ABSTRACT
No matter how outstanding you are as programmer, your value to the organization that employs you is based upon your perceived contributions to the overall goals and success of the organization. This paper addresses the role that consultants (both external and internal) can bring to an organization, thereby enhancing not only your performance, but that of others. Issues are presented for both the client and consultant.

Consultants can have a larger view than just that of the task at hand. They can play a vital role in helping establish the direction to be taken on not only current work, but also on future projects. In the process, the client associated with bringing the consultant into the organization will be perceived as a strong team player. It is essential that the consultant and the sponsor be proactive in broadcasting their accomplishments and make higher levels of management aware of progress.

Several specific examples will be presented where the presenters were in one of these roles. The examples relate to IT projects, not all of which were SAS. In each example both the consultant and the sponsor bringing them in was perceived well.

INTRODUCTION
As you read this, the term “consultant” may connote very different feelings for you. For some, a consultant is someone who swoops in and tells you all the things that you are doing wrong with no accountability to seeing the solution work in practice. For others, a consultant means someone who can’t hold a job or at least doesn’t want to be tied down to one particular job for a long period of time.

In this paper, we define the various aspects of consulting and share our perspective of what it means to be a great consultant as well as what it might mean to hire a consultant for your organization and your personal learning and growth. It may seem strange, but we posit that hiring a consultant can actually have tremendous impact on your own career as it allows for the infusion of new ideas, innovation and new and unique ways of thinking about the world.

I would also suggest that a consultant doesn’t necessarily have to be someone that comes in from the outside, but also someone that we might invite in from another area of the company or even a role that we play that forces us to get out of our own way and think differently about a problem or process.

So what does this have to do with SAS? On any given day, most BioPharma companies employ different types of resources – from full time employees, to contractors, contingent workers, FSPs (full service providers), outsourced projects and consultants. Throughout this paper, we differentiate between those being managed “like an employee” such as FSPs, contingent workers and contractors to those that are clearly bringing their experience “as an outsider” to bear on a problem or process.

DEFINITION OF TERMS AND ROLES
To start this discussion let’s first define some boundaries and definitions for roles:

WHICH SIDE OF THE FENCE ARE YOU ON?
There are never absolutely distinct boundaries in the roles that talented personnel play in the development of projects. For purposes of this paper we are going to loosely define some roles and draw differences between clients and consultants:

Client: the organization, programmer or manager of programmers thinking of hiring a consultant.

Internal Consultants: Individuals within an organization that are typically regarded as programmers, but have a special skill at helping others within the organization develop projects. This can be very difficult to accomplish in corporate structures where talent pools are strictly protected and not shared between competing business units. Even rarer are true internal consulting departments.

External Consultants. Individuals external to the organization who earn their livelihood working in other organizations by sharing their specialized knowledge. The types of services these individuals perform vary widely
and will be explored in this paper.

At the end of the day, both the consultant and the employing firm need to be on the same side of the fence: moving the employing entity forward while enhancing the careers of all personnel involved. In particular the consultant should make every effort possible to enhance the careers of the client personnel with whom they interact.

**FIRST, A REALISTIC APPROACH TO PROJECT MANAGEMENT**

All information technology efforts take on the appearance of a project at some point. As such, be they small or huge, they are subject to pressures of time, budget, scope and quality. Project management may be a formal or an informal process. Even in cases where project management is not addressed directly as such by name, it is actually there silently behind the scenes! Consultants and clients need to play close attention to stay within the boundaries of the task at hand.

Reference is often made to the constraints presented by the “Iron Triangle” of project development --- Cost vs. Time vs. Quality (Scope), (Figure 1). While there are numerous variations of this diagram in the literature, all assign the terms “cost” and “time” to two of the vertices (angles) of the triangle, with the third being either scope or quality or the combined term “scope/quality”. I prefer the third vertice being named scope and the term quality being the area in the middle enclosed by the triangular points. The phrase “pick which two you want” is often heard to describe tradeoffs. Realistic assessment of projects dictates the assignment resources appropriately to each point.

What does this have to do with the consultant/client relationship? Lot’s! Anything the consultant or the consultant/client combination can do to make everyone look better will enhance the careers of all involved.

Figure 1. The “Iron Triangle of Project Management” adapted from http://en.wikipedia.org/wiki/Project_management_triangle

The “Bottom-Line” on the “Iron Triangle”: You can’t have cheap, quick, wide scope, and wonderful quality. Pick the 2 you want and manage for the 3rd trying to arrive at a quality level needed.

**Future-Proofing** --- Projects undertaken today should at least attempt to address issues that might come up in the future. The days of “don’t worry about the future --- that comes later” are long gone.

**THE CONTRACT – SPELLING OUT WHO DOES WHAT**

The contract for services to be rendered should be spelled out on paper. This can be as simple or as detailed as both parties like and is often referred to as a Statement of Work (SOW.) Each party should very clearly understand the position of the other party – that is, the stated and implied intentions of the work product. Sometimes these take on the form of a written summary, an executive presentation, code or a combination thereof. The contract should provide contingencies for the project management principles stated above. Above all else, the contract is no better
than the underlying principles of the parties involved. If one side believes they are going to receive the most fantastic quality at the cheapest of prices in the smallest amount of time, and the other is thinking “I can’t believe they are going to pay us this amount of money for this work”, the project is headed for disaster. Contracts must be realistic for all parties involved and leave something on the table for both parties when the project is completed. Everyone must be hearing the same thing.

DEFINING ROLES OF CONSULTANTS:
The definition of the term consultant varies from organization-to-organization and individual-to-individual and project-to-project. The following are just some examples of who might be considered a consultant:

- **Hired programmer on a temporary basis.** Being a contract programmer can mean just that. You are hired to code. You may or may not have some opportunity in making inputs to the organization on matters that are of a more consulting nature, but at the end of the day, you are hired to do one thing – code. You are not a true consultant.

- **A developer of systems (contract developer).** Contract systems development is defined as projects bid out and you are making a deliverable according to a set of specifications. This is an entirely different proposition, one that has traditionally been beset with all sorts of risks: scope creep, timeline erosion, cost increases, miscommunications, etc. This type of project is rarely a consulting opportunity.

- **A “true consultant”** --- The strict consultant (either internal or external) who most likely comes in, assesses situations and makes recommendations as to future direction. Any code development by this individual is minimal. The consultant must be technically proficient to code the work and thus maintain credibility.

- **A “hybrid consultant”:** This consultant is both coding and consulting. The individual consults at all levels in the organization as appropriate and actually does programming in terms of systems development and systems prototypes. This individual pays particular attention to what is going to be left after he/she leaves: good coding, proper documentation and trained personnel who can carry on in the future. This individual is very interested in getting programmers and projects off on the right foot. They do not hesitate at all to correct the direction of a ship that is in midcourse. This consultant maintains technical credibility with the programmers and business credibility with management.

TRAITS OF A CONSULTANT THAT WILL ENHANCE YOUR CAREER

What are traits beyond providing pure technical knowledge that make “true consultants” and “hybrid consultants” valuable in enhancing your career (and we assume here you are the sponsoring client)?

- The consultant must know the technology.
- The consultant must be a great communicator (both written and oral.)
- The consultant must appreciate the business and business processes involved.
- The consultant has experience in working with organizations similar to yours (although we’ve seen very successful examples of lessons brought in from other industries.)
- The consultant does not take every job that comes along. Being choosy about the type of work, the duration and whether they can be successful is a sign of a good consultant.
- The consultant is comfortable working with various levels of the company – both horizontally and vertically. Working one or two levels higher than the initial client assures the potential for developing a wider client base and gives the consultant a basis for continuation should the initial client move on. From your perspective as a client, there should be ample opportunities for your name to come up as the consultant works the organization.
- The consultant is willing to train personnel (permanent or otherwise) to ensure long-term success.
- Documentation, prototypes, and a commitment to on-going consultative training are high on the list of things to be done before he/she leaves. Make sure both you the client and the consultant emphasize this to higher management when opportunities arise.
- The consultant is not fascinated with technology for sake of technology. She is fascinated with how the business can be optimized through the use of technology.
- Does not forget the person who brought him/her in. After all it’s only the right thing to do! Just making simple positive compliments about them as the consultant works the organization will do wonders for careers.
- Knows when to code and when to consult. It is awfully easy for a technical person to slip into “code mode” and start losing the consultant role. Code mode is fun, but the consulting roles can have greater impact.
- Always remembers the “Iron Triangle” of project management and helps his primary client achieve these goals.
Using Consultants to Enhance Your Career, continued

• Understands realistic goals – the consultant knows when to say “no”. Sometimes the client is not always right! Does not force fit something into an organization that is not their best interests.
• Has effective communication skills to tell the client and management: (a) what they want to hear, and (b) more importantly, what they do not want. This can be difficult.
• Be realistic in business deals – the consultant must realize that there has to be something left on the table for each party at the end of the day. Cost of services has to be in proportion to the value attained. Sometimes this becomes challenging when the specific skills are in short supply. Be judicious about raising your rates just because you can.
• Works with the client across difficult organizational functional silos. For example data management and data warehousing operations are often not in true synch with company components using the data.

DEFINING ROLES OF CLIENTS

Simply stated for the purposes of this paper, the client is the person or group of people doing the hiring of a consultant. The client may be a programmer, a manager, or ideally a programmer/management group – maybe even a department.

Remember and never forget: “When assessing individual and/or team performance, it is perceived performance that is measured, not actual performance” … Roger Muller, 2014. It may not be totally accurate, if may not be fair, you may not like it, but it is a fact of life at the end of the day in most organizations. The good consultant and the good client will always act in harmony to promote both perceived and actual performance. You the client must use all powers available to you to promote your own image. A consultant working a true consulting capacity can help you and your team immensely in broadcasting your efforts.

As mentioned earlier, some sort of contract should spell out how much involvement the consultant and the client have as a project moves forward. Spelling out “who does what” is essential.

TRAITS OF CLIENTS THAT CAN HELP ENHANCE THEIR CAREERS WHEN USING CONSULTANTS

If you are a client, try to take on some of the following traits that will give you a working relationship with the consultant that permits for furthering your own career:

• Strategic: Understand and appreciate corporate/enterprise objectives and departmental goals.
• Receptive: (1) know how to ask good questions, and (2) know how and when to listen.
• Open: Top-notch clients do not view the consultant as competition or as someone who is going to take their job, but rather as a partner moving forward. This can be a touchy issue for some folks, particularly in this day of outsourcing.
• Aware: be attune to the political and structural framework of the organization and openly share these with the consultant.
• Transparent: Be open to sharing your personal goals with the consultant and how the work of the consultant fits into that.
• Focused: Stick with the principles of good project management and monitors the “iron triangle” for cost, time, and scope creep/quality.
• Modest: Realizes that he/she is not the “smartest person in the world”.
• Teachable: Does not possess only those skills he/she walked in the door with when first hired years ago. Takes classes, teaches classes, and looks forward to helping others.
• Fair: And lastly, does not continuously complain about the price being paid for the work either being performed or to be performed. This attitude does not make for a good long-term relationship.

BRIEF CASE HISTORIES –

We are now going to discuss 3 case histories. The names and details have been changed somewhat to avoid having to get approval from all parties involved in projects we worked on, often many years ago.

SITUATION 1 – I NEVER IMAGINED IT COULD BE SO COOL!

As an employee of many years in a large corporation, I had not been aggressive in pursuing outside talent to assist in matters with which I was regarded as a technical expert. Yes that includes SAS as well as many other disciplines. I had a job, which allowed me to explore areas outside my immediate areas of expertise. We farmed out many “jobs” as “tasks where we needed more hands”, but really only tried to get the immediate tasks at hand accomplished.
While attending a “Spring Windows World” convention in the mid 1990’s (now long extinct), I attended a presentation on Microsoft Project. I had the software, but had done very little with it for anything other than very small departmental activities. I was so impressed with the presentation and as I was telling my boss about it, he interrupted me and said “invite him in to talk to us, I’ll give you the money”. I replied, “but wait --- he lives on the other side of the country!” The reply was: “so what?” With that I wandered into a sequence of events that I would have not dreamed possible.

First off, I contacted the consultant who was on the road at the time. I had left only very limited detail as to who I was, where I worked and what I was interested in talking to him about. He returned the call the following day and I soon discovered he had done a lot of homework on who exactly we were in the interim. The conversation proceeded to the point where he gave me his schedule in a “loose” sort of fashion and stated he would like to slip in and visit us for a couple of days. The term he used was “interview us – at no charge”. I was totally dumbfounded as I had never experienced anyone not wanting to come work for our organization. I loosely committed and then told my supervisor who was almost dumbfounded and then broke out in laughter – “This has to be a first, bring him in! Make sure to pick up his travel expenses.” Thus began one of the most unique corporate experiences I had. All of this was attributable to one great trait (among many) of this consultant: he did not take all work headed his way.

This individual not only knew the software, but he knew effectively how to implement it. He knew how to go from the initial sure victories to more complex ones, how to work through management levels and how to work across corporate divisions and organizational silos. Over a period of several years, he always made reference to his entrance into the company, our division, department and me as well as others he interfaced with.

Needless to say, this example is one of consultant helping my career. I only wish someone had told me about doing this twenty years earlier.

**SITUATION 2 – DISRUPTIVE CHANGE AND THE WAY IT SHOULD BE!**

At ThotWave, we rarely get brought in to polish an existing system – but rather to guide an organization through a disruptive change in how people think about and perform their work. We had been working with a customer for a number of years doing mostly incremental improvements, adding servers, validating systems, reviewing best practices and so on. I knew this project was going to be different when the client starting asking big questions – what if we did X? What would happen if we didn’t have y? and the conversation went from could we to how.

This client gave us enough rope to explore the potential architectures, their cost/benefits and the impact to the organization in terms of change management, resource impacts, skills assessments and fit with the strategic IT and business trajectories. Unlike most customers, we ignored the solution space at first and spent our time understanding how people worked, what they liked about that, what they hated and why and got people answering the simple questions like: if you could have anything in the world that would make your job easier, what would it be?

We knew very well that you can’t get everything you want and the realities of validated software, monolithic organizations and embedded processes had to be considered as we sought to find a solution that would bridge the gap between inefficient, outdated processes and nirvana. Furthermore, as we see often, nirvana means very different things to different people – so we had to compromise a lot. The good news for the client is that we were able to deploy a new solution, to a global enterprise, handing the complexities of international and departmental regulatory constraints and the unique personalities of nearly 2,000 programmers, statisticians, epidemiologist and their management. And we closed down our hyper-care support facility after only a few days because there just weren’t any issues that warranted the support staff to remain in a heighten state of alert.

The lessons for me can be summarized in the following:

- The client trusted that we were all working toward the common good.
- We engaged people throughout the organization as change agents – helping to find holes and prove us wrong - to ensure that the ultimate solution was the best solution.
- Because of the deep level of trust, we were willing to do whatever it took to become successful – these were our friends and they entrusted us to do the right thing.

**SITUATION 3 – WHEN SHOULD YOU GET A DIVORCE?**

While consulting is incredibly rewarding, ever evolving and often challenging – sometimes it is not so much fun. For those types of engagements, they can be an eternity. Unlike the previous example, sometimes the client treats you like a commodity resource and they will be happy to tell you that they can find more just like you if you don’t tow the line. Fortunately, I’ve only had to fire two customers in my 25+ year career. Just like a relationship that goes bad, I
found myself asking the hard questions afterwards – what could I have done differently to change the dynamic? All too often, the answer comes back as I should have never taken on this project.

In one case, we had been working with this customer for several years – they entrusted us to help navigate their global license negotiation and we had not only saved the company several million dollars on software renewals, but architected SAS (and the license agreement) in such a way as to ensure that the platform would scale. Unfortunately, because of no fault of their own, the group and the champions that we had become close with were restructured and we had new management. It became clear that they viewed us as tactical resources and the work became – well “work.” The deadlines became unrealistic, the project meetings confrontational and the personnel accusatory. We gracefully ended the relationship.

The second time we ended a customer relationship was after six years of working with them. Much like the proverbial frog that stayed in the increasing hot water way too long, you don’t realize how bad it really is until you compare it to the ideal client. Like many organizations, change is inevitable and people come and go. As stated earlier, it’s really important to be able to work both horizontally and vertically in an organization – not as a means to get your next project – but rather as a way to ensure that you are being represented accurately and not being “proxied” by someone that has no interest in your success or reputation. For us, reputation is all that we have.

The good news is that despite their best efforts, our reputation remained intact and, to borrow a phrase from Gwyneth Paltrow, we “consciously uncoupled”.

CONCLUSION

To conclude, if you are a potential client for consultant’s services, don’t hesitate to use them to get the task at hand done if they will help your career in the fashion outlined in this document. You might be surprised! If you are currently doing consulting, don’t hesitate to pick up on some of the pointers in this presentation as to how you might do more things for your clients’ careers other than just coding.

CONTACT INFORMATION

Your comments and questions are valued and encouraged. Contact the author at:

- Name: Roger D. Muller, Ph.D.
- Enterprise: Data-To-Events, Inc.
- Address: 14475 Stephanie St
- City, State ZIP: Carmel, IN 46033
- Work Phone: 317/985-0132
- E-mail: rdmuller@hotmail.com
- YouTube SAS Channel:

- Greg Nelson
greg@thotwave.com
ThotWave Technologies, LLC
1289 Fordham Boulevard #241
Chapel Hill, NC 27514 (800) 584 2819
http://www.thotwave.com

SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries. ® indicates USA registration.

Other brand and product names are trademarks of their respective companies.