Pressures on SAS Programming Roles and their Evolution in the Competitive Global Environment

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ABSTRACT

Pharmaceutical and clinical research organizations (CRO) are facing tough economic conditions and pressures on their ability to reduce the costs to conduct and report clinical data. This industry is exploring ways to reduce the layers of operational groups to streamline the development process as well as reduce the time and cost to bring out a viable compound. These efforts need introspection of operation group's structure and resource allocation. When faced with similar dilemma during IT industry bubble, software industry reacted quickly to reduce their costs by concentrating on their core competency and outsourcing the standard coding & maintenance work to low cost regions in North America as well as in emerging markets. This opened up doors for other industries also including the Pharmaceutical industry. Most organizations feel that clinical programming roles can be effectively outsourced without compromising the quality of the output.

PREFACE:

The constant changes within the Pharmaceutical as well as CRO industries with mergers, restructuring and outsourcing of work put most of the programming teams and its members in an uneasy situation. Unable to predict, prepare and adapt to the changing business environment can make many members and departments vulnerable and unproductive. This results in further loss of valuable time and delay in delivering the much needed results for the organizations. In these financial times, organizations cannot afford such uncertainty and unproductiveness. So it is in the interest of every organization and programming leadership to prepare their members for the future changes and changes in their roles. Programming teams need to be prepared for the new responsibilities and opportunities that lay ahead of them in this competitive global market. This paper describes the evolution of the programming roles due to market pressures and expected future roles for the programmers as well as ways to prepare for the future challenges.

THE OUTLINE OF THE PAPER:

1) Convergence of programming roles
2) Future roles
3) Ways to prepare for these roles

1) Convergence of programming roles:

SAS is the primary programming language used by many clinical programming groups in the Pharmaceutical industry. Over the years, organizations designed, re-designed, and disintegrated clinical SAS programming teams into different departments based on the tasks they support. Programmers supporting the SAS edit checks and data cleaning tasks work closely with data management department. SAS programmers who help with creation of standardized analysis datasets from raw datasets may work as part of a different SAS programming department. Some organizations differentiate between SAS programmers working with standard safety reports from efficiency and submission programmers.
Organizations created many different programming roles and titles and that created silos within the organization. Even though the basic skill for many of these roles is strong SAS programming knowledge, individuals may be supporting different groups based on the opportunities. In many organizations, there will be minimal interaction between these groups and minimal knowledge transfer between these groups. These developments may be detrimental to the progress of any organization as it takes longer to accomplish work. Some organizations have taken steps to overcome this dilemma by combing the programming groups and roles into one and forcing coordination between groups. Without these changes, organizations have to maintain different training plans, job descriptions, and career development plans. For these reasons, the disintegration can be costly and inefficient. As the competitive global market is offering alternative and cost effective resourcing models, organizations can no longer afford to neglect these pressures. Organizations are using or thinking of using, programming groups that can accomplish all SAS programming tasks. This is not an easy change for many as these changes need re-training and redefining the roles. Most of the CROs have a single role called statistical programmer and members with in these roles can accomplish all SAS programming tasks in a study.

Many Pharmaceutical and Biotech organizations are under pressure to reduce their cost of operations and more and more money making drugs are coming out of patent protection. This forces these organizations to be imaginative to reduce their costs. The explosion of low cost service centers in the global market also fuelled the role evolution in the industry. The flat price structure of low cost models is expediting the convergence of the SAS programming roles.

2) Future roles:
Many developments in the industry are influencing the changes in the SAS roles. One common theme coming out of most of the Pharmaceutical organization is outsourcing. As organizations are grappling to better understand the ways to reduce their costs and increase their productivity, various outsourcing models offer respite from this complex issue as well as provide immediate solutions. The nimble and well prepared SAS programming service providers are offering alternative solutions and resources to provide one stop SAS programming support. Many traditional CROs are also in turn using the services of low cost centers developed by themselves or by other local service providers.

Because of these sea changing developments, the roles of SAS programmers in the North American organizations are changing rapidly. Organizations are looking for ways to efficiently execute, delegate, and manage the work load. They need resources that are well prepared to take up the new lead roles that expect more than what it used to be. These roles are complex and difficult to train members in short time especially in the area of cross cultural working experience.

CDISC has helped the industry by setting a path for standardization in the industry processes. These standards help in developing efficient processes and programming systems which can help industry save costs. Standardization of processes can also help in outsourcing the work to service providers. Some of the standard and routine work may also flow to low cost centers.

Organizations are increasing the search for programming members who can develop standard applications, who can oversee work of other programmers, and who can train junior resources. The programming roles have become more of a technical lead roles and technical project lead roles. Members with these skills will be more in demand as work is distributed across the globe to gain efficiency of time and cost. Project management skills are also expected out of programmers as it is expensive to assign a project manager for tasks that involve programming. Organizations are looking for subject matter experts (SME) to provide technical and scientific leadership.

Traditionally, programmers are not expected to bring in strong soft skills but technical skills. But to be successful in this current global programming team environment, members need to have skills to work, communicate, and negotiate with international team members. They also need to be flexible with time
zone differences to accomplish collective work. Not all members are equipped with these skills and tough to get trained in short notice. Many programmers like to take tasks into their own hands. When asked for help or clarifications, most programmers will fix for others but this is not an efficient way as well as not a cost effective way.

3) Ways to prepare for these roles:
Organizations and programming leadership needs to prepare its members and teams to this new reality of global competitiveness and enhanced expectations. Organizations need to prepare the teams for these future challenges if the future hasn’t already arrived for them yet. Organizations that have offshore offices may be struggling to get best out this set up as they see communication and cultural barriers between the teams. Organizations need to use their experienced and knowledgeable resources to guide and monitor their global teams.

Change of role and expectations are not easy tasks to adapt. These changes need preparation from leadership and commitment to make it work. Even in these changing times, experienced and knowledgeable and versatile programmers have a place in every organization. But these members need to be ready to take bigger challenges of not only leading the study programming efforts but also the flexibility to support and manage low cost resources. The success of programming teams will be reflected by their ability to quickly adapt and provide value to the organizations. The intentions of all these changes and role evolutions are to provide value to the organization and industry.

CONCLUSION
The pharmaceutical industry is evolving itself to face the challenges of tough economic conditions, competitive global market, and impending generic drugs pressures. These changes in turn are putting pressure on programming roles in the organization. But there is a silver lining to this development. The evolution of SAS programming roles provides more opportunities for programmers to take up more challenging roles. This can expand their abilities and marketability. Individuals with drive to succeed and preparedness to adapt to changing roles can carve niche for themselves in this ever changing competitive environment. Even though the outsourcing and emerging market pressures are real, members who have skills to lead, mentor and manage other resources, can always find a place in every organization.

It is the responsibility of every organization’s leadership and management to prepare their SAS programmers to the future challenges. Managers need to mentor and train programmers to take up the future roles and need to encourage them to develop soft skills to communicate and coordinate global programming resources. Industry standards like CDISC provide more opportunities for programmers to concentrate on science of drug development instead of spending time on developing programs those can’t be reused due to expected changes from study to study.

REFERENCES

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