

Paper 187-2012

Successfully On-Boarding SAS® Analysts

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ABSTRACT

Finding and successfully on-boarding SAS Analysts can be challenging. Each new hire can have varying levels of work and SAS experience. As such, an On-Boarding process needs to be flexible to account for these situations while covering the necessary information to incorporate new hires into a company. This paper serves to outline a profile used for hiring SAS analysts and the training plan after they are hired. It was written for working in a research and development group within a CPG industry, but the structure could be applied to most new-hire situations. This paper is most applicable to Base SAS® and SAS/STAT® and could be applied to any operating platform.

INTRODUCTION

When building a team, recruiting, interviewing and extending a job offer is only half the battle. A hiring manager needs to also successfully on-board that new hire into their company. These processes take planning and follow through from the first day the new hire starts and continues through their entire first year. This paper will outline the SAS Analyst role and profile in research and development group in a CPG industry. From there it will provide a training plan covering the core competencies of that profile and how to supplement those with training. Lastly, it will outline a plan for monitoring the new hires progress.

ANALYST ROLE AND PROFILE

To provide better context for the training plan presented in this paper, let us give some background about the analyst role and the profile of the candidate used to fill that position.

A SAS analyst in this research and development group has responsibility for supporting existing products as well as new system development. They do this through:

- ❖ Conducting research and data investigation to create new algorithms and methodologies
- ❖ Building Mainframe and Unix SAS prototypes to test and validate statistical methodologies
- ❖ Writing technical requirements and supporting implementation/testing of new and improved methodologies and products
- ❖ Investigating and resolving client production data issues
- ❖ Providing accurate data analysis and methodology support to internal and external teams
- ❖ Working with other internal groups and off-shore resources to execute project tasks.

The profile that would fill this position typically includes a resource with:

- ❖ Zero to Three years of experience
- ❖ Bachelors and possibly Master Degree in Statistics, Mathematics, or Social Science Research
- ❖ Beginner to Intermediate SAS skills

Within this background the key underlying competencies include: Communication, Statistical/Problem Solving Skills, Programming, and Adaptability. More specific details for each of these competencies are provided below.

- ❖ **Communication:** An ability to communicate clearly both written and verbally along with being able to summarize and present complex information to non-technical audiences. Our team communicates daily with multiple internal groups locally, as well as overseas.
- ❖ **Statistical/Problem Solving Skills:** The candidate has strong analytical and statistics background with a proven ability to be able to apply those skills to real world situations.
- ❖ **Programming Skills:** Most college graduates have taken one or two SAS courses and have applied those skills in an academic consulting environment. This is a good basis, but there needs to be something more. Do they have the ability to take a requirement, expand it into detailed programming steps and code that in SAS? A new hire having taken courses in computer programming and/or logic courses would be ideal.

- ❖ **Adaptation:** One of the biggest challenges for several industries, in particular CPG, is that there is a significant amount of domain knowledge. It takes most new hires six months to get a solid base to stand on and a year to be fully integrated. On top of that, a research group will provide support for current products as well as new system development. As such, a candidate needs to be able to adapt to priorities that may change very quickly. Can they handle the stress of the given environment?

TRAINING PLAN

The training plan below was developed over the last 2 years while on-boarding five Analyst level new hires. Its focus was to support the underlying competencies given above in a short amount of time. Times to complete each piece of the plan are given below but these are estimates. The main focus is getting the new hire completing live project work within three weeks of their start date. Live project experience seems to be the best teacher for this environment.

COMMUNICATION

- ❖ **Setting Expectations (A week before they start):** Prior to their first day a hiring manager should contact a new employee and review what they should expect on their first day and week. The manager should also focus on covering any questions that the new hire might have concerning the location, start time, dress code policy and other logistics. They should also walk through what their training plan will include.
- ❖ **Providing a Buddy (Week One):** Each new hire should be assigned a buddy. The purpose behind this is to provide a new hire with an avenue for questions beyond their direct manager. The buddy should be in the same department but not necessarily in the same group. This way the new hire will get to know others that they will not always interact with on a day to day basis. The buddy should take them to lunch and check in with occasionally. Assign a buddy who was hired more recently but not less than one year often works well. This way the buddy just went through a lot of the same things and can relate.
- ❖ **Meeting Key Members (Week One)** With any new job, learning who's who is key to success. Each new hire should be introduced to key individuals from internal as well as external groups that they work with. In this case that would include Data Loading, Operations, Technology, and Client Service. Provide the new hires with organizational charts so they can easily understand where they fit in with the larger puzzle.
- ❖ **Keeping Them in the Loop (Week Two)** As the new hire moves into their second week, make a point that they are included on instrumental meetings and emails. Much of the knowledge in a group comes from having a history of what was done before. This also helps the new hire feel part of the team. Starting this task in week 2 gives the new hire a chance to get a feel for the organization before flooding them with additional content/information.
- ❖ **Cultural Training (Week Three)** A new hire may have not had an opportunity to work with team members that are from a different culture. Company provided trainings on Cultural awareness and behavior will help a new hire understand how different team members and groups operate. This is especially important as most of the communication with teams overseas will be via phone, email, and Instant Messenger so it's not possible to pick up visual communication.
- ❖ **Cooperate New Hire Training (First 90 days)** Most companies have a specific training plan that geared for new hires that includes a Company Overview/Structure and Benefits. Encourage new hires to go through these trainings. It gives them an external perspective on their role and also gives them an opportunity to meet more resources from other groups.
- ❖ **Communication Techniques (After the first 90 days)** Once the new hire has had a chance to settle in, you should focus on refining their communication techniques. Some particular areas to focus on should include: Communication Style used in Email/IM, Technical Writing Ability, and reading the situation. They may have had classes or training in these areas but the key here is to make sure they understand how communication and information flows within your organization. Your regular status meetings, as discussed later in this paper, would be a good forum to achieve this step.

STATISTICAL/TECHNICAL/PROBLEM SOLVING

❖ Understanding the methodologies and infrastructure of the company (Week One)

Within the first week, each new hire should get an overview of the methodology and corresponding files that their group most often works with. In a research and development group this documentation is most likely ever-changing so good resources for this would include:

- Introduction to the Industry: If the new hire is fresh out of college, they may have limited knowledge of the industry that they work in. Materials to help with this include: Corporate Overview Training, Trade Publications and the SAS Global Forum.
- Corporate training programs: These are often geared more toward Client Service and delivery teams but research analysts should also go through them as well. They'll give an external perspective on the products they support.
- External and internal presentations: This would include presentations that the group has given before to other departments or at internal meetings.
- Technical specifications documents: As mentioned above a research analyst is responsible for writing technical specifications. Having a new hire review prior documents provides a solid understanding of what has been implemented before an examples of what content is needed to make changes or introduce new things. If any documentation is outdated having them update it is also a good training tool by forcing them to be familiar with existing details.
- Glossary of Terms: Some organizations have a company-wide glossary of terms. However, a glossary specific to the given department is also helpful. If a glossary doesn't exist, each new hire should keep a list of terms and concepts as they learn them in training. This will help give them a place to go back to for questions.
- Typical problems: Every organization most likely tracks inquires from clients in different ways. In a development group, reviewing prior inquires and feedback from clients and how those issues were handled will give the new hire key insight into the products they work on. They can also use that information as a stepping stone versus repeating prior work.

❖ Understanding the infrastructure that the company uses (Mainframe and Unix) and provide the resources to learn these (Week One)

- Many of the new hires that join an organization may have experience on Unix but probably not Mainframe. In their prior experiences SAS was probably most often used in a Windows environment. A new hire should be taught how to modify programs and files directly on the Mainframe but there are also a several text editors that can make the transition to a new platform easier (for example, Ultra Edit).

Once an analyst has an understanding of the statistical content and infrastructure, it is important that they utilize this knowledge so that their learning can be reinforced. The best way to do this is by having the new hire walk through the input files that support the methodologies and execute hand calculations. This should be done by their third week of training.

PROGRAMMING/SAS

Each new hire generally has a beginning knowledge of SAS. The goal of this section is to augment their skills and transition them quickly to intermediate and advanced levels of SAS. Below are the steps that can be used to achieve this goal.

- ❖ **Beginner (Directive Approach) (First Six months)** In the early stages training around SAS is provided in a more directive fashion focused on explaining how SAS is used within the company on the Mainframe and Unix. Specific training topics include:
 - Managing files on the Mainframe and Unix
 - Understanding how filename and libname references change between Mainframe and UNIX compared with Windows SAS.
 - The differences between binary on Mainframe and Unix
 - Submitting programs through batch processing vs. interactive mode (Most new hires use interactive mode.)
 - Providing a summary of resources for completing common data manipulations (sorting, merging) and analyses using SAS

To support this process there are multiple resources that are used

- Applied Statistics and the SAS Programming Language (5th Edition)
- SAS Certification Prep Guide: Base Programming for SAS 9, Third Edition
- zOS JCL, 5th Edition
- Tuning SAS Applications in the OS/390 and Z/OS Environments

- ❖ **Intermediate (Coaching Style) (Six months to One year)** Once a resource is able to successfully submit programs and manage files within a Mainframe and Unix environment, the focus turns towards coaching them on their programming techniques, and most importantly on efficiency. To do this a manager can
 - Review their programs and provide guidance on alternative coding techniques
 - Walk through examples of complex programs used within the company and outline how the code processes
 - Provide SAS reference materials that focus on more complex data manipulations (arrays, looping, macros) and analyses

To support this process resources include

- SAS Certification Prep Guide: Advanced Programming for SAS 9, Third Edition
- SAS® Code Validation: L.E.T.O Method, SAS Global Forum 2010

- ❖ **Advanced (Sounding Board Relationship) (Beyond One Year)** Each resource will transition through these levels at different rates. Once they are comfortable with working with SAS in a Mainframe and UNIX platform and can perform complex and advance data manipulation/analysis, they can be considered advanced. When they reach this point, the training content should shift to a more consultative role. In this case, a manager can focus on larger discussions of systems of programs and different ways to approach a problem rather than providing exact direction and coaching feedback.

This can be done by

- Having the resource brief you on what problems they are working to resolve and how they are programming their solutions.
- Providing suggestions on alternative approaches and resources to consider in their work.

ADAPTATION

When a new hire starts it is often challenging to be able to absorb such large amounts of information. This information is ever evolving through development of new products and updates to existing ones. To be able to handle the stress of learning new things and changing priorities the following suggestions are given.

- ❖ Make sure the resource understands the necessary background of each task.
- ❖ Verify that they understand what task is the priority at a given time and when priorities change.
- ❖ Coach them on ways to handle multiple tasks at the same time. For example, if they are waiting for data to process they should shift over to other tasks. Use evening and weekend times for more efficient data processing, due to lighter system loads.
- ❖ If a new hire does get stressed out and is not sure where to turn, coach them on how to handle the situation. Often taking a step back, talking through the problem will allow them to find the solution to their given situation.

Each one of these may seem obvious to an experience team member but may not come naturally to a new hire. They should be addressed in your performance management process which is covered in the next section.

PERFORMANCE MANAGEMENT

Despite having a specific recruiting profile and set competencies, each resource will perform stronger in one area versus another. To account for that, an On-Boarding Manager should adjust their interaction and performance feedback with the resource accordingly. A suggested interaction plan for working with a new hire is given below.

- ❖ First Three weeks: Meeting with the new hire for 30 minutes at the start of each day and then checking in with them briefly at the end of the day, or earlier if needed.
- ❖ Week Three: Sit down with the employee and outline performance expectations and first year objectives. Taking this step after the first three weeks gives the employee a chance to better understand their role and work before trying to evaluate their own performance.
- ❖ One month up until the end of the first year: Meeting with the new for an hour once a week plus having one additional hour to focus on additional training, where the new hire picks the topics for the training. This makes sure the new hire getting the additional training that they think is necessary in addition to the training place outlined.
- ❖ After the first year: Meeting with resource for an hour once every two weeks with periodic check in points depending on project work. The focus of these sessions would also include coaching around their career development.

CONCLUSION

This paper provided a plan for how to successfully onboard a SAS Analyst. It covered the roles and responsibility of the analyst and the types of activities they would complete on a day to day basis. It also outlined the profile to fill that position and the core competencies of communication, Statistical/Technical Problem solving skills, Programming and Adaptability. From there, a training plan was provided and finished out with how to execute the performance management for the new hire. The content here could be applied to multiple SAS environments.

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