The Viability of a Single Version of the Truth in the Real World.

As business intelligence continues to feature highly on the IT agendas of companies around the world it seems appropriate to look at one of the key tenets of the subject – the single version of the truth. Is it possible to implement and maintain one without bankrupting your company?

The theory is simple, in order to manage and develop any business you need to understand how that business is operating, and a key insight into this operation is provided by data. Yet for this to be of use, the data presented at all levels of the organisation must be consistent allowing all departments to make the right decisions at the right time. Everyone can tell an anecdote of the meeting from hell where 90% of the time was spent on where the data came from and a mere 10% on making a decision. The single version of the truth solves this by providing a single trusted source of data for the organisation from which all decisions can be made.

This all makes perfect sense, if you want to make a decision, you want to know that the facts you're basing your decision on are accurate. Yet in surveys of decision makers there are a raft of statistics that indicate that people are still largely making "gut feel" decisions through lack of data, a lack of trust in the data or in some cases too much information.

Blockers

So what is making the single version of the truth difficult?

There are a number of factors making life complicated, here are four key ones:

Data Explosion

We have become a data rich society, information is collected routinely by most organisations via a myriad of systems and processes, often in real-time, stored and…. typically left somewhere. This plethora of data complicates the problem hugely, both in number of different data items to be related together and understood and in the sheer volume of data records that need to be maintained, matched and cleaned.

Data quality is a major issue; the "truth" relies on the data being correct. Companies are losing millions of pounds through poor quality data, be it directly through rogue mailings or time wasted sorting out issues or indirectly through customer dis-satisfaction. The scale of the problem can be seen from the wealth of people offering data augmentation and data cleaning services, a manifestation of industry's ability to spot an opportunity.

Organisational Complexity

Business today is complicated; most companies have partners, subsidiaries, contractors, 3rd parties, outsourced services etc that provide some of the services and products sold by the business. As the company size increases so inevitably does the number of departments and groups that need to

contribute data to the single version of the truth. This can have interesting consequences and create contexts where one departments “prospect” might be a 3rd parties “inactive customer”.

Data Ownership

Interestingly data ownership issues come in three forms;

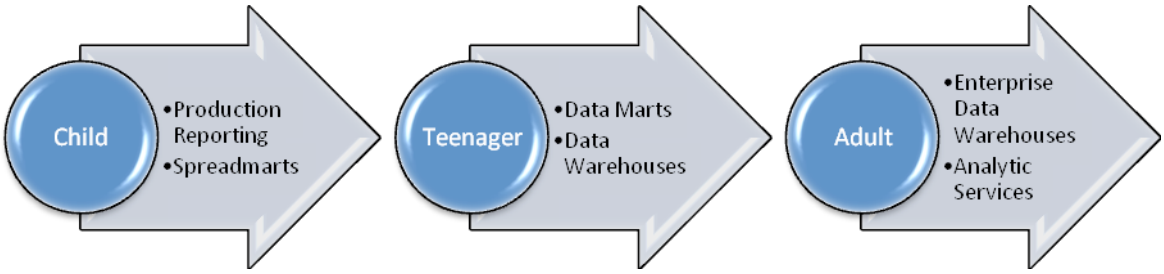
- Those that own the data and won’t share it. This is often a key measure in the organisation, and for some reason its derivation is deemed secret. Yet if it’s a key measure people need to understand how to improve it.
- Multiple groups who claim ownership of the data. This is a common issue and the source of many of the inconsistencies in an organisation as each owner calculates the number differently.
- Those that won’t admit to owning the data. This is also a big problem, the situation where a group will not improve their processes to improve the quality of the data that is crucial to other groups.

Ownership is a fundamental blocker to the creation of a single version of the truth.

Age of systems

IT systems have now been mainstream for a number of decades; as a result even the smallest company has some form of automation, while the largest conglomerates are awash with systems. In fact it is rare in a larger company to find single instances of a core system such as billing. We have moved through a number of cycles of IT development from automation to the Internet, we’re currently in an age of simplification, firms are wrestling with how to simplify their IT infrastructure and migrate from expensive legacy systems. Again a small industry is emerging to take on old systems or re-write legacy processes, the sign of opportunity.

BI Maturity: The lifecycle



Companies develop their business intelligence capability over time.

Initially (the Child Phase) this is based around static reports and spreadsheets. At this stage our version of the truth is relatively easily found. As time grows the business becomes inundated with spreadsheets and a realisation occurs that data needs to be consolidated and presented to the business in a more consistent manner. Data marts and data warehouses are created. This realisation is often the result of an unfortunate event such as missing orders, inability to contact customers effectively, or excessive effort required to close out the books. This jump from Child to Teenager is a small gap and therefore relatively achievable as the impacts are obvious and the solution possible.

During the teenage years Marts and Warehouses will be developed, in fact on average a company will have 4 to 5 data warehouses. This is the stage at which the single version of the truth comes under most pressure. There is a tendency for each department to land-grab and create its own BI department gathering and garnering statistics. The issues start to arise and usually manifest themselves in conflicts between the figures reported by different departments and those reported centrally, an inability to gather and report official figures to the regulators without inordinate amount of manual effort due to reconciliation issues between groups or an outage in one area highlighting a crucial dependency that has grown up in the organisation.

To move on the company has to cross a chasm that is a move from departmental warehouses to a single enterprise-wide warehouse and then providing a series of analytical services on the warehouse. This is hard as it involves gaining consensus amongst the disparate groups in the organisation. This is largely a cultural and business process problem, technically a solution can be defined but its shape and efficiency is determined by how the organisation wants to govern their data and operate their business.

Given this maturity model how can a viable single version of the truth be obtained?

Achieving a viable solution

It is possible to achieve a viable single version of the truth; in fact it is probably a business imperative. As with all IT programmes the core concepts are simple, they just take a bit of effort to achieve.

First and foremost the problem needs corporate leadership, someone on the executive team needs to understand the importance of the problem and then lead the organisation through the journey. This leadership is vital if the right level of data governance is to be achieved and if the politics of the organisation are to be kept at bay. Compliance rules are actually helping here, most modern executives are only too painfully aware of misrepresenting their organisation and as a result the need for accurate data is higher up their agenda; utilise this to gain your sponsorship.

The “Single” word in our version of the truth relates to the data item, so there should only be one sales revenue figure for Quarter 1. This doesn’t mean that all data needs to be stored in one place simply that when collating reports and presenting data all areas of the business know where to go to get the appropriate data item. Indeed in larger companies it will be nigh on impossible to have a single database to hold this information, some form of federation of the data, usually by department or business function is inevitable.

Strategy is important, identify the key measures and goals of the business or real pain points and then plot a course to build your single version of the truth. The key is to start small and evolve. This can be difficult if you have struggled for years to get a budget and now you want everything to happen at once but resist the urge, a phased approach will prove most effective in the long run. If you define and implement a few measures successfully, people will use them and then they will ask you for more. Successful business intelligence implementations are easy to spot, the teams are always busy dealing with new requests. So this is important in defining your strategy to ensure that it has the ability to grow.

Part of this strategy must be a definition on how you will handle what has become known as Master Data Management. This is the data that is shared across departments and acts as the company's lingua franca. Typically it covers customer data, products, hierarchies for regions, sales channels etc. This is the glue that brings data together and allows a common, consistent reporting framework. There has been an explosion in vendors claiming to support Master Data Management (MDM) and the concept is gaining traction in the large corporates. It is important but at its most fundamental it is about having a single system/source of data for a particular data set i.e. Product.

Finally data cleaning and data quality is crucial to the success of the single version of the truth. Data needs to be trusted to be used, business users can smell bad quality data so it's important to invest in processes that maximise the data's quality. Most importantly these should not be one off processes, data quality will always get poorer, so put in place a set of checks and balances and try and resolve the underlying issues rather than constantly cleaning the data.

The future

The next few years look like they will be dominated by Service Orientated Architecture (SOA) and Master Data Management (MDM) developments. Vendors are rushing out tools and concepts in these areas and this is good news. Both of these initiatives are about aligning IT systems to support business processes. This should result in better data related more closely to business processes and our single version of the truth should be become more easily achievable as a result.

In Closing

In reviewing the viability of the single version of the truth, we have seen that there are some pretty significant challenges to overcome. These challenges are weighted towards cultural shift and business process change rather than technical issues per se. Thus any project/programme must define its strategy, get the executive buy-in and then focus on the key problems at hand, do this and you will maximise your chances of success. It will be hard work, but the rewards are high, good luck!