BELLATEQ
THE ART & SCIENCE OF TEQNOLOGY

# Actionable Intelligence versus Business Intelligence

> *"Statistics may not lie, but they do tell a lot of irrelevant truths."*
>
> - Andrew Marks
>
> -

After spending what are often unprecedented amounts of time and money to build a world-class business intelligence and information delivery system, one of the hardest things to do is to get people to ignore the haystack of business intelligence they are able to create in order to focus on the needle of actionable intelligence that they need to drive better decisions, improved effectiveness and enhanced efficiency.

Given advances in data warehouse technology, business intelligence query engines and user-friendly interfaces, humans can now get answers to questions faster than the questions themselves could be asked just a few years ago. The ease with which high-quality business intelligence can now be delivered to the desktop and handtop can lead to information and BI overload.

Later in this publication we will explore the concept of Data Quality including a detailed discussion around the characteristics that differentiate high-quality data from low-quality data. It is important, at this time, however that I introduce one of those characteristics – that of Relevance.

As you will read later in this publication, data is relevant if it has bearing upon or is related to the question, issue, concept, operation or strategy at hand. Relevant data is pertinent and has a material relationship to a topic of discussion, decision to be made or strategy to be defined and executed. While one of the three fundamental characteristics that drive data quality, Relevance is the single measure that differentiates business intelligence from actionable intelligence.

Having been introduced earlier to the Data Maturity Lifecycle, we now know that Business Intelligence is the technologically based understanding that drives strategy. Consider then that you are attempting to define and implement a strategy to improve market penetration and net sales results in the 28 – 36 year old demographic in the Northeast section of your sales territory. While high-quality business intelligence around the relationship between the company's increased investment in continuing education investment and reduced level of employee turnover is certainly important intelligence, it is hardly relevant to the strategy we are trying to define, the future state we are trying to create and the results we are trying to achieve.

Given this, let us now add one more metaphysical state to the Data Maturity Lifecycle; that of Actionable Intelligence. Let us then define Actionable Intelligence as Business Intelligence that has a high degree of relevance to the strategy we are trying to define and execute.

Finally, let's agree that while Business Intelligence will be used to measure the results of a strategy, it is actionable intelligence that will be best used to help us define the strategy itself.

# Information Asset Types

| Output Type | Output Type Code | Description |
|---|---|---|
| ***Process Results Reporting Assets*** | | |
| **Detail Report** | Rd | Row (record) x Column (field) presentation of specific data elements within a defined range of upper and lower boundaries.<br>Detail Reports commonly contain break-point sub-totals and interim calculations based on key parameters along with report-wide totals and summary metrics. |
| **Summary Report** | Rs | Summary Reports contain only the break-point sub-totals and interim calculations of key parameters along with report totals and summary metrics.<br>Summary Report users often "drill down" from a particular summary metric in the Summary Report to the related detail in the appropriate Detail Report |
| **Exception Report** | Re | Columnar presentation of specific data elements where the value of at least one key element falls outside the upper / lower boundaries of defined selection criteria<br>Exception Reports commonly contain the same columnar fields as Detail Reports. However their content is limited to those records that fall "outside the norm" as defined by selection parameters and criteria |
| ***Performance Monitoring Assets*** | | |
| **Scorecard** | Sc | Graphic and numeric presentation of the results of operations, activities and/or work streams executed within a defined historical period of time.<br>Scorecard contents are a static snap shot as of a past point in time |
| **Dashboard** | Da | Graphic presentation of the current state and status of on-going operations, activities and/or work streams.<br>Dashboard contents are dynamic and, as such, should represent current state as of the point in time that they are viewed (Please see "Data Freshness" herein for additional information on real-time Information delivery and Business Intelligence) |
| ***Operational Control Assets*** | | |
| **Warning** | Wa | Call for attention to a specific current state |
| **Alert** | Al | Call for attention to a predicted future state that may exist given the projected results of current-state operations, activities and/or work streams. |

# Information Asset Samples

Sample Detail Report

| Contract Type | Contract Owner | Contract Code | Years Remaining |
|---|---|---|---|
| 401K | Alfradino Ferrari | 983719990137 | 7 |
| 401K | August Duesenberg | 063717900137 | 7 |
| 401K | Charles Rolls | 205888520158 | 4 |
| 401K | Claude Johnson | 285679320156 | 7 |
| 401K | Ebbet Lobban Cord | 915692590156 | 4 |
| 401K | Enzo Ferrari | 483829840138 | 8 |
| 401K | Ferdinand Porsche | 563406150134 | 8 |
| 401K | Gordon Buerig | 323723830137 | 8 |
| 401K | Henry Royce | 315679330156 | 7 |
| 401K | Sterling Moss | 870816880108 | 7 |
| 401K | Tazio Nuvalari | 783721270137 | 7 |
| 401K | Wilhelm Maybach | 303438130134 | 8 |
| ***401K Count*** | | | ***12*** |
| 403(b) | Fred Duesenberg | 273718220137 | 8 |
| 403(b) | Giotto Bizzarini | 573723350137 | 7 |
| 403(b) | Louis Delage | 373726430137 | 7 |
| 403(b) | Maurice Schwartz | 802465197325 | 4 |
| 403(b) | Walter M. Murphy | 913445890134 | 4 |
| 403(b) | William Lyons | 061834510864 | 4 |
| 403(b) | Ferrucio Lamborghini | 123444710134 | -8 |
| **403(b) Count** | | | **7** |
| Non-Qual | Anthony Lago | 975642090156 | 4 |
| Non-Qual | Gottlieb Daimler | 005342300153 | 4 |
| Non-Qual | Henry Ford II | 854979320156 | 4 |
| Non-Qual | Jean Bugatti | 485715740157 | 0 |
| Non-Qual | Thomas Hibbard | 561248320140 | 8 |
| **Non-Qual Count** | | | **5** |
| SEP IRA | August Horch | 503446750134 | 4 |
| SEP IRA | Emile Delahaye | 243718720137 | 8 |
| SEP IRA | Ettore Bugatti | 773829670138 | 7 |
| SEP IRA | Giuseppe Figoni | 185752210157 | 0 |
| SEP IRA | Harley Earle | 410211548078 | 8 |
| SEP IRA | Ovidio Falaschi | 415756740157 | 8 |
| SEP IRA | Vittorio Jano | 116140410161 | 7 |
| **SEP IRA Count** | | | **7** |
| Report Count Total | | | 32 |

## Sample Summary Report

Retirement Contract Data Analysis Report
**Count by Contract Type**
As of December 15, 2005

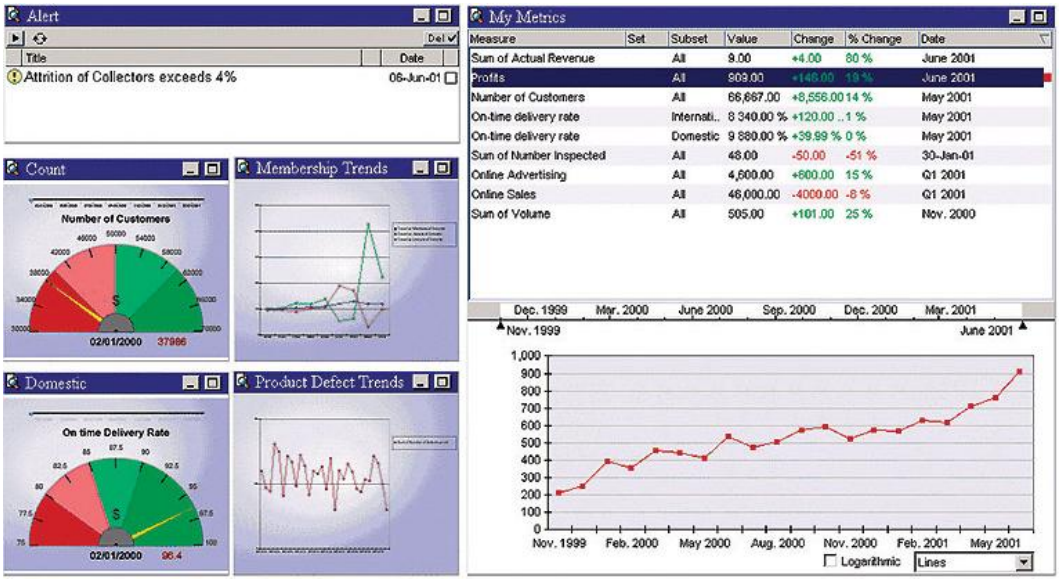
| Contract Type | Years Remaining in Contract | | | | Grand Total |
|---|---|---|---|---|---|
| | 0 | 4 | 7 | 8 | |
| 401K | | 3 | 6 | 4 | **13** |
| 403(b) | | 1 | 2 | 1 | **4** |
| Non-Qual | 1 | 2 | | 1 | **4** |
| SEP IRA | 1 | 1 | 3 | 2 | **7** |
| **Grand Total** | **2** | **7** | **11** | **8** | **28** |

## Sample Exception Report

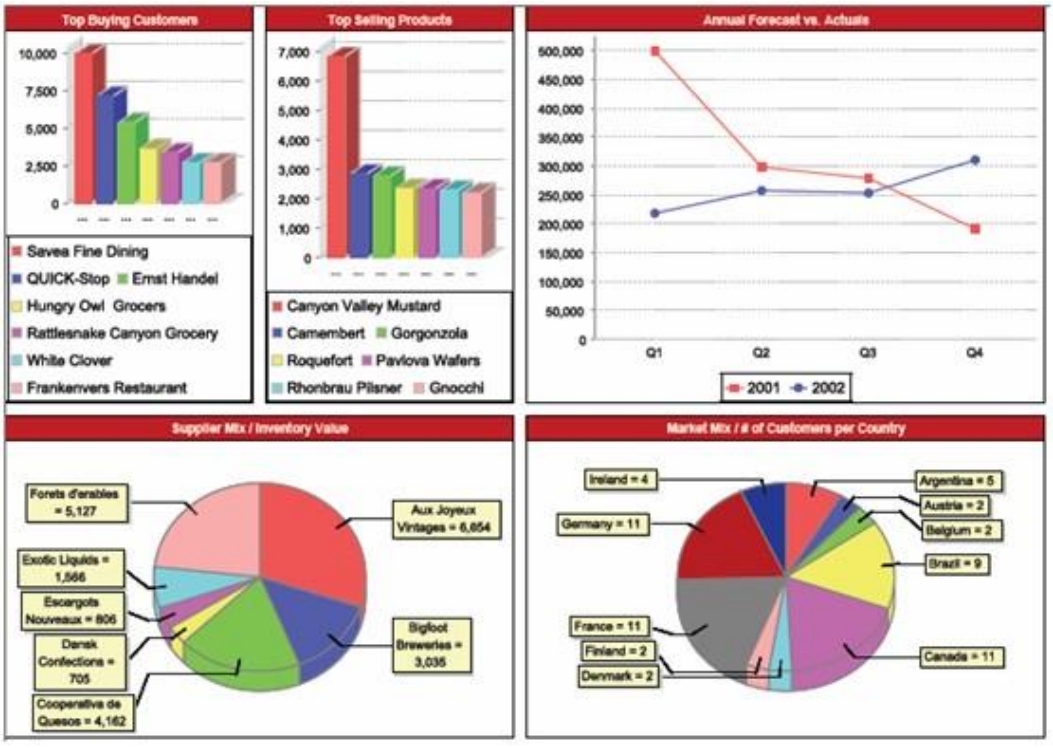
Retirement Contract Data Analysis Report
**Expired Contracts and Contracts with Invalid Years Remaining**
As of December 15, 2005

| Contract Type | Contract Owner | Contract Code | Years Remaining |
|---|---|---|---|
| Non-Qual | Jean Bugatti | 485715740157 | 0 |
| SEP IRA | Giuseppe Figoni | 185752210157 | 0 |
| Non-Qual | Edsel Ford | 993721290137 | -2 |
| 401K | Nicola Romeo | 215827420158 | -5 |
| 503(b) | Ferrucio Lamborghini | 123444710134 | -8 |
| **Report Count** | | | **5** |

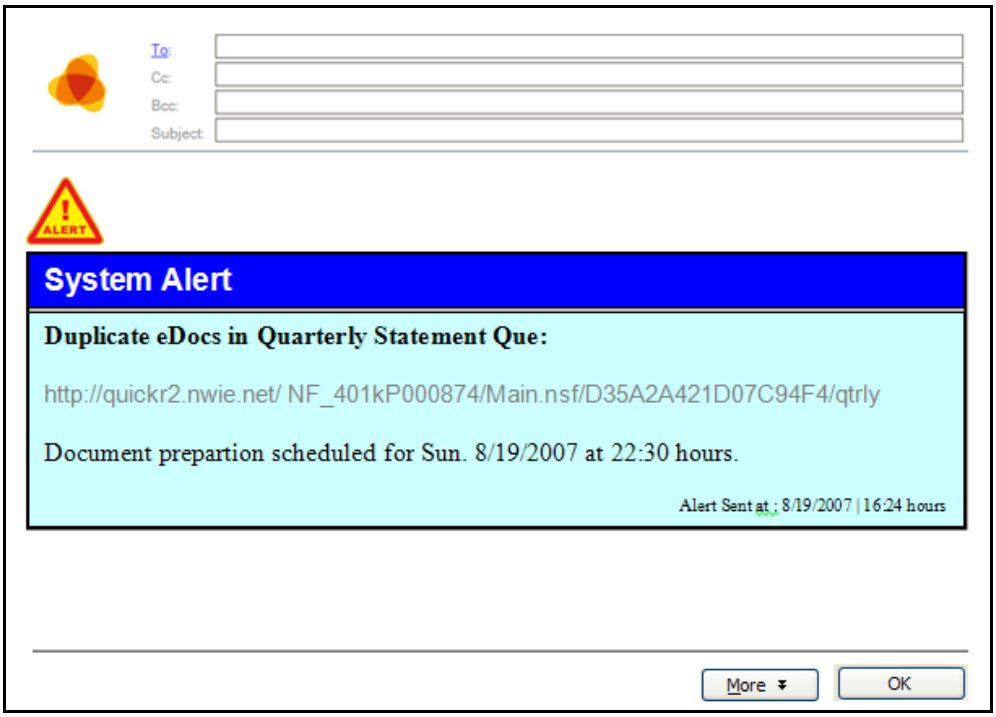
## Sample Scorecard



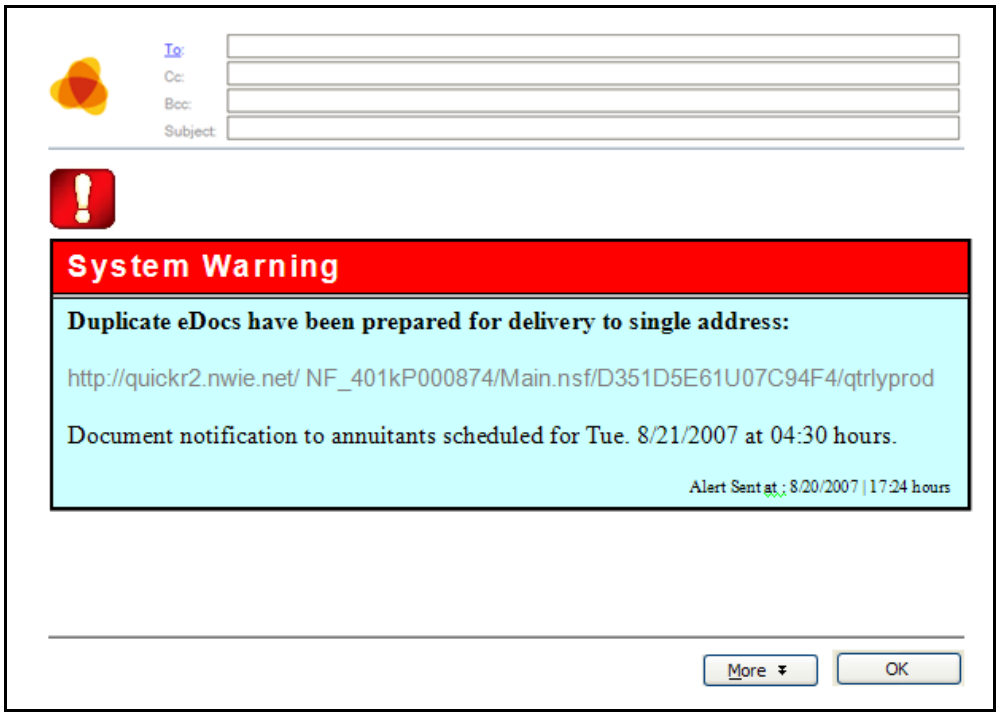

## Sample Dashboard



## Sample Alert




## Sample Warning



# Appendix A – Glossary

| Term | Definition |
|---|---|
| ***- A -*** | |
| Accuracy | A measure of Data Quality. An objective evaluation of the level of defect or degree of error. Precision and Accuracy are synonyms when discussing Data Quality |
| Agile Approach | A project management methodology based on constant interaction between the project team and user community where progress is reviewed and priorities updated constantly based on changing project forces and user demand |
| Alert | High-level message from Information Delivery and Business Intelligence system that predicted future state, based on current operations, may not be within acceptable thresholds |
| Algorithms | Collection of specifically defined rules, steps and processes, to be executed in a specified cadence in order to solve a problem |
| Asset | Any end-user facing output of an Information Delivery and Business Intelligence system. Assets consist of Reports, Scorecards, Dashboards, Alerts and Warnings |
| ***- B -*** | |
| Business Intelligence | "BI". The third level of maturity in the Data Maturity Model. Business Intelligence is the comparative result of information to internal and external metrics |
| ***- C -*** | |
| Calculations | Arithmetic operations applied to numeric Data in order to convert it into Information |
| Concatenation | Method of textual data manipulation where multiple strings and/or sub-strings from multiple alpha-numeric data fields are combined to create a new text string. Concatenation is the opposite of Parsing. |
| Current State | Systems, operations, processes and work flows as defined and in force at the current time |
| ***- D -*** | |
| Dashboard | Graphic, dynamic representation of current operations updated continuously |
| Data | A specific characteristic and/or result of an action, work flow, process or operation |

| Term | Definition |
|---|---|
| Data Architecture | The underlying structural composition of a data storage unit. Data Architecture documentation represents the “blue print” used to build and support data structures including databases, data warehouses, data stores and data marts. A Data Architecture defines the characterics and requirements of all data elements within a data storage unit. |
| Data Freshness | A measure of how recently data has been updated with regards to the most recent operations cycle. The more time that elapses between updates the less Fresh data is considered and the lower the overall data quality measure as less Fresh data is considered less accurate |
| Data Mart | A collection of data elements grouped according to a common job function |
| Data Profile | Specific details regarding the characteristics (Type, Format, Picture, Default Value) of each field within a database Architecture |
| Data Steward | Individual empowered to enforce and oversee the administration of a Governance Model |
| Data Store | A collection of data elements grouped according to a common reporting asset |
| Data Structure | The definition and configuration of and relationship between Data Warehouses, Data Stores and Data Marts |
| Data Update | A revision of existing data and addition of new data to a data storage unit based on all operations and work flows that have been executed since the last Data Update |
| Data Warehouse | A collection of data elements grouped according to function |
| Deliverable | See “Asset” |
| Delivery | Movement of an Asset from the source system to the end user |
| Downstream Flow | Flow of data from its native source system to a central storage facility (often a Data Warehouse) and the flow of assets from the central storeage facility to end users. Data that goes from its native source to a warehouse is said to flow Downstream. |
| ***- E -*** | |
| Effectiveness | A measure of one’s ability to complete a work stream, operation, process or function such that the end result is the anticipated / expected current state and/or Asset. And operation can be Effective irrespective of whether or not it is efficient. |

| Term | Definition |
|---|---|
| Efficiency | A measure of the human and financial costs required for a work stream, operation, process or function to be Effective. An operation may be Effective without being Efficient, but it can not be Efficient without being Effective. |
| End-User | Consumer of assets generated by and delivered from the Information Delivery and Business Intelligence System. |
| End State | System, operations, processes and work flows projected to be in force as of the completion of specified project or work stream. |
| ETL | Extraction, Transformation and Loading of data as it flows Downstream from it's native source to a centralized data storage facility |
| Event | A metaphysical state of being inside the Enterprise that has significance within the Information Delivery and Business Intelligence System. Also see "Trigger" |
| ***- F -*** | |
| Firewall | A system of related security measures and access devices within a technological environment in place to control and monitor access to data elements |
| Format | Physical presentation design of assets; Placement and presentation details of Reports, Scorecards and Dashboards. Also see "Layout". |
| Future State | Systems, operations, processes and work flows projected to be in force as of a point in time that has not yet occurred but is still to occur |
| ***- G -*** | |
| Gated Approach | A project management methodology based on interim interactions between the project team and user community. The occurrence of these interactions is tied to the accomplishment of certain goals or the completion of some phase of design of an end-state asset |
| Governance | A system of security measures, data quality measures, data management processes, user password protocols and technology standards administered and overseen by Data Stewards |
| ***- I -*** | |
| Information | Numeric, Date and Time Data elements that have been manipulated according to arithmetic and/or statistic operations.<br><br>Textual Data elements that have been manipulated according to alphanumeric manipulations including Concatenation and Parsing |
| Information Asset | See "Asset" |
| ***- L -*** | |

| Term | Definition |
|---|---|
| Layout | The physical configuration and design of of an Information Asset. Also see "Format" |
| ***- M -*** | |
| Metadata | A component of the Information Delivery and Business Intelligence system that translates user requests for information and BI into executable queries. The Metadata component translates end-user speak into computer-speak |
| Metric | A unit of measure defined by an Enterprise as an indication of process, operations or work stream results and/or impact |
| Mining | Collecting data elements from the results of operations, procedures or work streams |
| ***- P -*** | |
| Parameters | Boundaries set to control Data, Information and Business Intelligence content presented in Reporting Assets. Parameters may be numeric, textual or date/time in format and are often provided in pairs with one upper and one lower boundary. Exceptions include single parameters provided when a standard deviation is allowed as a qualification for content inclusion |
| Parsing | Separating a single textual string into multiple textual strings. Parsing is the opposite of Concatenation. |
| Portal | A gateway through which end users can access both the Presentation Layer and certain Information Assets. Intranet Portals are contained within a private internal network while Extranet and Internet Portals are available for use to authorized users outside the Enterprise. |
| Pull Delivery | Method of presenting Information Assets according to a specific user request |
| Push Delivery | Method of presenting Information Assets automatically to end users irrespective of a specific request |
| ***- Q -*** | |
| Query | Commands and parameters passed to a data source resulting in the extraction of a sub-set of data that is valid given the limits of acceptability defined by the parameters |
| ***- R -*** | |
| Relevance | A measure of Data Quality. A subjective evaluation of the degree of impact Data, Information or Business Intelligence can have at a point in time |
| Report | A type of Information Asset. Detail Reports contain specified data elements for all records that fall within the defined selection range. Summary Reports |

| Term | Definition |
|---|---|
| | contain statistically and arithmetically calculated Information that present a macro view of the content of a related Detail Report. Exception Reports display specific data elements for records that fall outside the defined selection range. |
| ***- S -*** | |
| Scorecard | A type of Information Asset. A static, numeric and textual summarized representation of the results of actions, work streams, operations or processes executed during a previous time period. |
| Security | Protection of the Intellectual Assets that are Data, Information, Business Intelligence and the calculations, methods and processes by which they are created. |
| Steward | See “Data Steward” |
| Strategy | Collection of actions, work streams and processes designed to accomplish a defined end state |
| Subject Matter Expert | Individual with deep level of understanding and extensive experience in a specific area of business operations or function |
| Subscription Delivery | Method of presenting Information Assets to end users where the asset is automatically Pushed to the end user based on the specific delivery details included in a Subscription. A Subscription is a user request for information that is issued once by the end user and then retained within the system and repeated according to a prescribed cadence |
| ***- T -*** | |
| Timeliness | A measure of Data Quality. A subjective comparative evaluation between when an Information Asset is received by an end user and when that Asset may impact the end user’s actions, decisions and/or work streams. |
| Trigger | An metaphysical state that, once achieved, will cause an action or series of events to occur. Please also see “Event” |
| ***- U -*** | |
| Upstream Flow | Flow of data from end users to a central data storage facility. Data that is manually entered into the system is said to flow Upstream. |
| ***- W -*** | |
| Warning | High-level message from Information Delivery and Business Intelligence system that current-state is not within acceptable thresholds |