

Intelligence

Butler Group Subscription Services

Business Intelligence TECHNOLOGY AUDIT

SAS

SAS Organisational Intelligence Solutions

Abstract *SAS Organisational Intelligence aims to provide key areas of the business with the consistent, accurate, and relevant levels of information that are required to understand not just how the organisation is performing, but also the underlying reasons and how it is likely to perform in the future. The key strengths of the solution are its ability to integrate with the strategy of the business in question, and give departments and critical areas of the business the ability to demonstrate impact at board level. As part of SAS' overall end-to-end Business Intelligence (BI) strategy, Organisational Intelligence integrates well and is exposed to users via the Enterprise Intelligence layer. However, taken as a standalone solution, Organisational Intelligence is let down by a lack of integration at the presentation layer. The methodology adopted by SAS overcomes such limitations and allows the business to rapidly reap the benefits from its investment.*

<p>STRENGTHS</p> <ul style="list-style-type: none"> • High-level 'helicopter' view of vital business functions. • Allows the business to measure and manage human capital. • Service level management of IT resources. • Combined data integration, ETL, storage, analysis, reporting, and presentation within single solution. 	<p>WEAKNESSES</p> <ul style="list-style-type: none"> • No integration between modules at application/presentation layer. • Not all elements of Organisational Intelligence are fully Web-enabled.
<p>FUTURE POTENTIAL</p> <p>In Butler Group's opinion, the key future developments for SAS Organisational Intelligence relate to integration and Web-enablement of the whole range of products. This will simplify the management and administration involved in large deployments.</p>	

► FUNCTIONALITY

SAS Organisational Intelligence provides information on the key areas of internal business performance. It is part of SAS' comprehensive range of Business Intelligence (BI) solutions, which also includes customer intelligence, supplier intelligence, and enterprise intelligence (providing a high level view of the entire business). These solution areas are the subjects of a series of Butler Group Technology Audits that are companions to this report.

The Organisational Intelligence offering covers four main areas, specifically:

1. Human Capital Management.
2. IT Management.
3. Financial Management.
4. Risk Management.

Collectively these modules (which in turn incorporate a number of SAS products) cover some of the most neglected areas of the business in terms of information, reporting, analysis, and planning. Traditional BI tools tend to either sit atop an application stovepipe, for example, ERP, CRM, SCM, or rely on an extensive data warehouse. Even in the latter case, it is uncommon to see the incorporation of data from the areas identified within SAS Organisational Intelligence. That is not to say that data does exist at these points; on the contrary, take IT Management for example. There will be a tremendous amount of data relating to IT Management, even within relatively small organisations – the stumbling block has been the integration of the most appropriate data and having the tools in place to expose the information to the most appropriate individuals.

All of the components of the SAS Organisational Intelligence solution share a common high-level architecture. This starts with the integration of all of the required data sources, followed by the Extraction, Transformation, and Loading (ETL) of the data into a data store of one kind or another. This data store then acts as a single, consistent foundation for a range of analysis, reporting, and distribution techniques, for delivery and display in the most appropriate format to those best qualified to exploit the inherent value of the information.

The SAS Organisational Intelligence solution is modular in nature, allowing the organisation to deploy only those aspects that are needed, or to deploy them one at a time, starting with the 'lowest hanging fruit' or point of greatest business pain.

SAS® Human Capital Management

An individual's Human Capital represents a combination of experience, knowledge, and most importantly, wisdom. It cannot be compartmentalised, indexed, or simply transplanted from one individual to another. It pertains to the intangible and tacit attributes and capabilities possessed by people. It cannot be harvested or captured per se, and thus when an employee leaves the company, there is nothing that can be done to prevent their associated human capital walking out with them.

Human Capital Management pertains directly to the HR department of a business. This department often gets a bit of a hard time from the rest of the organisation. This is partly due to the fact that, on the shop floor, many employees do not understand the value or role that HR performs within the rest of the business. There is also the fact that HR and HR professionals do not have access to the same kind of consolidated data and information stores as the rest of the organisation, and therefore frequently have difficulty in making impact, as a business unit, at board level. The SAS Human Capital Management solution sets this situation straight, by providing the HR function with the capabilities to plan, measure, report, and analyse with confidence, feeding into the top level business strategy and direction.

SAS Human Capital Management is built around three key concepts:

1. **Acquire** – Allowing the organisation to assess its hiring strategy, identifying important employee trends across departments and positions by measuring turnover, retention, and termination metrics. The business can then modify its strategy to ensure that it targets the most appropriate individuals.
2. **Maintain/Develop** – Once acquired, the organisation has a responsibility and desire to see that employees fulfil their potential. The SAS Human Capital Management solution integrates data from a number of sources, including HRIS and employee survey data to capture employee perception of the business. With this in place, the business can construct strategies to address key issues or problems, ensuring that skills gaps are closed, and the combined Human Capital is exploited to its full.
3. **Retain** – Clearly businesses must try to hold on to valued employees and also perhaps look to ‘reallocate’ non-profitable workers. There are many complex factors, including psychological aspects, that combine to yield motivation, satisfaction, and hence retention. The SAS Human Capital Management solution allows managers to examine both voluntary and involuntary termination. Statistical models can be constructed to assess the probability of any given employee terminating his or her contract.

The information can be presented in a number of ways, determined by the requirements of the user. One of the most visual and powerful mechanisms is the Human Capital Scorecard, which, like other scorecards, displays a range of critical metrics, with support for drill-down analysis.

SAS® Financial Management

The SAS Financial Management module shares the same driving force as the rest of the Organisational Intelligence solution, which is to provide a holistic approach to performance management. The SAS Financial Management options recognises that it is typically very difficult for organisations to achieve a consistent and accurate financial insight into performance, which can seriously impact the business’ ability to plan, manage, analyse, and, report on financial information.

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Financial data and information tends to be distributed across applications and geographical regions. One of the key strengths of any SAS solution based on the Intelligence Architecture is the ability to manage and automate the often-complex processes required to integrate and

consolidate data and information. SAS Financial Management also allows the business to manage the strict legal requirements that come with financial reporting. The general capabilities of SAS Financial Management can be discussed in terms of four BI strategies; plan, manage, analyse, and report.

Plan – From a planning perspective, SAS Financial Management supports forecasting, a range of investment strategies, strategic planning, and a number of key performance metrics. These are essential capabilities, giving increased visibility of how business strategies are performing.

Manage – This phase is all about managing the environment, and integrating it into the existing financial systems, rules, and processes. For example, users can perform adjustments and make new journal entries. The SAS solution also supports multiple-currencies and trading exchanges between companies.

Analyse – SAS Financial Management provides a range of analysis options, such as standard profitability analyses (channel, customer, product, etc.). These can be performed in any relevant currency, and can incorporate external data if required. This gives financial managers and executives a highly valuable window or series of lenses into the financial status of the business.

Report – As already stated, company financial reports are a legal necessity, and preparing these documents can be an exhaustive task. Due to the reliable and accurate data platform provided by SAS ETL and Warehousing technology, organisations will be able to prepare their financial reports with confidence. In addition, SAS Financial Management module also supports traditional management reporting techniques, including batch reports and key performance indicators.

Butler Group believes that, if deployed correctly as part commitment to achieving 'Business Intelligence', SAS Financial Management can allow the business to implement and proactively manage strategies required to realise business goals.

SAS® IT Management

Due, in most part, to economic pressure (budget reductions), the IT department is now frequently called upon to demonstrate its contribution and effectiveness as a business unit. Effective IT Management of software and services fully optimises and exploits the available IT resources. This demands consistent access to an appropriate level of information across the enterprise, incorporating installed hardware and software, service levels, demand forecasting, and budgeting and planning. Whilst SAS does not provide solutions for low-level IT management, such as network administration tools, its experience and capabilities in handling and manipulating data are well suited to high-level management, providing a 'helicopter' view on IT resource utilisation across the enterprise.

As with other components in the SAS Organisational Intelligence solution, SAS IT Management collects all of the required data from any number of sources, brings them together, acting as a solid foundation for utilisation. SAS IT Management module can be further discussed in terms of its Plan, Analyse, Manage, and Communicate capabilities.

Plan – This ensures that IT resources are utilised in such a manner that they are made to work towards the greater organisational objectives. Thus, capacity planning tools are made available, as are forecasting and modelling capabilities.

Analyse – Resource utilisation can be assessed, for example, to discover the different demands made on the IT resources by business units. This is necessary in order to perform activity based costing or charge-back for IT profit and loss. This is the reality of having to demonstrate the IT impact at board level.

Manage – From this position, the IT manager will clearly be in an improved position to actually 'manage' his or her resources across large departments and offices. This pan-enterprise view is difficult to achieve and without it bottlenecks and serious resource drains can go unnoticed. The availability of IT resources can be viewed, over different user levels and departments.

Communicate – These are the capabilities that allow the information to be surfaced or distributed to a wider audience. For example, management reports can be created, customised, and distributed, and key performance indicators give early warning of underlying problems and important events. A particularly beneficial feature is the capability to perform internal service level management.

SAS® Risk Management

Risk management can be a complex and extremely broad area – there are many types of risk to which an organisation can be exposed, including market risks, credit risks, operational risks, and liquidity risks. SAS Risk Management is designed to help organisations firstly identify risk, then quantify, measure, and manage it. Whilst this may not be a core activity for many businesses, the solution will be of clear benefit to financial services, insurance, and utility sectors.

Whilst point solutions exist at department or line-of-business level, SAS Risk Management provides an enterprise-wide view of total risk exposure, which can then be diced and sliced as required. As before, the SAS solution is built around a methodology, this time including three phases, Collect, Analyse, and Report.

Collect – Includes the ETL of data from a wide range of sources, including, front- and back-office systems, general ledger, and even bespoke spreadsheets. The result is a Risk Data Store, which provides a central location for subsequent analysis.

Analyse – Risk Management entails highly specialised and specific analysis techniques. SAS provides a range of tools to allow users to find answers to their questions without requiring them to leave the environment. These include, sensitivity analysis, simulations, and Credit at Risk (CaR), Earnings at Risk (EaR), Liquidity at Risk (LaR), and Value at Risk (VaR) analyses.

Report – Having done the analysis, users will need to distribute the information to those best equipped to understand its implications and take the most appropriate course of action. This could be performed using a dashboard, batch or ad hoc reports, immediate distribution to wireless devices, or a combination of all of these techniques, depending on the value of the information and the urgency of action required.

Product Emphasis

SAS Organisational Intelligence addresses the need for businesses to understand, analyse, and monitor exactly what is going on in key areas of the business. Such an understanding cannot be gleaned from a series of point solutions. SAS Organisational Intelligence is an enterprise-wide solution, operating at a higher level of abstraction, and giving users the helicopter view required to implement business strategies with confidence. Furthermore, the entire end-to-end solution, from data integration through to analysis, delivery, and presentation, can be deployed by SAS, using its own supported technology, backed up by a rapid-return methodology.

► DEPLOYMENT

Based upon the SAS Intelligence Architecture, the Organisational Intelligence solution is available on the following platforms:

Category	Platform
Mainframe	OS/390, z/OS, CMS, VSE
PC	Windows 98, NT4, 2000, XP; Apple Mac
UNIX	Solaris, HP-UX, AIX, Tru64, IRIX, ABI+ for Intel, Linux
Mid-Range	OpenVMS

SAS offers a number of rapid-return methodologies for deployment of its solutions. These methodologies have been created based on the vendors experience on customer projects. The SAS philosophy is to start small, using an iterative approach to delivery of a potentially large solution. The vendors states that all phases are tied to delivering early business benefit, and aim to prove the end-to-end infrastructure required to support the business requirement. This contrasts starkly with the big-bang approach, where very large data warehouses are constructed over long periods, with no guaranteed return.

SAS solutions, and so-called 'Intelligence Models', which are geared to specific market sectors, offer a rapid-start for the business. This acts as a foundation for subsequent customisation and extension of the solutions to meet the highly specific requirements of customers. In essence, each customer has the power to decide to follow their own strategy, based upon the consistent underlying BI platform that is provided by the SAS Intelligence Architecture and supported by the associated methodologies.

The SAS Solution Development Methodology provides the overarching methodology which may, depending on the solution, also make use of specific approaches suited to Data Warehousing, Data Mining, and Application Development.

SAS can offer its own Professional Services, which are very often aimed at ensuring the customer is self-sufficient with regard to SAS, or work in partnership with third party consulting organisations through its Alliances channel.

► PRODUCT STRATEGY

It is difficult to separate the strategy of the Organisational Intelligence solution from the strategy of other SAS products and solutions. The principal reason for this is the elements of SAS' portfolio are designed to work together in a complimentary manner. As a consequence, considering any particular solution in isolation, such as Organisational Intelligence, does not do justice to the hard work and considerable skill that has been exercised in developing the complete architecture. Having said that, SAS has identified key market opportunities for Organisational Intelligence, which naturally complement the capabilities of each module. For example, Risk Management will clearly be more relevant to the financial services market than it would be to a manufacturing organisation.

SAS' general sales strategy is to focus primarily on direct sales, however, the SAS Alliances Programme also accounts for some additional business. The software, as with other elements of the SAS portfolio, is licensed on an annual basis, with subsequent renewal fees. Maintenance and support is included in the licensing model.

A criticism of Organisational Intelligence relates to the bundling of the underlying products or modules. Although it is easy and logical to understand why SAS would want to create the Organisational Intelligence solution, the fact remains that the underlying products are just that – disparate and non-integrated. In this respect, Organisational Intelligence should be seen as a banner or label for the bringing together of a number of products. SAS recognises this and will work to integrate the products in the future, where relevant.

► COMPANY PROFILE

SAS was launched from North Carolina State University in 1976, by Dr. Jim Goodnight, now President and CEO, and three of his colleagues. The company has its headquarters in Cary, North Carolina, and since 1976 has grown to encompass over 8,000 employees, and 156 offices worldwide. European Headquarters are located in Heidelberg, Germany, and in the UK, SAS has offices in Marlow, Manchester, and Glasgow.

SAS integrates leading data warehousing, analytics, and traditional BI applications to create intelligence from massive amounts of data. It is one of the leading vendors in the decision support and data warehousing market, providing integrated enterprise information-delivery systems. SAS maintains a significant budget for Research and Development (R&D), with the stated aim of driving its domain expertise in analytical intelligence and information capture out to end-users through its solution range.

The company is ranked as the largest privately held software company in the world, and has experienced 21 consecutive years of double-digit growth. Total revenues for the financial year ending 31 December 2001 were US\$1.13 billion. Revenues for SAS UK in the same period, increased by 19% to £60.1 million.

Over 38,000 customers at business, government, and university sites use SAS software solutions. Customers include 98 of the Fortune 100 companies, and 90% of the Fortune 500. SAS has a strong network of partners through its SAS Alliance programme, including Computer Sciences Corp., Hewlett-Packard, IBM, Intel, Intraspect, KPMG, Origin, PricewaterhouseCoopers, and Sun Microsystems.

► SUMMARY

Taken on its own, Organisational Intelligence provides key areas of the business with analysis and reporting capabilities that have been sadly lacking in the past. However, Butler Group believes that, whilst this may be good enough for some organisations, greater benefits will be realised by adopting Organisational Intelligence as part of a wide scale commitment to enterprise BI. Such a strategy is advocated by SAS, and any part of its portfolio may be seen as a first step towards this goal.

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