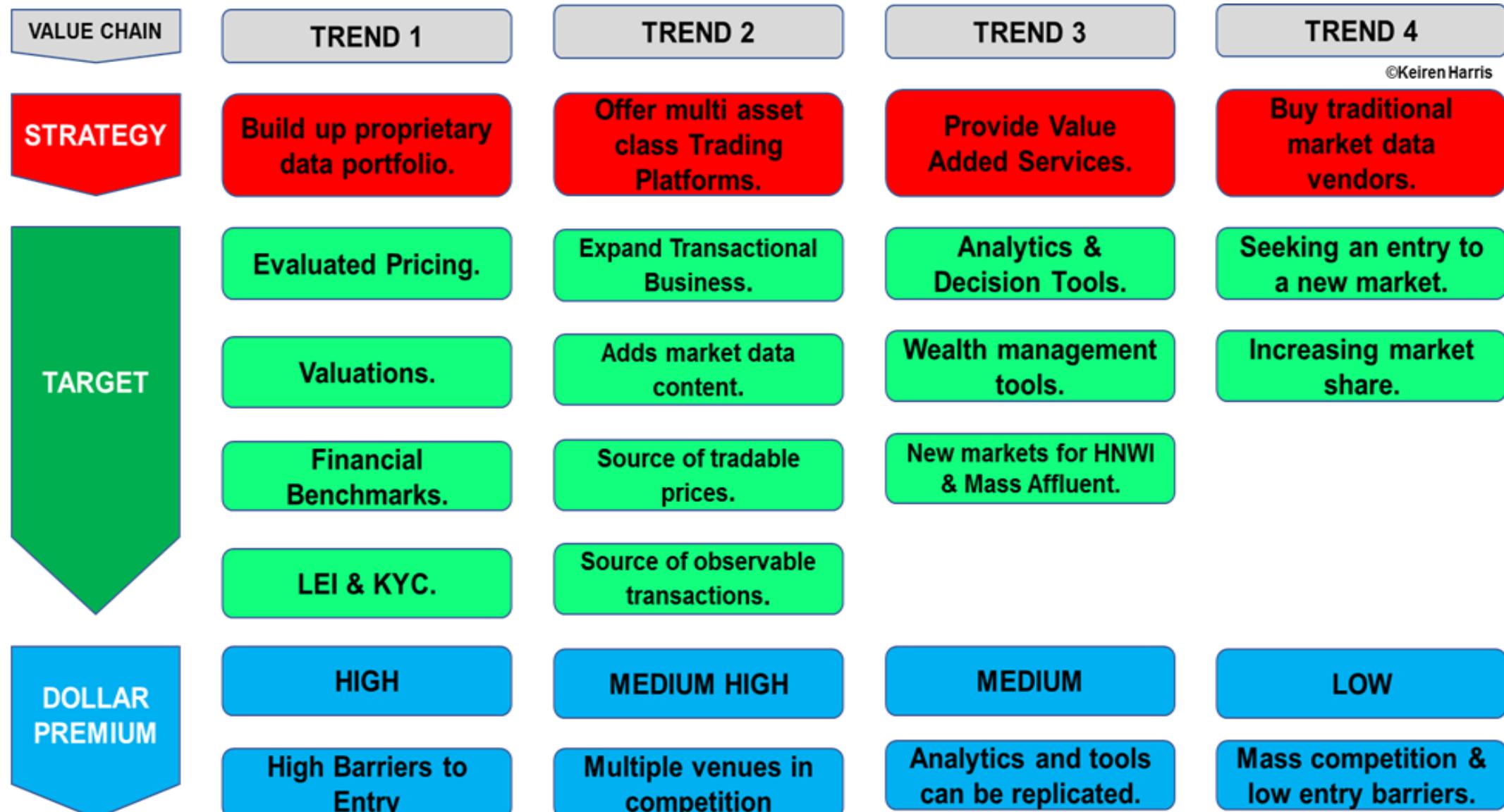


- Increased flexibility, means greater choice.
- It changes the investment decision dynamic.
- Strategies become fluid with multiple paths opening up, though each with its own unique cost benefits.

2 THE MARKET PLACE, FOUR SERVICE TRENDS

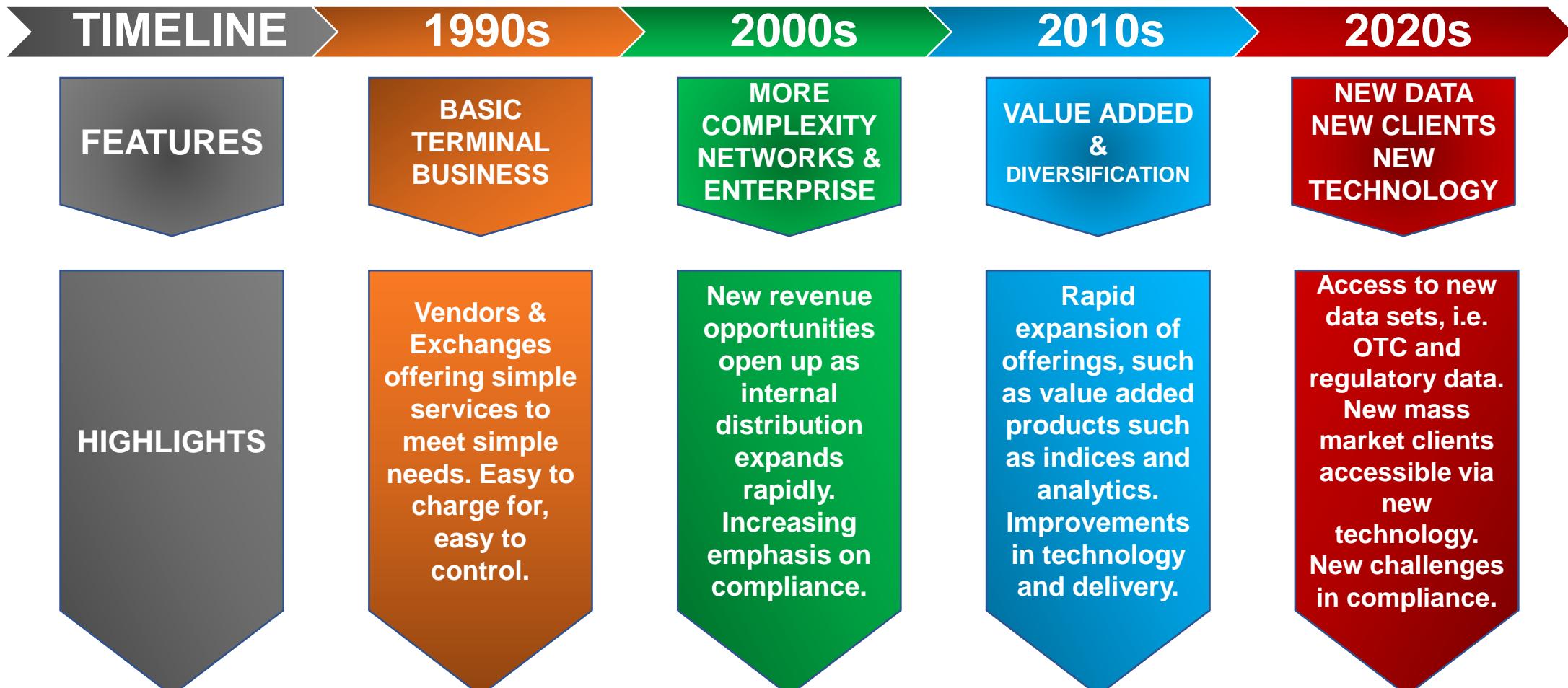
- There have been 4 major trends occurring since 2012 in the market data industry itself.
- Trend 1: Build up Proprietary Data Portfolios.
- Trend 2: The offering of multi-asset class trading platforms, producing prices.
- Trend 3. The provision of value added services.
- Trend 4. Industry consolidation, especially where vendors are bulking up in specialist services, i.e evaluated prices, Regtech, LEIs, and now even Lawtech.
- There has been increased focus on OTC markets, especially Fixed Income, Credit, FX, & Commodities. But these are difficult to source, (Quality, Quantity, & Consistency) and expensive.
- Importantly, there is a rapid change in accessibility and distribution.
- The emergence of ‘The Cloud’ changes the nature of the infrastructure required to deliver and access market data.
- ‘The Cloud’ changes where and how data is used, by whom and where.
- It creates new markets, new opportunities, new challenges, and releases the potential of Big Data.
- ‘The Cloud’ in its many developing forms, needs datafeeds.

2 THE MARKET PLACE, A QUICK SUMMARY



3 DATA ACCESSIBILITY OPENNESS DRIVES GROWTH

- The growth in market data usage from the 1990s has been driven by interaction.
- As inter-connectivity has grown internally, this has driven enterprise usage.
- The future is growth in third party inter-connectivity on a global scale.



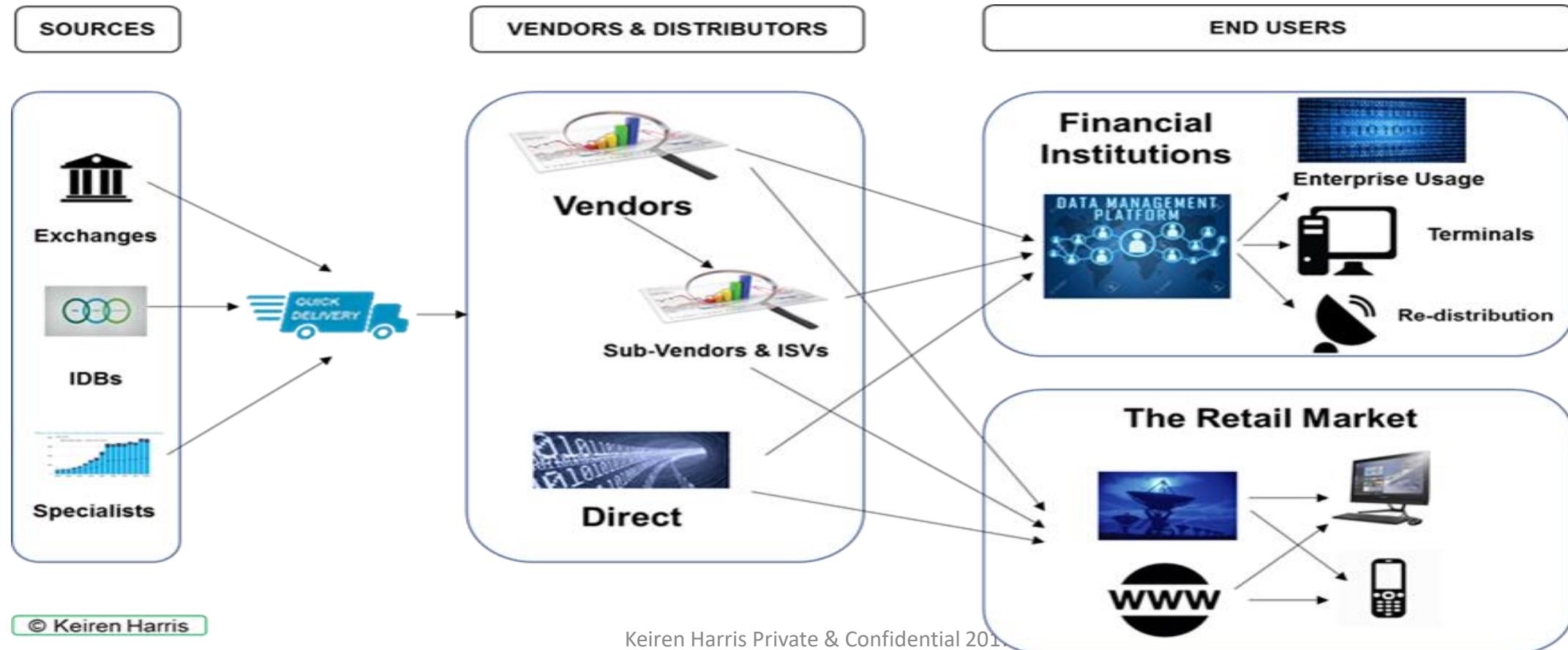
3 DATA ACCESSIBILITY IN THE DARK AGES

- **Stage 1 In the beginning.**
- There is a simple delivery flow from the source through to the end user, and there is little functionality beyond price discovery.
- Connectivity is via individual telephone lines, little to no interfacing until Excel links came along.
- High costs, low interconnectivity.
- Relationships between source and end user limited.



3 DATA ACCESSIBILITY THE RENAISSANCE

- Stage 2 Now. Evolution.
- The relationship flow remains somewhat unchanged, there is a linear progression, but there is now a greater level of functionality as well as internal enterprise usage and dissemination.
- Greater connectivity and distribution opens up new uses for market data.
- New found market data flexibility turns information from being a cost into a business resource.



3 DATA ACCESSIBILITY THE AGE OF DISCOVERY

• Stage 3 Future. Revolution.

- With discovery, comes revolution. Linear progression has gone, to be replaced by multi-directional relationships working within common but discreet environments.
- Internal and external environments become increasingly connected.
- Financial institutions need to adopt smarter sourcing strategies, and become more adaptable in their technology requirements.



3 DATA ACCESSIBILITY WINNERS & LOSERS

- As there has been an expansion of enterprise usage, there is a decline in terminal usage within financial institutions.
- In 2016 Morgan Stanley forecast a significant reduction in number of terminals globally.
- However, there is definite growth in the lower margin, but significantly higher volume retail markets.

STRATEGY



TERMINAL DATA BUSINESS

LEADING PLAYERS

1

Bloomberg

2



STATUS

DECLINING MARKET

BARRIERS TO ENTRY

1. Global Coverage requires global presence.
2. High cost of data acquisition especially for OTC markets and universal coverage.

THREAT TO BUSINESS

1. Overall headcount reduction at big banks.
2. Direct Market Access replacing seats on desks.
3. Increased focus on specific markets rather than universal coverage.
4. High per terminal cost, especially for universal coverage.



ENTERPRISE DATA BUSINESS



1

2+



MORNINGSTAR

xignite

DYNAMIC MARKET

©Keiren Harris

1. Legacy systems very hard to displace with a spider's web of globally interlinked applications.
2. Cost of displacement.
3. Universal coverage needs to be replicated.

1. Big financial institutions want lower cost not higher cost, so limited, if any expansion in this market.
2. Growth being driven by Tier 2 and smaller institutions, not wedded to existing infrastructure.
3. Cloud based opportunities bring fragmentation and expansion of choice.

4 STRATEGIC OPTIONS

AGGREGATION, FRAGMENTATION & DISRUPTION

- In the new market data universe, there are strong and compelling arguments for continuing to develop and enhance aggregated services, but at the same time new options are opening up.
- This encompasses information costs, smart data sourcing, flexible management, access to infrastructure and new technologies such as 'The Cloud'.

AGGREGATION	FRAGMENTATION	DISRUPTION
Provides multiple types of data in one single service.	Enables the consumer to select the types of data by requirement.	Changes balance of power between sources, vendors & consumers, at expense of the aggregators.
Provides multiple sources of data in one single service.	Enables the consumer to select the sources of data by requirement.	Lowers barriers of entry for smaller specialist sources to compete.
Standardises technology and formats.	APIs and New Technology introducing new and open standards reducing this as an issue.	Switches internal management resources and cost of infrastructure to specialist external providers.
Tends to reduce choice due to reliance upon a single hard to displace vendor.	Increases choice by focusing on specialist sources and vendors.	Introduces consumer driven flexibility in matching market data requirements to business need.
Aggregators offer market breadth, but depth can come at a cost or is not there.	Specialist vendors offer market depth by focusing on specific markets.	Consumers can focus on the markets they invest in, without having to buy the whole market data 'supermarket'.
Theoretically reduces average cost, but not total.	Can reduce relative and overall average costs.	Consumers take greater control over their market data costs.

4 STRATEGIC OPTIONS NEW CHOICES

- Consumers of market data and financial information now have easier access to a wider range of sources, on both global and local levels.
- This creates new found freedoms when devising market data strategies, and most importantly, allows the consumer to adapt and change their strategies to meet new challenges.
- Tailored solutions now become more accessible through a menu based à la carte selection of services as an alternative to existing buffet style aggregated solutions.
- Though both will have their place by fulfilling different business objectives.
- Costs v Consumption. Measuring average cost of consumption against the relative cost of service.
- Balancing the scales of 'One Stop Shop' with lower average costs v the merits of subscribing to more expensive individual services with lower overall costs. (On the basis not everything is needed).



5 CREATING DATA VALUE IDENTIFYING THE PREMIUMS

- There is a certain inevitability that as in other fields of business, certain types of market data command a greater return than others.
- Often the value placed on specific data sets is a function of its uniqueness or accessibility, even brand.
- Different businesses will place different values on different data sets depending on their needs. What a treasury department needs is different to an equity DMA business.
- What the business does, drives the relative value of specific types of information and market data to that business, and this varies significantly depending on market participation, and available choice.
- High Value Data Features:
 - Original works providing high value added unique market data. Substitution is not replication.
 - The business decision to subscribe is not discretionary, but the information is considered to be a 'must have' without which the business either cannot function, or cannot compete.
 - The specific data is difficult to replace owing to links to commercial contracts, for instance, how a fund manager benchmarks to a specific index for performance.
 - Importantly, all these proprietary data sets are linked to the underlying price data, and also interact with each other, so datasets cannot be viewed in isolation, but in relative terms.

5 CREATING DATA VALUE QUANTIFYING A PREMIUM

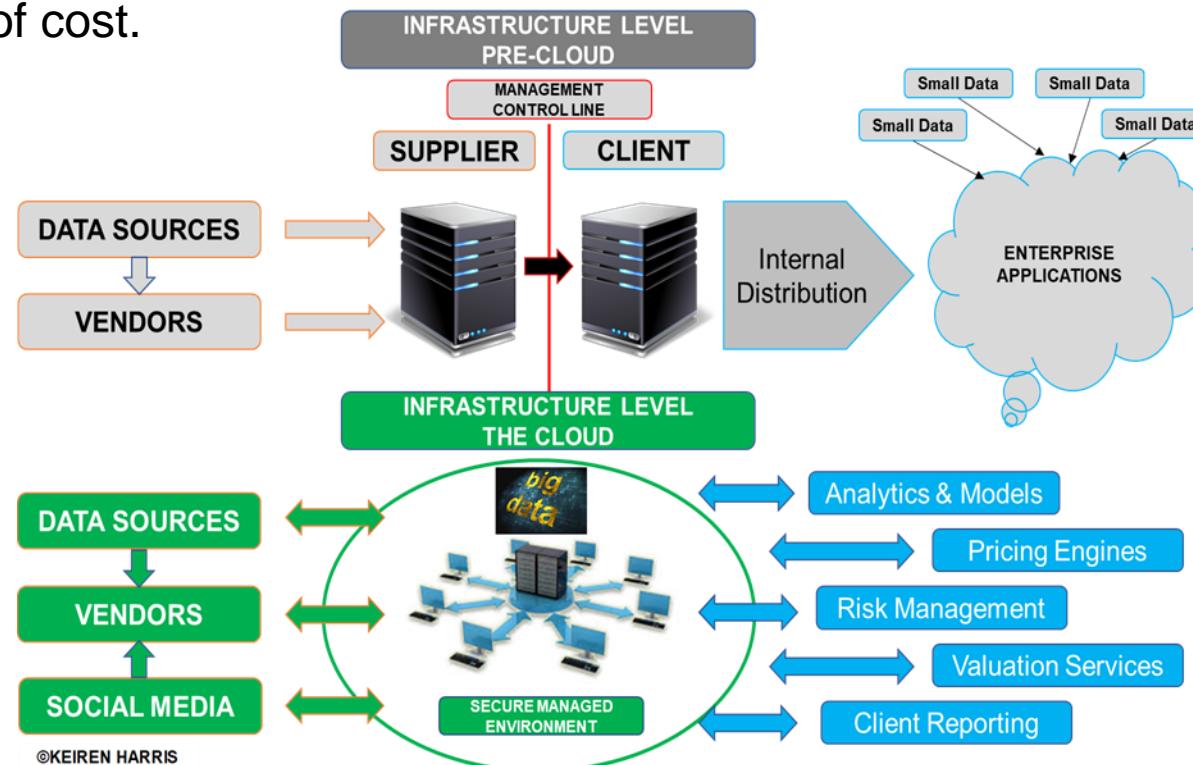
PERCEIVED VALUE	SOURCE TYPE	EXAMPLES	FEATURES	KEY PROVIDERS
HIGH VALUE DATA	ORIGINAL WORKS	INDICES FINANCIAL BENCHMARKS CREDIT RATINGS CREDIT PRODUCTS EVALUATED PRICING UNIQUE IDENTIFIERS REGULATORY, AML, LEI & KYC DATA	Brand, and unique benchmarks locked into contracts. Brand, and unique benchmarks locked into contracts. Brand, and limited number of producers. Brand, and limited number of producers. Limited number of producers, and once embedded in systems hard to displace. Brand, and limited number of producers. Hard to resource and collate data. High value for compliance and risk.	FTSE Russell, MSCI, S&PDJ ICE Benchmarks, TR WM Fitch, Moodys, S&P BGC/GFI, Markit Bloomberg, ICE/IDC, SIX, Thomson Reuters ISINS, Market Red Codes, SEDOLS BVD, S&P GMI, SIX, Thomson Reuters

5 CREATING DATA VALUE DATA SOURCING & QUALITY

- Regulators are placing a greater emphasis on due diligence in sourcing.
- A particular requirement is pricing being either observable transactions, or based upon observable transactions.
- This places pressure on the willingness of market participants to provide pricing for liquidity as a new risk factor comes into play. The validity of a published price.
- The effective is both quantitative and qualitative.
- Key examples of regulatory impacts being IOSCO Principles and FRTB.
- It creates potential liabilities at the source end, so financial institutions will want to know where their prices are going, who sees them, and for what purpose.
- This in turn will focus attention on the composition of datafeeds in terms of who the sources are, and the types of prices they provide.
- This means that an individual price needs to be tagged by source, by type, (lol, tradable, traded).
- Metrics need to be applied to assess frequency, and consistency.
- The quality of the overall data flow becomes measurable and benchmarked in deeper terms than as at present.
- Sourcing and datafeed strategies will be smarter.

6 CHANGING DATA DYNAMICS NEW RELATIONSHIPS

- New technology and infrastructure is changing the inter-relational dynamics between suppliers, vendors, and consumers.
- Gradually at first it is increasingly blurring the lines because one way flows become two way flows, then in turn evolve into multi-directional flows as the inter-connectivity develops in complexity.
- But it is also drawing in value added service providers, ISVs which allow smaller financial institutions, even high net worth individuals to access services and data that where once restricted to larger institutions because of cost.



6 CHANGING DATA DYNAMICS WHAT IS THE CLOUD DOING?

- ‘The Cloud’ is about access and storage, and that is easier access to a wider range of information to a larger audience.
- It means new products and services can be developed and offered around this new accessibility.
- In turn this generates even more market data.
- Access to more market data enhances the utility of new technologies and new players through the need to ingest, process and analyse ever greater volumes of data.
- This in turn releases the potential of ‘Big Data’, AI, and machine learning because existing processes and systems cannot handle the workload.
- This in turn levels the playing fields, especially on the user side as average costs drop allowing smaller financial institutions to access systems and services previously beyond their financial reach.
- It is also impacting the retail sector by opening the doors to new mass markets, though with lower yields but greater volumes.
- Will place pressure on the existing IPR principles of data ownership.
- Business models will need to adapt to changes in IPRs.

7 IPRS & CONTROL WHY MARKET DATA CANNOT BE UBERISED (FOR NOW)

- IPRs are the bedrock of the market data business. The whole business is built on a system of licences.
- ‘The Cloud’ and new technologies bring players which seek to break this model, but in the short and medium term are unlikely to succeed. There are too many powerfully entrenched interests.
- However, expansion and growth in fragmented distribution environments will place increasing pressure on the ability to control, monitor, and report, data distribution flow and usage.



**ONE MISSION
ONLY**



**ONE MISSION AT A
TIME**
**ONE MISSION AT A
TIME**
**ONE MISSION AT A
TIME**



**INFINITE α
MISSIONS**

8 FUTURE GAZING

- There is an exponential expansion in the consumption of data in terms of data points and client base.
- Limitations derived from regulatory emphasis on observable transactions is creating a price discovery problem.
- New technology drives the development of a new client base both in terms of how market data is used and who is using it, and even where. New technology means business location is more likely decided by infrastructure but also business friendliness of the local political administration.
- i.e. ISVs providing value added services. Outsourcing into the Cloud where the analytics are carried out, while the end client takes the outputs. This is a shift in where the processing of market data takes place.
- This enables smaller institutions to compete by accessing data and services once too considered expensive.
- Increase in mass market usage, already seen in online brokerages, expanding into high net worth individuals and the new mass affluent. Google, Amazon, Azure, TenCent & Alibaba, new players with lots of financial firepower.
- Greater fragmentation in sourcing and access, but issues of standard formats and identifiers coming into play.
- Flexibility in usage and infrastructure providing new competitive market advantages for financial institutions. Those locked into legacy technology will find it harder to adapt without very expensive investment.
- IPR protection and the control, monitoring and reporting of data distribution and usage will become increasingly challenging technically, and from a vested interest perspective threatening existing models.
- The overall market will grow, but volume is likely to trump margin in the new markets.
- Business models and strategies must adapt, becoming more targeted, so they become tailored to meet the different requirements of different markets, and business objectives.

DataCompliance LLC

THANK YOU FOR READING

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