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Roles in Business Intelligence

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ABSTRACT

In order to achieve a successful implementation of a SAS® enterprise intelligence platform, a good starting point is to focus on the roles carried out by a SAS Business Analyst and rethink company's use of SAS Business Analysts into a Business Intelligence Competency Center. Focus should be on a proper division between the data creation and use of information and analytics.

INTRODUCTION

Over the years many SAS Business Analysts has done an excellent job in order to provide the management with reports regularly as well as on an ad-hoc basis. A deep insight in the company's data combined with analytical skills has for a long time been the perfect profile of a SAS Business Analysts. That worked well yesterday.

In an era of turbulence the need for accurate, transparent, and timely information on the company's behavior is greater than ever before. Organizations demand a sustainable process and infrastructure for ongoing governance, risk, and compliance (GRC) and Business Intelligence plays a vital role in order to fulfill that demand.

With the arrival of the SAS® enterprise intelligence platform (SAS EIP) SAS Institute has indeed created a solid platform to support a mature Governance, Risk and Compliance framework with information. But it will only do well if the organization around the platform is in place.

In this paper we will address the many new roles the traditional SAS Business Analysts is facing and what a company needs to do in order to achieve the full benefit from Business Intelligence and from the new SAS platform.

THE TRADITIONAL INFORMATION LOOP

Over the years many SAS Business Analysts has done an excellent job in order to provide the management with reports regularly as well as on an ad-hoc basis. In many organizations the information loop or rather the information process has often been a one-man show based on individual's insight and knowledge of the company's data. The very same person will not just work as a SAS Business Analysts, often he will also act SAS programmer, developer and tester. Pressure on time and resources often enforces the SAS programmer to narrow the documentation in to a few comments in the SAS code and testing is reduced to a quick check of notes, warnings and errors in the log window.

The result is often limited standardization of data, only a partial automation of reports with lots of non standard pockets of information, ad-hoc based testing approaches and beyond all a very person dependent situation.

An ad-hoc and reactive approach to reporting and information leads to siloed initiatives that never see the big picture. This results in poor visibility across the organization and its information environment, as there is no framework or architecture for managing information holistically.

Over time SAS programs has a tendency to become more complex and varying programmers with their own version of how to "standardized" code introduce greater complexity to the business environment. With complexity comes an increase of inherent risk. Complexity means that information are not streamlined and managed consistently introducing more points of control failure, compliance gaps, and unacceptable risk. Inconsistency in programs means inconsistency in documentation of information that can further confuse the organization, regulators, and business partners.

Silos of analyst and SAS programmers lead to wasted resources. Instead of thinking of the big picture and how resources can be leveraged to meet a range of reporting and analysis needs, they are instead working independently. The organization ends up with varying processes, systems, controls, and technologies to meet individual reporting and analysis. Many of these processes and controls could have been streamlined with a common framework approach to Business Intelligence.

In most situations the risk taken by this approach will surface when the SAS Business Analysts leaves and the job is taken over by a colleague who will meet a pile of SAS programs.

Over the years we have seen examples of SAS programs left by SAS Business Analysts including documentation like:

```
data one;
set two;

/* Reading data from file */

if mix(var1, var2) > 0 then do;
run;
```

Well if you can read a SAS program you are probably familiar with the set statement.

Another example of in-line documentation:

```
data one;
set two;

 /* Here comes the hard part */

if mix(var1, var2) > 0 then do;
run;
```

Nice to know - hard for who ?

A final example of in-line documentation:

```
data one;
set two;

/* Reading data from file */
%DoIt:
 %*------------------------------------------------------------------*;
 %* This will probably go wrong
 %*------------------------------------------------------------------*;
 %LET lagRC= -1;
 %*------------------------------------------------------------------*;
 %* Parms
 %*------------------------------------------------------------------*;
 %IF (%QUOTE(&Doit) = %QUOTE()) %THEN %GOTO Syntax;
 %IF (%UPCASE(&CntlLev) = MEMBER) %THEN %LET Merge= Yes;
 %ELSE                                  %LET Merge= No ;
 %LET JustWork= %UPCASE(%SUBSTR(&JustWork.N,1,1));
 %LET KeepBest= %UPCASE(%SUBSTR(&KeepBest.N,1,1));
 %LET NegToZro= %UPCASE(%SUBSTR(&NegToZro.N,1,1));
 %*------------------------------------------------------------------*;
 %* If we came this far it must have went well
 %*------------------------------------------------------------------*;
 %IF (&LagRC = -1) %THEN %LET lagRC= 0;
run;
```

And just one more:

```
data one;
set two;

if ….or … or ... and … then
   do; end;
else
if … in ( ) then
   do;
```

```
      if … in ( ) then
         do;

         end;

   end;
else
   if … and … or … or … and … then
   do; end;
   /* IF WE END HERE I DON'T KNOW WHAT TO DO */
run;
```

INFORMATION IN A GOVERNANCE, RISK AND COMPLIANCE WORLD

In an era of turbulence the need for accurate, transparent, and timely information on the company's behavior is greater than ever before. Focus in many organizations has shifted from pure growth towards sustainable growth or even survival.

In order to achieve a sustainable growth many organizations looks toward ways to implement a culture of governance, risk and compliance at an enterprise wide level. By giving transparency, efficiency and consistency Business Intelligence is an important part of a GRC culture.

But Business Intelligence will only give transparency, efficiency and consistency if it is implemented the right way and the organization and governance process around the Business Intelligence platform is recognized and in place.

Transparency. Business demands transparency across key-performance and risk indicators so it can monitor the organization's health, take advantage of opportunity, and avert or mitigate disaster. Corporate performance management is tightly related to risk management.

When done correctly performance and risk management are two sides of the same coin.

Efficiency. The line-of-business is fighting back because redundant assessment and audit processes looking for similar information for different purposes is preventing the business from getting business done. GRC aims to ease the burden on business by leveraging common processes, assessments, and information.

Consistency. Organizations require that multiple roles in the organization start working together in an integrated framework. Business roles of governance, risk, and compliance need to understand how their roles fit into the big picture. GRC is getting everyone to play their different positions (roles within the enterprise) out of the same playbook.

THE SAS® ENTERPRISE INTELLIGENCE PLATFORM

The SAS® enterprise intelligence platform provides all the needs of a modern Business Intelligence architecture in form of standardization, documentation, efficiency, consistency and transparency.

In many ways the SAS® enterprise intelligence platform is the answer to establish an enterprise wide platform for Business Intelligence. But in order to get a successful implementation it is often necessary to rethink the organization and processes around the platform otherwise the situation will be just as before.

Having stated that SAS EIP supports the roles of the new SAS programmer, it is equally true that SAS EIP supports the business as usual attitude within BI. In order to make the most benefit of your investment in SAS EIP, an active approach is called for.

In order to achieve transparency, efficiency and consistency in BI, you need to take a close look on the roles you cut out for your SAS business Analysts.

Consistency and traceability of data is only obtained if the business acknowledge the value and importance of a data architecture that shields source data from the consolidated data used by the business, properly through a Enterprise Data Warehouse. Having arrived at this conclusion the next step is to redefine the role of your SAS programmer, who in an attempt to create an urgent needed report accesses source data, joins the data with a couple of old data sets he or she has lying around, throws in a couple of business rules, and delivers the management report in no time.

ROLES AROUND THE SAS® ENTERPRISE INTELLIGENCE PLATFORM

In order to avoid this mess, you need to educate your SAS analyst to be aware of, and adhere to the roles carried out when working with data:

ETL developer: Transforming source level data to business data through a well defined process involving extracting and loading source level data into a staging area, and further on into the Enterprise Data Warehouse. In SAS EIP this role is catered for by e.g. Data Integration Studio, and the tools associated to the Management Console

Data Manager: The associate working on enterprise level data, ensuring that metadata and business rules are treated, documented and used in a concise manner. The role here is to prepare the basis for the use of business data throughout the organization. The Data manager has the freedom together with the business users to create data marts which are targeted towards groups of business users. Doing this the data manager gets support by e.g. the tools in the management console, the SAS Information Map Studio, just to mention a few.

Business Analyst: In the broadest sense this role comprises all analysis work from the analyst preparing simple retrospective reporting to the statistician working with data Mining type of analysis. Again these roles are catered for in SAS EIP, by tools as Web Report studio, Enterprise guide and Enterprise Miner.

In the Business drawing on the services of the analysts and the individuals working on data, you find roles as:

Senior management: In today's information tsunami, this role should be focused on getting correct information in a timely manner. In this role management is supported by SAS information Portal, and SAS add-in to Microsoft. Using these tools the CEO can access the KPI he needs for making timely and proactive business decisions.

Middle level management: As a middle level manager, you are required to come up with bright ideas for new business, or ideas for running the business better, smarter or more cost effective. In the process of generating these ideas or trying to figure out what are the effects of your newest and brightest invention, you are in desperate need of ad hoc reports or the ability to view the data yourself. In the new SAS setup this is made possible by tools as SAS Enterprise Guide, SAS add-in for Microsoft and SAS OLAP cube Studio.

Having sketched these new roles, we are still left with the old fashioned analyst role that also is supported by SAS EIP. The change to a better world with distinct role does not come for free. Your SAS person who cannot live without the old SAS editor and ability to access all systems at all times joining and merging data until nobody can trace the origin of the information still get all the support in SAS EIP he needs. If you want things to change you need to embark on migrating your SAS environment **and** your organization to a new sustainable future where even the most hardcore SAS analyst has a clear defined role.

ORGANIZING THE BUSINESS INTELLIGENCE TEAM

In order to manage the development of Business Intelligence successfully the team must be organized the right way.

Organizing a Business Intelligence team requires attention to many factors like:

- Centralized versus decentralized
- Fixed in Business Unit versus mobile and changes from project to project
- Stand alone team versus integrated team collaborating closely with the rest of the

The two most classical organization of a Business Intelligence team is either as a corporate support function or a divisional support function - often part of the finance department or the it department.

The unit must be close to the (top) management of the company or BU. From a business point of view they should be able to bridge the gab between strategy and execution. From an IT point of view the unit must be able to link the logical information model with the physical data model.

The unit equipped with the necessary resources and capabilities - they should be able to work as driver for change.

Recent research suggest a virtual organization that transform over time and responds to change and strategy and where the Business Analyst and the Data Manager from time to time takes part in the normal business operation.

The right setup depends on the actual situation and what works in one organization will be less successful in another organization.

THE METHODOLGY FOR UPGRADING TO SAS 9 EIP

Following a standard BI implementation methodology will ensure a proper start on the new platform.

It is not a part of this paper to go through all the aspects of at BI methodologyut as an inspiration we have focused on a few parts of the implementation plan that should attract some extra focus when upgrading to a new platform or beginning on a new project.

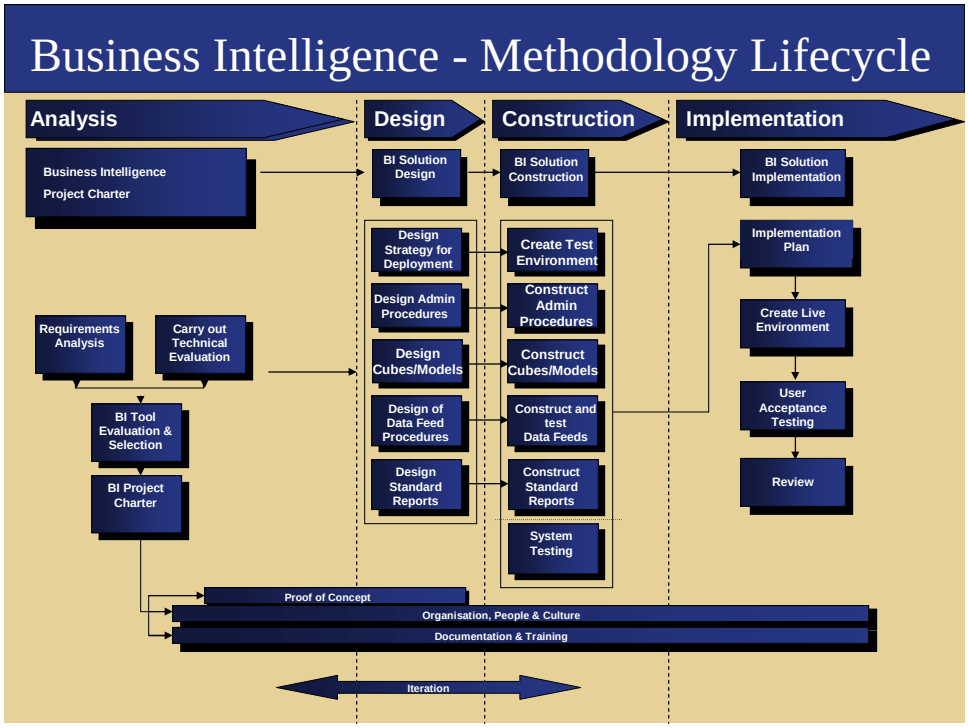

Figure 1 Example of implementation methodology

BUSINESS INTELLIGENCE PROJECT CHARTER

This process involves identifying the key users (from IT and the Business) who will be involved from the outset, who in turn provide vital knowledge to determine the domain of data they need to make their business decisions. The process for obtaining such vital information is by holding an initial briefing session with the core team (including the project sponsor), then interviewing each team member individually and finally consolidating the requirement findings.

The BI Project Charter includes an Initial Project Plan which is the vehicle by which the project manager communicates the purpose of the project to the users and to management. It also provides the means of obtaining authorization and commitment. The content of a typical Charter varies according to the approach selected, but consolidates the information gathered during the previous analysis stages and provides the:

- Project / Solution Scope
- Resource Constraints
- Implementation Constraints
- Initial Project Plan
- Proposed high level architecture
- Additional Hardware/Software Requirements and relative cost implications.

USER ACCEPTANCE TESTING

The main reports are tested during the construction phase of the project to ensure data is appearing but key managers of the business will be required to reconcile and sign off the accuracy of the data at this stage. Other testing during deployment will ensure that the users are able to see only those reports that are relevant to them via the security model.

The effectiveness of a BI system should be reviewed after each project to ensure it really is delivering the business benefits specified.

The outcome of these reviews may result in requests for small amendments as change requests or further development and enhancement of the system in the form of new project(s).

DOCUMENTATION

The documentation will cover all areas of the project and in conjunction with associated training will enable the organization to take ownership of the solution.

Deliverables:

- Technical Manual Including:
- Technical Overview
- Technical Process and Deployment
- Roles and Responsibilities for maintenance of the solution
- Data Sources and source to target mappings
- Database Information
- Schemas (for Reporting)
- Business View of required data
- List of Cubes and Reports
- List of Users/Groups
- Backup/Recovery Procedures
- Testing carried out/sign off

TRAINING

On many BI projects the users receive all their training in one go just before they go live. This is not ideal.

Without the experience of using the system it is hard to absorb all the complexities of the new tools and the information available.

A better approach is to restrict the initial training to one day of basic training, preferably using workshops based on the users own information, so that the user feels comfortable with the new system and confident enough to use it.

Later, after some use of the system, the users should be given additional, more advanced training. By this time they will have the necessary experience to absorb and make use of this more complex level of training.

It is good practice to have a further refresher course after a year or so to make sure users are not missing useful features, and to get additional feedback about how the system can be improved.

CONCLUSION

It is possible to implement the SAS® enterprise intelligence platform in two ways. As a standard upgrade and everything will be as it always has been or as an enterprise wide BI platform with the requirements of a governance approach around the BI environment.

The later approach will give transparency and consistency, but on the short term it will require a more cumbersome setup in terms of clearly defined roles and introducing a BI methodology. Over the long term the organization will benefit from a BI system that will be far more robust to changes.

In order to achieve this the value must be recognized by the senior management and they must be willing to invest accordingly.

CONTACT INFORMATION

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