

STATE OF THE MARKET

THE BUSINESS OF FINANCIAL INFORMATION 2017

PART 1 MARKET DATA CRYSTAL BALLS: A BUSINESS REVOLUTION

CONFIDENTIAL



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1.1 Gazing towards the Future: Thoughts and Observations

Where is the financial information/market data industry and the businesses which service it, going? Almost certainly in more directions than we are discussing and reviewing here. So, we must first identify and then address the key issues which drive dollar based decisions for providing and sourcing information.

The industry is changing in myriads of ways, but there seems to be both factors and trends which are linked but not obviously completely intertwined.

There are 5 base market data industry elements crucial to its understanding.

1. Original Content. Ability to access the accurate, consistent and timely data provides market moving advantages to the end user. This is of increasing concern to regulators.
2. Sourcing Content. Ability to source the best data means knowing what is available and where to get it, either directly, or via an aggregator. While a lot of market data such as from Exchanges have only one source, the OTC markets have multiple potential sources all subtly but importantly different. Effective sourcing strategies delivers better decision making market data.
3. Delivering Content. Technological advancement is an enabler by providing access to a wider range of data, and increasing its usage across enterprises flexibly and efficiently. Cloud Technology is already acting as an accelerator and is well on the way to becoming the most important strategic business dynamic for information providers and information consumers.
4. Cost and Ownership. Different market data sets have different values, and this is inextricably linked to ownership and the contractual rights to use the market data in permitted ways. In many ways, it is the foundation of the industry, but suffers from being misunderstood in both concept and application.
5. Market data Utilisation. New markets and financial instruments drives demand, better technology brings increased flexibility. This means market data is being used in vastly more ways for more purposes than imagined only a few years ago

Each of these elements are in a state of flux which poses challenges and opportunities for all the players which are currently participating in the market data industry, and opening up doors for new entrants.

Existing leading companies such as Bloomberg and Thomson Reuters have significant advantages which make them powerful competitors, but they like their fellow vendors face internal challenges and a new breed of innovative market entrants with formidable resources.

There are global changes happening to the market data industry affecting the exchanges, OTC markets, technology providers and the end users which can be financial institutions, as well as the man in the street. What are they?

1.2 Open Skies: New Technology Horizons

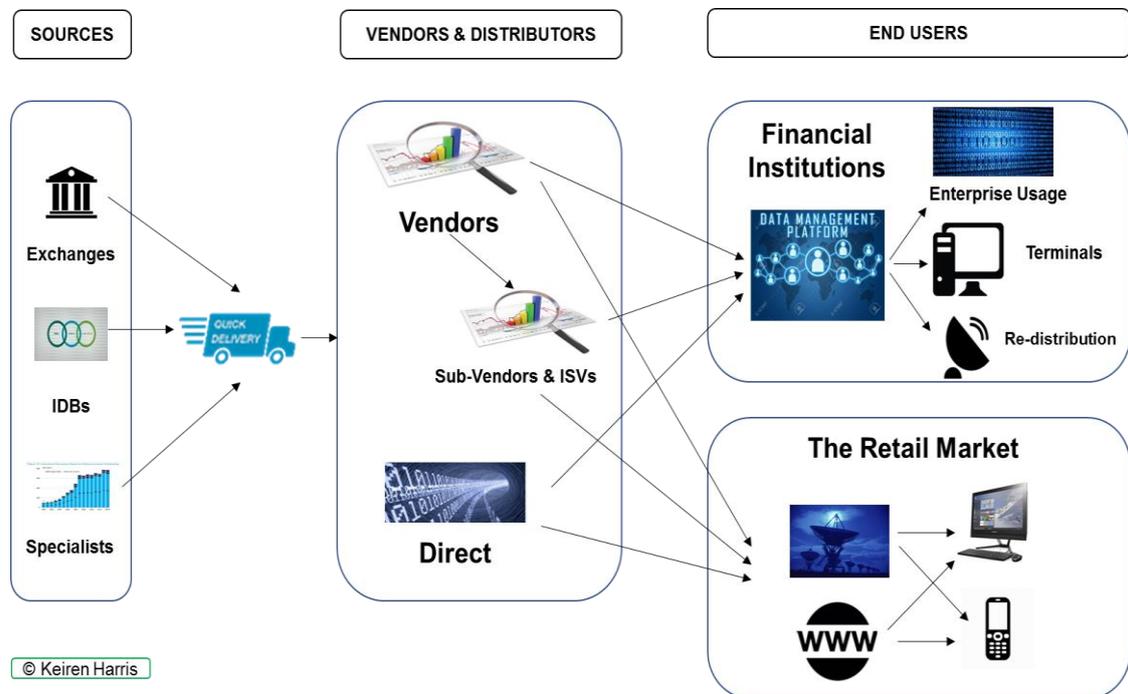
Traditionally there has been a simple linear progression in market data delivery from source via a vendor/aggregator to the end user with a single closed terminal sitting on a desktop.

The view only world.



This then evolved into a more complex enterprise network usage environment where an end user can now be anything from the lone terminal to an application ingesting and re-distributing market data from multiple sources and vendors.

The Networked world.



However, evolution is now being displaced by revolution. New sources, trading venues, and technologies driven by 'The Cloud' and Predictive Analytics are changing the models by which information is delivered, accessed and used.

The Cloud World



In a brave new omni-directional world sources and vendors can slice the market data into their own or user defined components combining with models and analytics that increases the elasticity of usage.

In this world, users can select from pre-packaged, tailored, or their own proprietary solutions to access, analyse and deliver results. All available via multi-layered and discreet data sharing.

Market Data relationship flow is becoming 3D multi-directional rather than 2D linear.

How?

- Innovative technologies like ‘the Cloud’ are breaking barriers to entry for new players.
- Already some players, like in China, are looking beyond the Cloud towards artificial intelligence.
- These new technologies are increasing choice, because they can and are dramatically improving ease of access both for the Buy Side and the Sell Side. It removes the tyranny of artificial technical limitations.
- This results in two impacts reducing the lock-ins of traditional vendors:
 1. New technologies change the infrastructure dynamic. Currently market data gets tied up into multiple known and unknown systems, therefore changing vendors can be a costly, and even virtually impossible, business. Try removing the Thomson Reuters Enterprise Platform (TREP).

2. Contractually. New flexibility in using services needs to be accompanied by changes in contractual terms and conditions. This benefits innovators. Although do not expect the 'uberisation' of the market data world, this is unlikely in the near term, but not impossible for later.
 - Technologies also reduce the costs of service enabling smaller players to compete on a more level playing field with the big boys. It opens new doors and new windows on accessibility.
 - Even the smallest companies can now potentially offer their services globally, as long as they can market them.
 - Specialisation in content driven by quality and a greater understanding of what that content is comprised of.
 - Greater use of analytics to drive usage of market data.
 - Greater use of analytics to understand how market data is being used.
 - The growth in the High Net Worth Individual and New Mass Affluent markets for market data consumption, with analytics. These might be low margin, but the market is potentially huge. East Money in China has 30 Million+ subscribers and growing, compared to Bloomberg with an high yield 300,000+ installed terminal base, getting smaller.

1.3 Changing of the Guard?

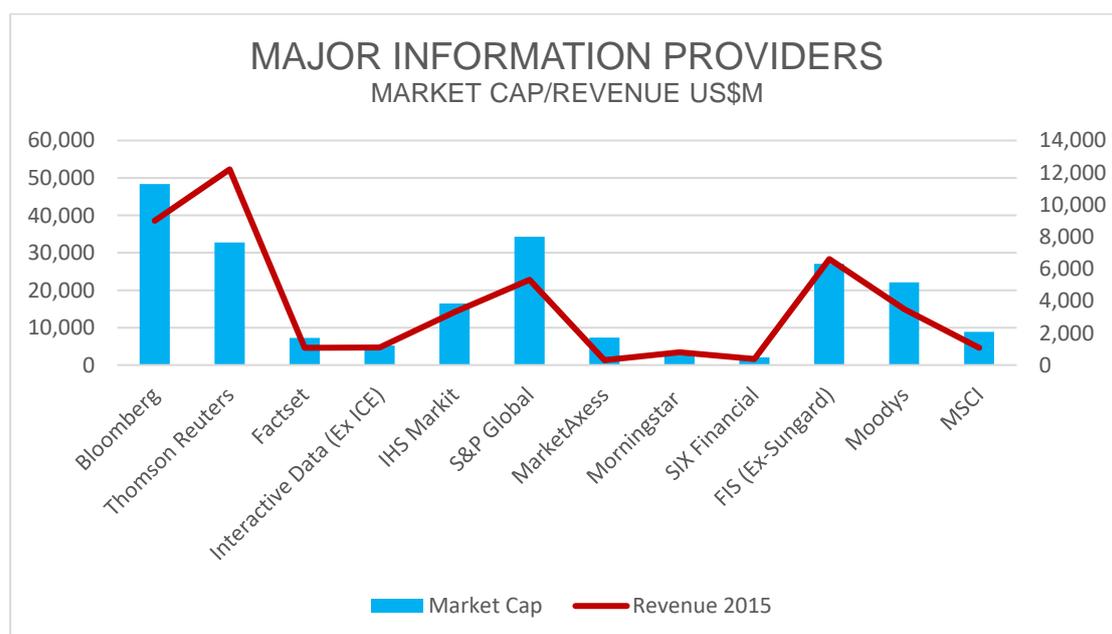
New technology is bringing new market entrants, including the likes of Amazon, Google, IBM, Microsoft, and TenCent. These are the 5 'new' players looked at in the tables below. Equally there are companies such as Accenture which should not be ignored.

There is a commonality, they can deliver technology, services, and information content right the way across the market data and information spectrum through their Cloud based services. While not aggregators in the traditional sense, they are enablers which can act like an information supermarket by creating shop windows for information providers. While not, *at the moment*, directly competing in the aggregation space they are becoming competitors with greater reach than the traditional information providers without being tied to legacy environments.

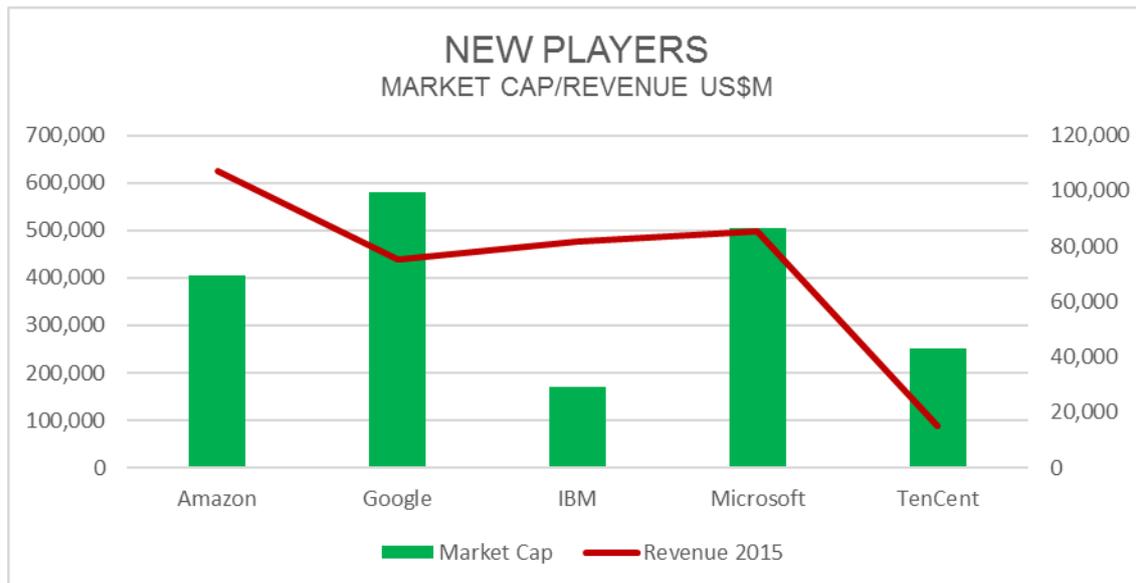
Exchanges, content providers, analytics and newswires are all taking advantage of this reach to make their services available to a broader customer range than was previously available to them.

In pure financial terms, there is a major disparity between the financial numbers of these new potential players and the traditional vendors.

- The 12 leading Information Providers total revenue year ending 2015 was **US\$44,612 Million** with an estimated market capitalisation of **US\$215,066 Million** (as at 3 March 2017).
- In comparison, the 5 potential new players had total revenue year ending 2015 of **US\$364,036 Million** with a market capitalisation of **US\$1,909,792 Million** (as at 3 March 2017).
- The 5 new players have vastly more potential financial firepower with **8.2X** more revenue, and a **8.9X** greater market capitalisation.



Source Thomson Reuters & DataContent



Source Thomson Reuters & DataContent

What is happening to the Information Providers?

- The traditional vendor is in decline. Bloomberg's revenues are not growing as they once were, and Thomson Reuters combines the apparent lack of a long-term strategy with years of relatively static income. Other players are growing faster, with good reasons why.
- Smaller vendors have been swallowed up by new entrants to the direct market data business but which have synergies including looking to leverage proprietary data, i.e. ICE and Interactive Data, or IHS and Markit. Who is next to be assimilated?
- Increased value of proprietary data, i.e. Markit Red Codes, Indices, specialist data. This data while it has always carried a premium, has become even stronger thanks to specific benchmarking. Though in future regulators may seek to control abuse.
- Contractual obligations and Intellectual Property Rights (IPRs) are a licence to print money, and those that know it like Exchanges, Index Creators, and others fiercely police and protect their assets.
- Expect growth in auditing and compliance, across the globe outside the Top Tier Banks, especially for ISV's, original works creators, and retail institutions.
- Ever more and more intrusive regulations drive market data requirements, though for some reason there is a disconnect in that many users do not correlate the two. FRTB being a good example.
- Big dealing rooms are out, electronic trading is in, requiring less seats, combined with the big banks cutting costs.
- Reduced terminal numbers are a consequence, and they look to be in 'terminal' decline within the institutions.
- Margins being low it switches emphasis to use of market data in pre-trade and post-trade applications, analytics and decision making tools.

1.4 Summary: Vive la Revolution!

We are entering revolutionary times, not evolution. In the past, the pendulum has swung between the importance of technology and content. Now both are changing simultaneously, indeed they are feeding off each other.

Big Banks and Big Vendors are locked into legacy systems often exacerbated by a legacy business mindset. Change comes with a very large price tag.

The Big Vendors can rely upon their breadth and depth of coverage, especially Bloomberg and Thomson Reuters. Recreating their contributed content is expensive, timely, and resource intensive. Combined with their installed base they might not be growing but they certainly are not going to just disappear.

Equally their 'stickiness' within trading platforms, risk management systems, portfolio management systems and other enterprise applications means Banks cannot just replace vendors.

The Big Banks have been and continue to aggressively reduce or at the very least control their market data costs. They cannot be relied upon as the main driver for future revenue. This means expanding or creating new markets.

The good news these markets exist, the bad news is that new players are moving in to exploit new opportunities, and are better placed to do this than many of the existing information providers. This is especially true in terms of superior technology, adaptability, market reach, and financial firepower.

As market data and information inputs has become a commodity, new value gets created by output data enhancement through original works and analytics. This plays to the strengths of ICE, Markit, MSCI, and S&P GMI, whose proprietary data, original works and benchmarks cannot be replicated, even if similar data sets are available.

Positively, this is unlocking doors to the emergence of new players, new breeds of players and a re-balancing towards under-served markets, served by new technologies, using more intelligence based analytical products, and by a far greater, albeit extremely cost averse audience.

Unfortunately, there is a very big 'But'. Although technology is an enabler, the end user cannot just do what they like with vast swathes of mission critical data is are subject to ownership and intellectual property rights (IPRs).

Such market data and information comes at cost, and with contractually limited usage rights.

Crystal Ball

- Market Data usage will expand rapidly.
- But average costs of supply will drop even though the overall pie grows.
- Premiums will gravitate more to proprietary datasets.
- Quality is King, but coverage quantity has its own quality.