

**QlikView**

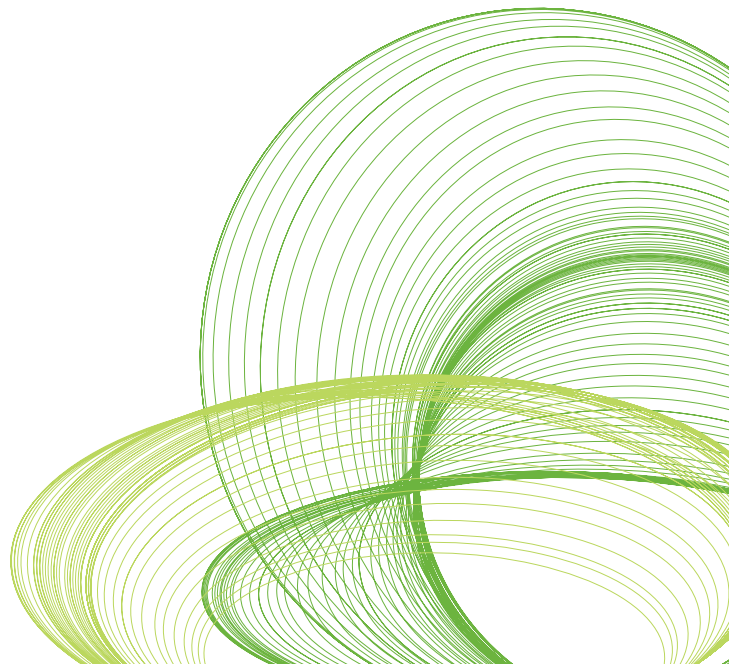
# UNIVERSITY OF ST. ANDREWS

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A Customer Value Study

November, 2011

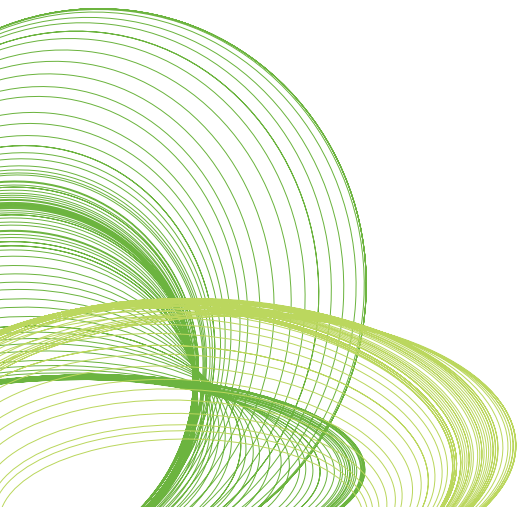
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# QlikView

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## Introduction

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In 2009, the University conducted an Administrative Systems Review project that identified a number of issues regarding the quality and structure of its data at source. In order to source and collate the accurate and reliable data required to drive business decisions and meet the requirements of statutory returns, the need was identified to invest in the University's business systems and purchase an effective business intelligence tool. The subsequent tender process identified QlikView as the most suitable tool because it was considered to be fast, user-friendly, quick to develop, quick to learn, able to connect diverse existing data sources and had the capacity to enable the University to do what it needed to do. Other perceived strengths were its very flexible security and site licensing models and the fact that it was already being used by some other institutions in the higher education sector.

Implementation was achieved at the University in 2010 utilising just ten days of QlickIT's Consulting Services which was deemed to represent very good value. Since then, a number of applications have been developed for use across the University and several more are in different stages of planning and development. A summary of which QlikView applications are already in use or in development follows.

## QlikView Applications

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### **REGISTRY**

Registry is the main central administrative department, providing services in the areas of: Student records, curriculum management, examinations and timetabling, and statistical reporting. Two QlikView applications are currently in use by Registry: Approved Student Numbers (ASN), and Student HESA Return Helper.

Other QlikView Registry applications are also in development: National Student Survey (NSS), iGrad, HESA Analysis, Paperless Admissions.

### **STUDENT RECRUITMENT & ADMISSIONS**

Student Recruitment & Admissions is the department responsible for co-ordination all Undergraduate and Postgraduate applications to the University. A Geographic Mapping application has been developed to illustrate the geographic location of student applications.

### **HUMAN RESOURCES**

HR supports the University through the development and delivery of people management strategies and a range of professional support, information and advice services consistent with employment legislation and best practice. Two QlikView applications are currently in use by HR: Staff Directory and the Casual Staff best practice, Work Force Planning.

### **FINANCE**

The Finance Department is responsible for the production of the University's financial and management accounts, and for the administration of its financial processes. Four QlikView applications are currently in use by Finance: Grant Analysis, Research Grant Spend Analysis, Budget Monitoring, and Finance Customers.

Other QlikView Finance applications are also in development: Expenses Reporting, Month End Process. Cyclops Integration.

### **ESTATES**

Estates are responsible for the management and maintenance of the University estate facilities. A Management Reporting application has been developed to help inform the department's business planning.

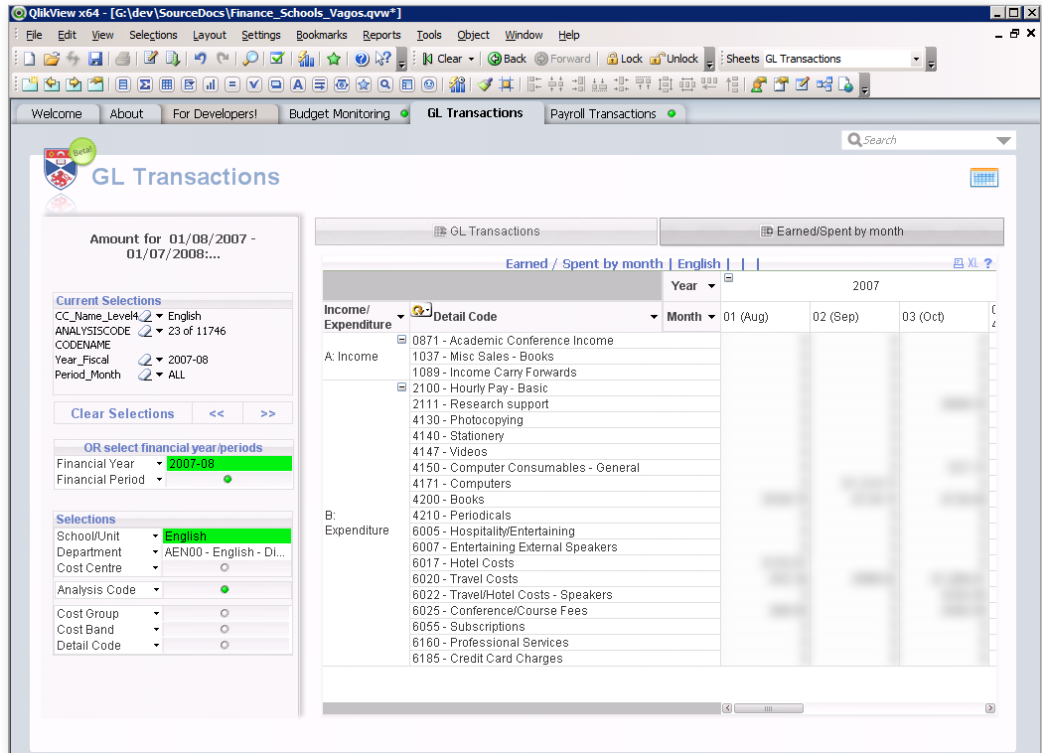
### **OTHER FUNCTIONS**

No other QlikView applications are yet in use by other administrative functions. However, in addition to the 12 applications in development referred to above, another nine are in development across other areas including the Principal's Office.

One academic School, Computer Science, has also developed its own applications.

# Executive Summary of QlikView's Value to the University

Figure 1. Finance Reporting.



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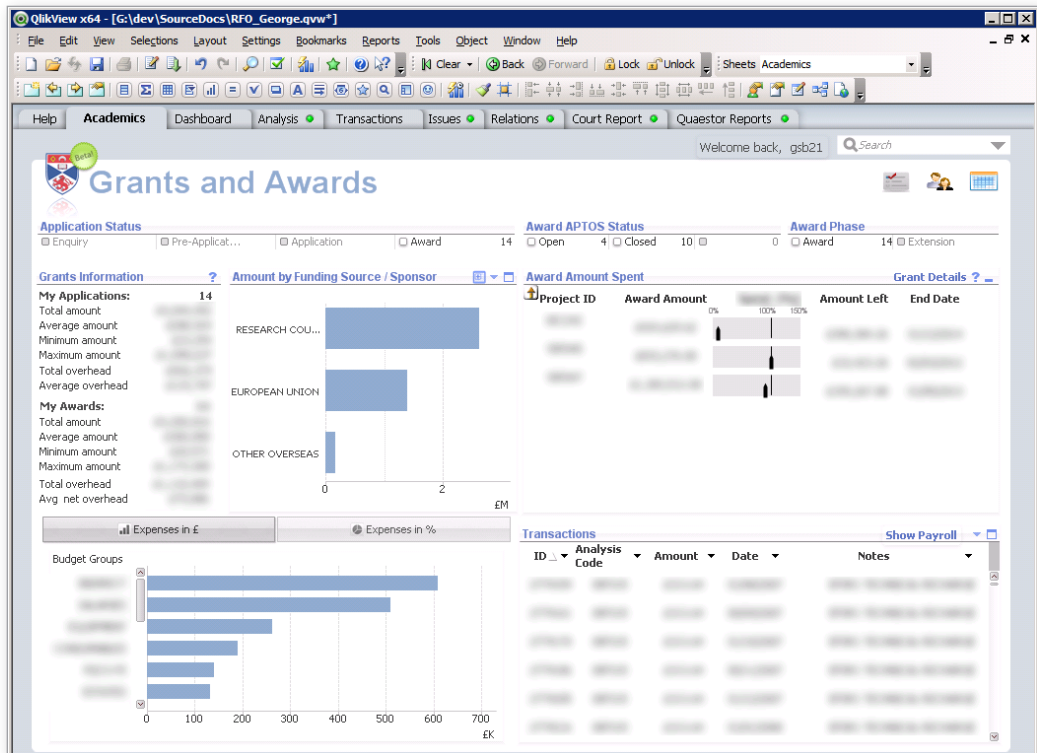
The process of developing and implementing QlikView at the University of St Andrews started only relatively recently in 2012. However, QlikView applications have already enabled the institution to achieve efficiencies and enhancements in the provision of its diverse management and administrative services. Progress has been most notable within the areas of HR and Finance where connectivity between their respective data sources has been achieved to mutual benefit. QlikView is now considered to be integral to the University's strategic plan because of its capacity to join up diverse data sources and to provide greater confidence in the data by exposing issues at source. Financial savings are also being made by consolidating on one reporting system and now renewing other licences (for example, £4k per year has recently been saved on one small Cognos licence alone).

It is expected that more benefits to the University of QlikView implementation will become apparent in 12-18 months' time. By that stage, more applications will have been developed and implemented across the institution and the existing applications will have become intrinsic parts of the University's management and administrative functions.

# In Depth Overview of QlikView Applications

## REGISTRY

Figure 2. RFO Academics Dashboard.



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The responsibility for maintaining an accurate and up to date register of all current and enrolling students represents a significant challenge for the University's Registry. The expansion of student numbers in recent years has been matched by growth and diversification of study programmes, study modules, levels of entry, modes of study and sources of student applications. The QlikView applications developed for Registry are still in the early stages of implementation but they are already helping to generate accurate and reliable reports for the critical purposes of strategic planning and statutory returns.

The University's student population data changes on a daily basis. The Approved Student Numbers (ASN) application has enabled staff to obtain an accurate record of the student population at a given point in time by pulling together data from different sources. It was previously necessary to compile such reports manually which proved time-consuming and subject to data inconsistency and error. The application has proved beneficial in exposing such data issues and enabling Registry to plan measures to control them. In making the student population data readily accessible and accurate, the application enables the University to make comparisons, identify trends and areas of risk, and ultimately to plan its strategic development.

It also enables the University to compile reports for numerous statutory returns including the Higher Education Statistics Agency (HESA) annual return. Such returns are mandatory requirements that must be fulfilled by the University in a timely and accurate manner to ensure that it complies with its statutory requirements and also receives the appropriate levels of public funding. Government policy dictates, for example, the level of funding awarded for enrolling students from non-traditional backgrounds (widening participation). The ASN and HESA Return Helper applications help to ensure that all submitted returns include accurate and up to date data. They have saved significant staff time in Registry that would previously have been spent compiling data manually from different sources. That time can now be invested in fulfilling Registry's numerous other services to the University staff and student population.

It is also expected that other QlikView applications currently in early stages of development for Registry will enable it to provide an enhanced service to students and their academic departments through the creation of complete individual student records and curriculum pathway models.

## Student Recruitment & Admissions

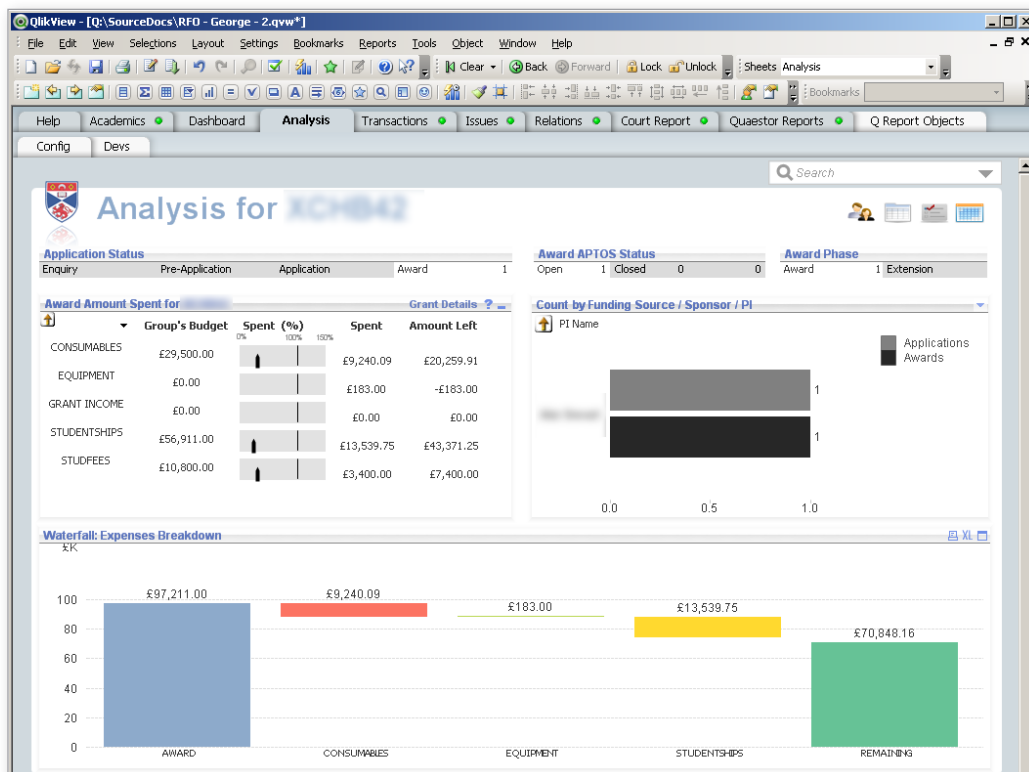
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The Geographic Mapping application has recently enabled the University to visualise the geographic location of all of its Undergraduate and Postgraduate student applications. The main advantages of this tool are the convenience, ease of use and speed at which this information is now made available to staff involved in student recruitment. They have confidence that the data presented is accurate and up to date. It is proving beneficial in informing the planning and targeting of future recruitment campaigns, schools visits, fairs, liaison activities etc. Differences and trends in year-on-year applications will be easier to identify, monitor and respond to. As a result, it will be possible to target the financial and human resources associated with student recruitment more closely and effectively, thus providing the University with a competitive advantage and, it is anticipated, with increased returns on its investment in student recruitment activity. The outcome of this will not be evident until the end of the current recruiting cycle for October 2012 entry.

### **RESEARCH FUNDING OFFICE**

For reasons associated with the UK economic downturn and reductions in the public funding of research (e.g. 50% cut in Equipment funding), there has been a recent decrease in the value of the University's research grant awards. To help address this external threat, the QlikView Grant Analysis application has been developed to provide staff with a definitive view of the University's research bids and their outcomes. The main advantages of this tool are its ease of use and speed at which reports can now be created ("Now we can do reports in minutes that would have taken days before"). The University-wide transparency of the reports is also considered to be a key advantage.

**Figure 3. RFO Individual Grant Analysis.**



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The application is mainly used to record all interactions with sources of research funding, to identify the core and growing funders, to identify changes and trends, and to identify research income generation by specific members of academic staff. The Research Funding Office, Directors of Research and Heads of School now have visibility of the quantity and quality of research applications across the University and are able to see which ones have been successful in receiving funding and from which sources. This insight is already helping to inform the University's Research Strategy as it is now much easier to identify bodies that represent stronger, new or growing opportunities for funding, including non-public and international sources.

The main benefit to date has been the amount of staff time saved in the Research Funding Office and in the Schools generating and analysing research bids and their outcomes. Looking forward, however, it is expected that the QlikView Grant Analysis application will enable the University to generate increased levels of research income through the informed development of its Research Strategy.

The Research Grant Spend Analysis application has also been developed to enable the Research Funding Office, Directors of Research and Heads of School to monitor effectively all expenditure against research income allocations. User-friendly access to this accurate and up to date financial data now enables staff to maximise the usage and benefit of research income streams by minimising the risk of over-spending or under-spending against them. Previously, overspends would have had to have been covered by the University from other areas whilst any underspends would have had to have been given up at the end of specified funding periods.



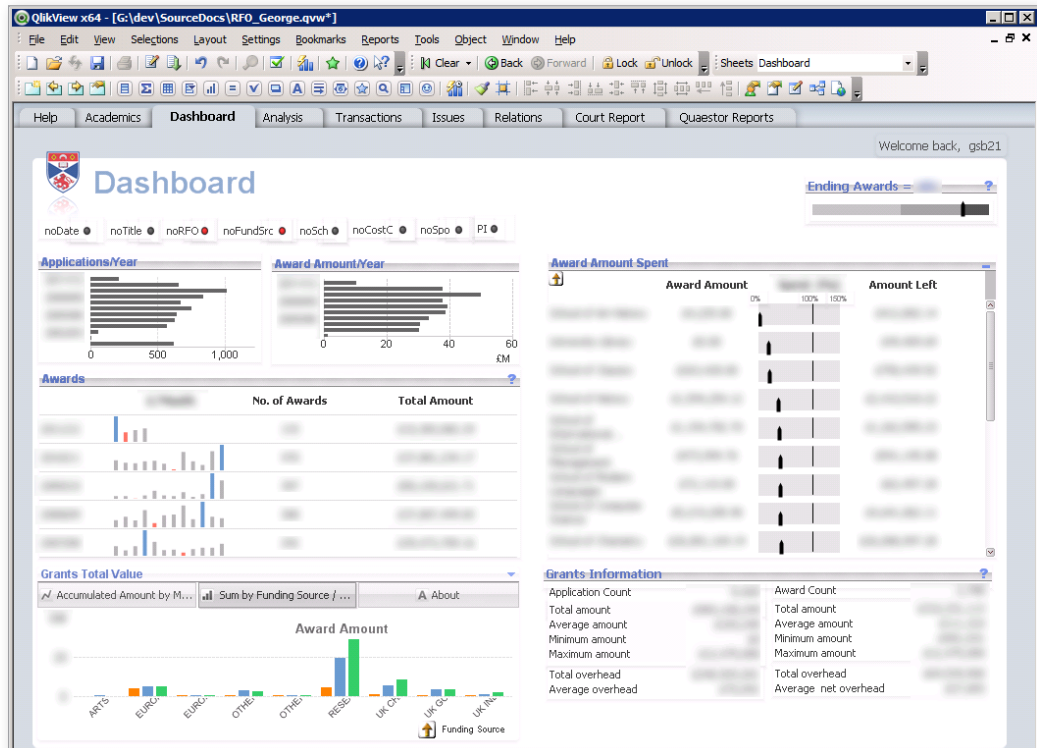
## MANAGEMENT ACCOUNTS

The Budget Monitoring application has helped Management Accounts to save staff time and provide a more efficient, improved service to the University. The main advantages of this tool are its ease of use and its functionality in pulling together data from different sources. It has replaced the previously time-intensive method of compiling reports from different sources manually. It also has the benefit of reporting 'live', rather than historic, budget data. Connectivity between the Finance and HR data sources also enables Management Accounts staff to drill down and compile budget reports according to individual members or teams of staff.

The main benefit to date has been the amount of staff time saved in Management Accounts compiling accurate budgetary reports. They are now able to provide a quicker and more reliable service to the academic and administrative departments. Looking forward, however, it is expected that the enhanced nature of the reports, the new levels of detail, and the speed at which they can now be provided, will enable the University to identify risks in current expenditure practice and to plan measures to manage them more effectively.

## HUMAN RESOURCES

Figure 4. RFO Staff Dashboard.



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The Staff Directory application has enabled Human Resources to make the University's personnel data more visible and subsequently to ensure that it is accurate and up to date. The main advantages of this tool are its ease of use and functionality in pulling together

data from different sources. By drilling down, filtering and slicing data, staff in HR and across the University are able to access user-friendly information regarding the staffing establishment of the University's academic and administrative functions. Connectivity between the Finance and HR Payroll data sources also means that the total costs associated with individual and team staff establishments can now be reported on and analysed reliably and quickly. This has enabled HR to provide enhanced levels of timely and reliable guidance to departments regarding their workforce planning, succession planning and staff recruitment.

The main benefit to date has been the ease and speed at which staff data analysis can now be conducted. Staff like the speed and filter selection bookmarking functionality ("it beats Oracle hands down!") It has saved time in HR, enabling staff to provide a quicker and more reliable service and to dedicate more time to other HR services. Looking forward, however, it is expected that the enhanced nature of the reports, and the speed at which they can now be provided, will enable the University to identify trends and risks in staffing establishments, succession planning and recruitment, and to plan measures to manage them more effectively.

## **ESTATES**

The Management Reporting application has been implemented very recently to enable Estates to enhance its business planning with full, accurate and up to date data. The new application replaces two previously separate data systems and has already provided the benefit of highlighting certain existing data issues. It has been developed to report faults and incidents across the University's estate comprehensively. Staff will use the application to identify patterns of faults and identify probable problem areas. It is expected that this will enable more effective business planning and help Estates to develop from providing a mainly reactive service to a proactive one. For example, staff will be able to use the data to inform decisions about staffing levels and the contracting of external services around certain faults and specific times of the year. It is expected that this will drive efficiencies to be reinvested more productively elsewhere across the estate. New build planning will also take account of the information to avoid the identified faults from occurring in the first place. The connectivity of Estates project data with financial data will provide staff with 'live' visibility of what is being spent against specific projects to allow closer budget monitoring. Overall, the application is expected to play a central role in enabling Estates to meet its strategic objective of providing an improved service to the University that is demonstrably more efficient and proactive.

## **SCHOOL OF COMPUTER SCIENCE**

One academic department, the School of Computer Science, has developed its own QlikView applications to help maximise student recruitment to the School and save time in generating the various reports it requires. The main benefit to date has been the ease and speed at which information can now be accessed. Staff in the School can now generate reports according to their specific requirements without having to go to HR, Finance, Registry etc. for the information. This is saving a lot of staff time both within the School and in those administrative areas.

The School is also using QlikView to improve the rate of conversion from the offer of a study place to enrolment. The visibility of prospective student records allows staff to contact individuals personally and to engage them in a dialogue and process of conversion with the School. This gives the School a competitive advantage in being able to manage its student intake according to its targets.

Staff in the School of Computer Science are particularly impressed by the QlikView application's speed, user visibility and flexibility with data.

## End Notes

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- <sup>1</sup> QlikTech came out as a Leader in this study. For more information, see the January 27, 2011 Gartner report, "Magic Quadrant for Business Intelligence Platforms."
- <sup>2</sup> According to Gartner, data discovery software will be a \$1 billion market in its own right as soon as 2013. See the June, 2011 Gartner report, "Emerging Technology Analysis: Visualization-Based Data Discovery."
- <sup>3</sup> "Predicts 2011: New Relationships Will Change BI", Gartner Research, November 25th, 2010