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Presenting Business Cases Containing Complex, Technical Information to a Varied Audience

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ABSTRACT

The US Census Bureau has a SAS deployment of approximately 2600 active users, which the Software Application Branch (SADB) with in the Applications Services Division supports. Identification of appropriate SAS support resources is a difficult task considering the diverse use of SAS amongst the user community. We had to gather information, enlist help from many sources and get everyone involved in the effort on the same level of understanding with respect to the challenges faced, and agreement on a proposal to address the issues. This paper describes the method SADB used to justify the evolution of the Census SAS Support paradigm. This paper will focus on the following topics:

- Census's SAS support model
- Issue Identification
- Issue Definition/Leveling
- Communication Strategy

INTRODUCTION

One of the US Census Bureau's missions is to serve as the leading source of quality data about the nation's people and economy. SAS is a key, critical tool in the processing, analysis, and visualization of data at the Census Bureau. Most Census business directorates are broken down into areas called divisions based on the data products they produce.

Most of these divisions use SAS to process and analyze census and survey data. Census divisions use SAS for decision support, data warehousing, data mining, and data visualization. Divisions use SAS® Foundation (i.e., BASE® SAS) to create many of their most important products some of which include Economic Indicator data, the National Income and Poverty Measure Report, and Decennial reports.

IT Directorate in some ways is different from the other Census directorates:

- They are not responsible for reviewing or producing data products
- Their mission is to provide enterprise information technology solutions to advance Bureau strategic goals of customer service, high-quality data products, and market-competitive data collection and processing support
- The IT Directorate is divided into divisions based on the technologies and products that they support

The authors of this paper work in the Application Services Division (ASD) of the IT Directorate. The mission of the ASD is to be the definitive source for applications support at the Bureau. We support existing technologies and methodologies, and investigate and promote new technologies. We work closely with the staff in the other divisions of the IT Directorate that support the hardware, operating systems and networks on which Census runs SAS.

This paper details the process we used to obtain the resources needed to evolve the support the user community needed. It focuses on the techniques we used to gain user and executive support for our proposal while giving some insight on why we used them.

CENSUS SAS SUPPORT MODEL

The Census Bureau has approximately 2,600 customers that use SAS Foundation software, SAS Information Management, Analytics and BI that are available to them via our contract. They use SAS on PC's, windows servers and Red Hat Linux® servers. The Software Applications Development Branch (SADB) staff in ASD is responsible for the bulk of the day-to-day SAS support. We provide technical support for the Census Bureau´s SAS products, distributes SAS software and licenses, and provide guidance on SAS usage to the customer community. In this role we:

- Manage multiple SAS related projects that cross division boundaries, such as actively working with the business divisions to set up and then test the use of new products
- Promoting and supporting the design, use, and implementation the SAS products available through our contract
- Design, oversee and administer security controls, configurations, shared services settings, system policies, and procedures needed to ensure all SAS instances inherit the baseline security controls used at Census
- Provide customer service to fulfill internal and external customer needs, providing information, assistance, and/or

training, resolving problems; explaining system and product functionality; and satisfying expectations

Customer Needs

Every day is different for the SADB staff. On average, we get 84 service calls a month. We provide front line support for these calls and the tasks listed above with a staff of four (4) people, two of which are new to SAS. The calls can range from:

- SAS software install issues that a customer or one of our IT peers has found on a PC or server,
- Feature issue where a customer is trying to find the best product for the business need, or they are having a problem using a particular feature of a product
- Coding issues that a customer encounters while trying to develop or maintain one of their applications
- Performance issues that a customer or one of our IT peers has found on a PC or server. Sometimes these are just simple bad coding issues

Time to resolution varies based on the breadth and depth of products licensed at Census. Support can also involve engagement of multiple parties like coordination between SADB, the customer and the system administrative staff who maintain the hardware and operating systems running SAS.

The SAS Products

Census has an enterprise license agreement for many of the Information Management, Analytics and Business Intelligence solutions. Due to the breadth of SAS products, we license and limited in-house resources, we rely on our customer community as well as the SAS Institute as resources to provide user support coverage. The following is a subset of SAS products from Census's enterprise license agreement where we provide the most user support.

- SAS® Foundation
- SAS® Enterprise BI Server
- SAS® Data Management
- SAS® Grid Manager
- SAS® Enterprise Miner / SAS® Text Miner
- SAS® DataFlux® Data Management Software

ISSUE IDENTIFICATION

A business case captures the reasoning for initiating a project or task. People often present them in a well-structured, written document, but the size and format varies depending on audience, cost and complexity of the issue. The logic of the business case is that, whenever a business case requests resources such as money or resources it should be in support of a specific business need. The first step in defining a business case is identifying the problem, need or issue your business case will solve.

User Surveys

The Census Bureau identified the need to improve the support and handling of SAS at the enterprise level during the 2012 Improving Operational Efficiency (IOE) program. This program/process used a series of email messages, town hall meetings, and other marketing materials to encourage Census employees to fill out an on-line survey to describe their ideas on what changes they would like to see that would improve the way Census works. The process then encouraged employees to vote for their favorite ideas and helped our business case in a number of ways.

- It promoted a feeling of ownership
- It promoted team building
- It made a wider audience aware of the issues

Most people put their names on their submissions and promoted their ideas. There were groups of people sending out emails promoting ideas they thought were good, even though they had not suggested them. The IOE program became sort of a big on-line brain storming session for the Census Bureau. The executive staff reviewed all the submissions selecting ones that seemed likely to generate improvements while keeping in mind their popularity. The IOE program then held a second round of votes, determining the top staff choices.

The SADB submitted a number of ideas and our SAS customers also submitted ideas. We encouraged our customer base to vote for the ideas we thought would improve SAS support the most. After the second submission round, we had 14 SAS ideas in the top 20 of total number of submissions. These submissions ranged from replacing SAS with "R", building a shared SAS Macro library, to building a "SAS Center of Excellence" to support SAS. A few were very broad, but most were very specific.

User Meetings

The SAS IOE submitters were a very dedicated and engaged subset of our installed user base. Most of them had worked at Census for years and had used SAS throughout their career. They work across various divisions, produce different data products using different SAS tools with varying levels of skill and knowledge of SAS. They also have very strong opinions on what would improve SAS support based on their different perspectives. The Director's staff met with the SAS IOE submitters and tasked them to combine the submissions into one to three broader proposals. This is where organizing, and consolidating the different stakeholder ideas began.

SADB met with the submitters a number of times to see if we could facilitate a consensus on what items we could group together. Sometimes we met in groups, other times we talked to submitters individually. It depended on the dynamic of the people involved and the topic we needed to discuss. First, we fully discussed each submission so everyone in the group would understand what issue it was trying to address. Then we tried to negotiate the consolidation of submissions that were similar in goal. The submitters were very afraid that by doing that, their submission would get dropped. We ended up five main groupings.

Management Meetings

The resulting five main groupings did not satisfy the Director. He held a meeting with the submitters and the executives from the directorates to review the submissions and try to get the submitters to come up with a resolution. Again, we fully discussed each submission so everyone in the group would understand what its desired goal was trying to achieve. This also helped our business case, since now the executive staff had a good understanding of the issues. When the Director realized he was not going to be able to get the group to come up with a resolution, he tasked SADB to do continue the development of a final solution.

ISSUE DEFINITION/LEVELING

Describing or defining the issue is the second step in creating a business case. During the meeting with the Director, we realized no one had a complete picture of the problems we faced. They also had an incomplete understanding of the internal workings of the IT Directorate, which would influence how we could solve these issues. To handle this problem, we created a document that identified all the issues identified in the IOE process, in addition to others we knew about. Then we worked through all the issues to clearly explain the challenges and show the impact each issue was having on a business area.

Writing Style

We used a persuasive writing style to create the business case. Persuasive writing is for persuading and convincing on your point of view. We provided reasons and examples to help the reader understand and believe the point we were making. We tried to keep out explanations simple, but complete. We also avoided technical jargon as much as possible. There were many things we could improve and so many complicated inter-relationships, we wanted to simplify the business case wherever possible.

Include Your Supporters

We put the full text for each submission in an appendix at the end of the document so they were easy to reference and as a check to make sure we did not leave out any. We grouped the submissions into broad categories. We then wrote descriptions of each problem listed in each category. In these descriptions, we referenced the submission it pertained too. We also added detailed examples of the adverse impact each problem had on our customers. This did three things:

- It showed we listened to the IOE submitters
- It helped us to standardize the writing style
- It helped the readers of the document see a complete list of all the issues

Communication Strategy

The third step in defining a business case is identifying potential improvement options. The fourth step is to evaluate the options. We combined these steps. We developed a list of improvements based on our issues list. We included multiple options wherever possible. We detailed out each option to show how it would improve an issue. Since the solutions to this business case list would require resources, which the executives would ask about in detail, we also added sections for the estimated costs, including, hardware, software, people and the status of each resolution.

Include Everyone

Once we had an extensive issue and resolution list, we had the SAS support staff review, edit and add to it. We track our customer service calls so we were able to add other issues and customer horror stories that had not made it into the IOE submissions. Once the SAS support staff finished, we let the submitters review and add to it. This process seemed to assure everyone we heard his or her complaints and were trying to help. From there, the group seemed to be more willing to work together to come up with a final business case to present to Census Bureau leadership.

Brain Storm

The review of the document took several meetings. We still had issues clarify, resolve and then document. We sometimes had heated discussions, but everyone was truly working for improvements and it was a great learning experience for everyone.

At the end, the SAS stakeholders identified three main SAS-related issues:

- Inadequate SAS support,
- SAS infrastructure problems
- SAS installation problems

The resolution plan included the following solutions:

- Increase SAS support staff
- Build a centralized SAS Software Depot
- Standardize SAS testing
- Build an environment where the SAS support staff and the SAS community can test products
- Move to a more efficient SAS deployment model

Under normal circumstances, the fifth step in defining a business case is to consider the preferred option's risks and sensitivities. On a very basic level, we had already done this with the IOE submitters during the various reviews we had with them. For our project, the fifth step was to get front-line management and executive buy-in.

We developed a formal communication plan to engage all levels of management. We developed high-level talking points that everyone could repeat quickly and easily. We summarized issues and resolutions for presentation points to all audience levels. We garnered support from IOE submitters and internal front-line management to promote this business case in their respective business areas. Soon all the IOE submitters and front-line management were well versed in the topic. Then we had another meeting with the Director to try to obtain the resources we would need to solve the issues. By this time, the IOE submitters were able to present insightful information to the executives, in addition to offering solutions. The front-line managers had also educated their management, so the executives came into the meeting well aware of the issues. This approach helped expedite executive level review of the issues and approve our proposal for additional resources.

CONCLUSION

The issue and resolution statement seem simple, but when we started this project, our customers were very unhappy. Our management and customers had incomplete and inaccurate ideas on what was wrong. They also could not get past the issues and move onto how to improve the situation. In the end, we have a group of customers who are well versed in how to improve SAS support and did a wonderful job advocating for us. The support people also have a much better understanding of the issues our customers face and have built some good relationships with them. Our management also has a more complete understanding. They have also given us the resources to start fixing the issues.

REFERENCES

Hunbbel Meer,"Four Different Types of Writing Styles: Expository, Descriptive, Persuasive and Narrative" http://hunbbel-meer.hubpages.com/hub/Four-Types-of-Writing

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