

SUBJECT MATTER EXPERT: WORKING TOWARD ENSURING THE
VALUE IN A PROJECT ORGANIZATION

by

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SUBJECT MATTER EXPERT: WORKING TOWARD ENSURING THE VALUE
IN A PROJECT ORGANIZATION

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ABSTRACT

This thesis presents a methodical analysis of what a Subject Matter Expert (SME) is and how the SME can actually work toward adding value to the project organization. This analysis was completed using current literature, including that of the Project Management Institute (PMI), on both the value of SME's and the analytical tools available to assist the SME and the project organization work toward ensuring value that is measureable, and more importantly, legitimate to the organization. The paper presents a combination of tried and tested tools as well as new approaches to dealing with SME's in the project organization to ensure that interaction between the SME and project organization show legitimacy in a pragmatic, moral, and cognitive way.

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CHAPTER 1

INTRODUCTION

As with many project organizations around the globe, there is often a need to deploy a Subject Matter Expert (SME) to provide temporary expertise, guidance, or assessment for a particular technical or functional area, and there is also sometimes the need to bring in an SME to run a particular activity or functional area and is responsible for the success or failure of that activity, including having full authority to make the changes needed for success. This dissertation will focus entirely on the SME providing temporary expertise, guidance, and assessment for the project organization.

As a senior level Program Manager for a large international project organization, I have often deployed or been the recipient of an SME's work to help in specific areas such as testing, data conversion, application development, and even project management. More often than not my experience with SME's has been a major disappointment since expectations surrounding one are often naturally high based on lofty sounding title alone, but without understanding the value he is to be to the project organization disappointment in results or perceived overachievement often prevail. Therefore, I have decided to write a paper to help project organizations work to ensure they will achieve value when an SME is engage in a project, which will hopefully increase the probability of project management organizational success.

The Project Management Institutes' *A Guide to the Project Management Body of Knowledge*, 4th Edition (Project Management Institute, Inc., 2008) does lightly address

the role of the SME within the project organization. In Chapter 2, pg. 26 there is mention of SME within the project team, noting that:

A project team is comprised of the project manager, project management team, and other team members who carry out the work but who are not necessarily involved with management of the project. This team is comprised of individuals from different groups with the knowledge of a specific subject matter or with a specific skill set who carry out the work of the project.

While there is a soft mention of the SME, there is no specifics on the role overall and the process for the project organization to determine what value is to be contributed by the SME is not mentioned directly or indirectly. Furthermore, PMI's *The Standard for Program Management*, 1st Edition (Project Management Institute, Inc., 2006), where the information on the SME should reside, is almost equally silent on the topic within Appendix D, pg.85 where there is mention of expert judgment:

Expert judgment may be obtained from a variety of sources both internal and external to the program. These sources often include functional and technical area specialists assigned to the program and in other organizational units within the enterprise, external consultants, professional and technical associations, and specialized governmental and industry bodies.

Since the PMBOK and the Standard for Program Management are the major global reference guides to project and program management that organizations utilize, it is somewhat disturbing that their role and the process of making an evaluation is not included, which may be a contributing reason that the value of the SME is so loose to the project organization and the people that need to execute projects. Therefore, it is my intent to help project organizations work to ensure the value the SME will have to their organization and is the topic of my thesis.

Chapter 1 provides an introduction to the subject of the need to follow a process to determine the value of the SME to the project organization and the reason I am so interested in this topic, along with shortcomings of the PMBOK and Standard for Program Management in this particular area of study.

In Chapter 2, from literature, I will review information surrounding what an SME is and I will also provide a review of value and the SME and apply it to the role of the SME and the host project organization to help focus members of a project organization on what real value or expectations to have when an SME is inserted into the organization, often as a management decision outside of their control.

In Chapter 3, I present how a project management organization can work toward determining the value of the SME, along with tools and techniques that can be applied by the project management organization to aid in determining the value of the SME with some level of surety and comfort for both the organization and the SME since the SME is also a key stakeholder with a serious interest in project success.

In Chapter 4, I will present a case study regarding the use of an SME that I utilized on a \$100+ million application development project. I will present the case as it occurred, along with all of the challenges and failures. Once complete with that tale, I will also present an alternate scenario that could have occurred if I had applied a methodology for bringing on and utilizing an SME, a methodology that would not only benefit the project organization but also the SME on a personal and professional level. I think the contrast between the two approaches will be beneficial to all readers and could be used as guideline for further utilization of SME's on projects.

In Chapter 5, I will provide my conclusions surrounding the role and value of the SME and my thoughts on additional research items that may contribute to this topic in the future. In this chapter, I will also provide recommended changes to the PMBOK Guide and the Standard for Program Management. I believe it is important to not only discuss changes, but also find a path to implement those changes to benefit the overall profession of project management, which is what I hope this thesis achieves overall.

CHAPTER 2

LITERATURE REVIEW OF SUBJECT MATTER EXPERTS AND VALUE

For this literature review I will lay out briefly what an SME is assumed to be from different perspectives, and then move into what the view of the SME is to the organization that he is supporting and some of the challenges he faces while supporting a project organization. Additionally, I will bring into this literature review information on adding value that can be applied to the role of the SME.

Subject Matter Experts

Subject Matter Experts (SME's) are indeed thought of as individuals that contribute to an endeavor, such as a program or project, with the expectation that their knowledge and expertise exceed the rest of the organization they are supporting (Bahlmann, 2008). The SME is also an advisor, often originating or participating in advisory boards or other high profile organizations, so they generally have a special in-depth knowledge of a business or technical area that is often critical to the project organizations success Fajardo (2010). While this may seem like a simple fact, the acceptance of this from project organization itself may be a challenge.

This does not mean that acceptance of the information should not be greeted without some level of inquiry or challenge. Barabbaa, et. al (2002) believe that any advice without validity should be ignored or be accepted as something that must be evaluated since many so-called gurus (SME's) provide advice that is fashionable or not well researched. Additionally, since many of these problems are indeed very complex

and do require a lot of work, they also note that managers often seek out simpler solutions than are really needed for project success.

On the key question the project organization must ask is: Are SME's more knowledgeable than lay persons on the project? That question is a challenging one, and it is highly subjective. One key element that aids in building an objective opinion is for the SME to build trust and credibility (Maranta, et al, 2003). An SME can come into a project with the expectation of knowledge, and even possess the knowledge, but without building the trust needed to gather the stakeholders into agreement, the work of the SME will be ignored or discounted to a level that he becomes ineffective for the organization and he will fail in meeting any concrete objectives, including the individual objectives of the SME.

Turner (2001) also notes that the problems with SME's is that the expertise and expert power, real or perceived, also come with political challenges since there is some level of violation of the norms for the organization that must be overcome. An SME that has a clear cut objective can become an absolute failure if there is not an understanding of the political landscape of the organization, and to some level the acceptance and management of the political norms.

It is also noted from literature (Ford, et al, 2008) that it is important to view the SME as a change agent within the organization. In order to be a change agent, the executive team or the project sponsor(s) must be convinced that the arguments for change are legitimate and are willing to push the organization forward in the outlined direction. It is often presumed that change agents are doing the right and proper things while the

recipients of change are placing roadblocks to change, but in the end the change agent (SME) is concerned with figuring out how to get things accomplished and the recipients are concerned about what will happen to them if the SME is effective and actually adds value to the project organization. The executive team or project sponsor(s) can help bridge the gap between these two challenges if there is indeed buy-in.

Value and the SME

Adding value to the organization as an SME can be quite challenging, whether it be technical, political, or organizational. Only through correctly framing and addressing the problems he has been assigned can an organization or the SME discover the value of the role that the participant is engaged in. Therefore, defining the value he is expected to deliver will also influence his own behavior and his own concept of the value of his task, meaning self image is also important to adding value to the project organization (Caldwell, 1959).

While it is noted that self image is important for his own self worth relating to the value that will be added to the project organization, Yuan and Dong (2006) also note that value stands for the significance of things such as opinions, ideas, and attitudes. They also highlight the importance of the concept that value cannot be separated from culture, and within that culture there is a socialization process that must occur to form the definition of value to any organization, which carries over to this discussion on the value of the SME to the project organization. Yong and Dong (2006) additionally note that mans activities (in this case the SME) can affect his concept of value and vice versa, and the organizational concept of value is actually a bond since it is a core element of the

organizations overall identity. Furthermore, they also see that “value” means significance or meaning, while the “concept of value” is something like an idea, an opinion, or an attitude for the individual or the organization and that it must be significant for them overall.

The SME, regardless of origin, will bring outside information to the project organization, and MacDonald (1995) states that change in an organization is dependent on new information which must come from outside of the organization, meaning the outside world. This is true since it is clearly unrealistic to believe that all of the information needed for change is contained within the project organizations boundaries, so there is often a need for him to be armed with outside information to assist in the changes to the organization. This does not mean the information he brings in from the outside will easily fit into to the organizations information already in use. Additionally, many will not receive the information or realize the value of the information he provides, since some will believe in the not-invented-here syndrome.

The SME must also manage stakeholders, meaning primary stakeholders, such as employees, other contractors, and customers in order to assist in value-creation (Hillman & Keim, 2001). Without effective stakeholder management, he will not be able to work toward providing the value needed to create the organizational or technical changes needed for project success or even mitigation of the challenges the project organization already may be facing. Managing stakeholders is always a challenge, so he must be properly equipped with the tools and skills to be effective with the organization and to ultimately add value.

Without an understanding of the legitimacy of the role of the SME within the project organization, the value he can provide will never be fully realized by the key stakeholders within the organization. In general, Suchman (1995) on pg. 574 notes that:

Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions.

Therefore, for him to be successful in adding value it is important for both him and the organization to understand that he must have pragmatic, moral, and cognitive legitimacy.

Pragmatic legitimacy, which rests on self interest by nature, is involved with the immediate group, but may work out to a broader group of stakeholders the SME will encounter and exchange information with, which really is constructed of a type of exchange legitimacy where there is an expected added value on the information the SME provides. This is not to be confused with the other subcategory of influence legitimacy which has its roots in the group seeing the SME's work adding value to their larger interests.

Moral legitimacy, essentially meaning "is it the "right thing to do?," is also needed for the SME within the project organizations since many times direction can be ambiguous and taking direction and advice from an SME can become even more ambiguous unless the direction and advice can be seen as legitimate from the group. Garnering and maintaining moral legitimacy, at least in my view, can be the biggest challenge since many times results have not been proven and everyone in the project

organization is not sure if the direction or advice is the right thing to do, which will take convincing on both him and his sponsors part.

Cognitive legitimacy really deals with how individuals think about the SME or the work he is doing, which could be either active or passive acceptance of the role and the value he adds. Having stakeholders think that the work he is assigned will add value to the project organization is a key since many individuals and groups within the organization will need to support him during the engagement. If stakeholders do not think his work is legitimate, the chance of failure in his mission will increase due to lack of support from key parts of the organization.

The challenge for the SME, once a full understanding of the three areas of legitimacy is achieved, is to link the various legitimacies. However, that does not mean that it is impossible. Suchman (1995) provides a proactive strategy for gaining legitimacy that can be applied to the SME which surround three clusters: (a) efforts to conform to the dictates of pre-existing audiences within the organization's current environment, (b) efforts to select among multiple environments in pursuit of an audience that will support current practices, and (c) efforts to manipulate environmental structure by creating new audiences and new legitimating beliefs.

There are also many times when the point of view from a particular gender enters the picture in the business world, and I think it is worth noting that when it comes to defining success or value, there is really no difference between male and female team members since both view success or value almost in the same way, with few notable

differences (Mahdavi, 2009). This data is useful for this paper since value really needs to be viewed a uniformly as possible across both men and women.

CHAPTER 3

METHODS FOR PROJECT ORGANIZATIONS TO DEFINE VALUE

Since there has been a review of the SME and value in literature, it is also important to have a method or tools for the project management organization to utilize to work toward defining that value, meaning taking the steps necessary to ensure he is meeting the definition.

Leslie Moller (1995) believes that is almost impossible to complete a project without some level of SME involvement, and provides four stages of working with an SME that can be utilized to maximize value: Preparation, Initial Meeting, Process, and Closing. Moller contends that this four step process will aide in turning a potential liability into an asset that adds clear value to the project.

Within the preparation stage, there is a need to orient the SME to the project to gain his own confidence. This seems like a natural thing to do with any new person that comes on-board, and is often captured in a formalized on-boarding process, but surprisingly that is not always the case with project work. Within that orientation, Moller (1995) notes that his role must be clearly defined for both the sake of the project organization and the SME. Without understanding what he is to do, what the inputs and outputs are, and what exactly his roles and responsibilities will be, chaos will reign on what is could already be a chaotic situation within organization.

For the initial meeting with the SME the development of a shared agenda or even charter is also suggested, which will allow for stakeholders to be prepared and ensure the meeting is indeed productive for both the project organization and the new SME that is

about to come on-board. One key important point is to ensure that there is a joint agenda so that he has input as well as the project organization he will support, with the end goal of having everyone acknowledge that he is recognized as the expert.

Table 1. Moller (1995) Steps for Working with Subject Matter Experts

Preparation	Initial Meeting Tips	Process Tips	Closing Tips
Research the SME's Background	Set ground rules	Stay a team; avoid "us" versus "them" situations	Personally provide the SME with a copy of the program
Define the SME's Role	Explain project processes	Find and use the SME's learning style	Take the SME out for a celebration
Informally Meet Your SME	Describe work flow patterns	Constantly acknowledge the SME for his or her contributions	Write to the SME's superior and praise his or her efforts and contributions
Develop and Share Agenda	Define timeliness and schedules	Make controlled mistake early on so the SME feels valuable	Seek the SME's input and suggestions for ways to improve future projects
	Identify individual and joint responsibilities	If question fails, try another tack without criticizing the SME	Share any summative evaluations
	Stress team concept	Confront problems immediately	Avoid criticizing the SME after the project-it's too late
		Stick to time lines	
		Get sign-off	

Farjado (2010) states that the SME is also a key stakeholder with recognized expertise and also has some level of authority while being engaged in whatever endeavor has been assigned, but indicates that the many times organizations hold meetings where he has not been properly prepared to even answer questions effectively, which makes him look incompetent. This cannot happen, so again the importance of preparation is important. Therefore, it is the responsibility of the project sponsor to ensure the SME is fully prepared to be engaged in the organizations business.

In order to be prepared, Fajardo (2010) also recommends that the SME have well-defined tasks, deliverables, and due dates to ensure he is adding something that is measurable. This should also be coupled with the right level of administrative support to provide full access to needed information, participation in standardized meetings, peer reviews of the SME's work to ensure quality along the way, and the documentation and review of lessons learned as the SME's engagement moves forward.

Selecting an SME is also important, and Farjado (2010) does outline selection criteria, but has been modified by me to fit what I believe is a stronger criterion, which is summarized in Table 2.

Table 2. Fajardo (2010) Subject Matter Experts Selection Criteria

Selection Criteria	Reasoning
Domain Expertise	Does the SME know the system?
Business Process Expertise	Does the SME understand the flows?
Methodology Expertise	Does the SME understand the tools used ?
Recognized Competence	Is the SME recommended by peers and managers?
Independence	Can the SME work on their own and be strong enough to make change?
Availability	Is the SME to focus on the needs of the organization?
Authority	Is the SME empowered to sign off on changes needed?

Stakeholder involvement has also been proven to be important to establishing the value of the SME, and since many voices often overshadow others, the use of the nominal group technique is a practical way for everyone to have their voice heard in regard to what value he will provide to the project organization without being dominated by one or two key players (Anderson & Fagerhaug, 2006). The five step process for this technique is outlined in Table 3, with examples in Table 4 and 5 of ranking and totals respectively.

Table 3. Anderson and Fagerhaug (2006) Nominal Group Technique

Step	Action
1	Each stakeholder generates ideas and writes them on post-it notes, with one idea on each.
2	As facilitator works to logically group the ideas and assigns a letter for each, eliminating any duplicate along the way.
3	Each individual then gets an allocation of votes to utilize for the group of ideas, allocating any number of their allocation on ideas they feel are important; not all ideas need to earn a vote from a participant.
4	The vote as then collected and posted by the facilitator.
5	The idea achieving the highest votes will be the starting point for keys areas needing attention of the SME, with the cutoff point (i.e., top five ideas) being decided by the facilitator.

This type of brainstorming technique is often used for root cause analysis, but it is also a solid idea to aid in focusing the SME on key areas that need to be worked, therefore increasing the chances that he is actually adding value to the project organization rather than the blindly searching for gaps or ideas to chase, which will ultimately lead to wasted time and value not being maximized. By having stakeholder involvement, this also assists with the legitimacy issues since key stakeholders have a voice in the areas that he will be working while engaged with the organization versus just coming in as an outsider attempting to make a change where some may say there is “nothing wrong” with the organizational focus area. Not having involvement will definitely cause challenges to his legitimacy, so using the Nominal Group Technique is a clear mitigation strategy against legitimacy concerns and it is recommended that it is facilitated by someone else beside the SME in order to maintain legitimacy of the process.

Table 4. Anderson and Fagerhaug (2006) Nominal Group Technique Ranking, 2005

Idea	Points
F	5
K	4
I	1
A	2
D	3

Table 5. Anderson and Fagerhaug (2006) Nominal Group Technique Totals

Idea	Points	Total
A	231	6
B	4512	12
C	115	7
D	2231	8
E	443	11
F	554151	20
G	23	5
H	23	5
I	55434	21
J	12	3
K	34	7

Is/Is-Not Table

The use of a traditional Is/Is-Not Table, which is used in root cause analysis (RCA), can also aide the project organization and the SME to understand what he is or is

not to the project organization he serves and will assist in the goal of adding overall real value. This simple and tested tool can be used to ensure that everyone is on the same page when it comes to the role of the SME and what value he is expected to deliver/not-deliver to the organization. Simply, the Is/Is-Not table assists the project organization in defining what an SME is or is not, meaning defining what value he will provide by each functional and/or technical area.

The use of an Is-Is/Not table, prior to the selection of the SME, may be of significant use for the project organization attempting to define his role and value subject by framing what he is or is/not to primary stakeholders within the project organization. While an Is/Is-not table is not a new tool, I have never seen it utilized to identify what an SME is or is-not to an organization in past, so it is highly recommended it be utilized in the future to help define value to each area of the organization.

It is noteworthy to point out that the SME may not be of any value to certain areas of the project organization, such as the case of his coming on to support testing without any impact to the Project Management Office (PMO) operations. While it may be the case that the PMO is not impacted by his work, it should at least be captured within the IS/IS-Not Table (Table 6) so it is clearly defined to the organization and everyone has an understanding that he is not expected to add any value to the PMO, which is expected since it has been defined within the organization and with the SME.

Table 6. Stankard (2010) Example IS/IS-NOT Table for Defining the Scope of a Problem

	IS	IS/NOT	BASED ON
Customers	<ul style="list-style-type: none"> All university members (students, faculty, researchers, admin, support and contractors) housed in Penn Facilities with web access 	<ul style="list-style-type: none"> Others Highly placed University Executives who do not follow FRES processes. 	<ul style="list-style-type: none"> FRES policy
Areas of Campus	<ul style="list-style-type: none"> Academic 	<ul style="list-style-type: none"> Residential 	<ul style="list-style-type: none"> Steering Team Charter
Trades	<ul style="list-style-type: none"> Plumbing Immediate Response 	<ul style="list-style-type: none"> All Other shops 	<ul style="list-style-type: none"> Steering Team Charter
Types of work orders (e.g. repair, emergency, PM, etc.)	<ul style="list-style-type: none"> Repair Emergency 	<ul style="list-style-type: none"> PM 	<ul style="list-style-type: none"> Steering Team Charter
Management Systems	<ul style="list-style-type: none"> Aggregate statistical charts of shop backlogs, Cycle times, and comparisons of promise with actual, Corrective action Work order aging; Status of Corrective Action Requests 	<ul style="list-style-type: none"> Budgeting Forecasting of work orders Renovation and similar projects managed by Project Management group. Major construction projects. 	<ul style="list-style-type: none"> Steering Team Charter
Management Tools	<ul style="list-style-type: none"> All tools such as Root Cause Analysis needed to complete a lean service process improvement project 	<ul style="list-style-type: none"> Sigma tools that address variation reduction are not part of the lean phase, but include in phase two – the sigma phase. Financial management and auditing tools 	<ul style="list-style-type: none"> Steering Team Charter
Processes	<ul style="list-style-type: none"> Flow of work orders from initial customer call or web page, to full customer's satisfaction with completed work 	<ul style="list-style-type: none"> All financial processes 	<ul style="list-style-type: none"> Steering Team Charter
Support Processes	<ul style="list-style-type: none"> SDI or parts provisioning Tools for trades Transportation of people and material Pilot Team to Train other shops in new process. 	<ul style="list-style-type: none"> Facility Max – functionality to make Facility Focus web enabled. Organizational policies and procedures All formal contact with the union related to workflow management 	<ul style="list-style-type: none"> Steering Team Charter
Metrics	<ul style="list-style-type: none"> Work order cycle time Consistency and variation in work order completion times Average hours charged per w/o Backlogs Errors 	<ul style="list-style-type: none"> Measurements of individual level productivity 	<ul style="list-style-type: none"> Steering Team Charter
Goals	<ul style="list-style-type: none"> TBD 	<ul style="list-style-type: none"> TBD 	<ul style="list-style-type: none"> Steering Team

Coupling the Is/Is-not table with the nominal group technique can solve three problems: 1) allowing the project stakeholders to have a voice without some people crowding out others; 2) creates a table of what the SME is and is not-to each functional area of the project organization based on the input from the nominal group technique; and 3) gives the SME a full understanding of the value that is to be provided during engagement with the project organization, therefore increasing the chances of the success of the SME professionally.

This does not mean that these items are locked in stone and do not need to be revisited. As with any plan, there really must be metrics set up to measure the value the SME is having within each area identified, and the plan must be recalibrated based on the activity that is occurring, if needed. Any organization that does not measure their progress is doomed to failure over the long-run, as is also the case of the SME engagement.

Having organizational buy-in and understanding from the project organization on the role and the value the SME is supposed to be providing is very important since as Norman (2009) notes when people feel subjected to arbitrary unintelligible actions and lack of service, they feel anxious, frustrated, and finally angry. Using these tools helps to manage those challenging and often negative emotions since members of the project organization have direct input.

System View

When dealing with the value the SME will have, it is important to keep in mind that dealing with one area truly will have an impact on one or more areas of the

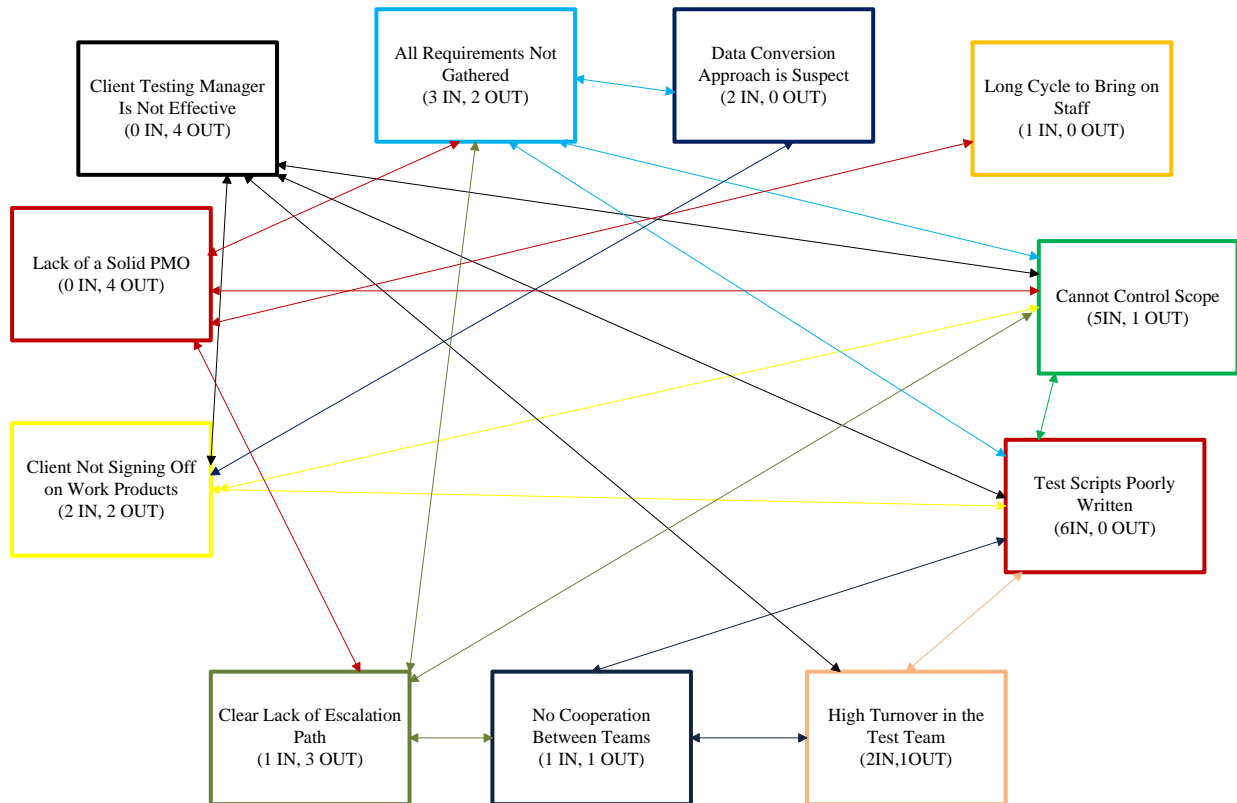
organization since any organization is really a system as a whole and cannot be divided into independent parts, and the behavior of each part will have an impact on the others. Additionally, the performance of the system is not the sum of the independent parts, but the product of their interactions (Gharajedaghi & Ackoff, 1984). Therefore, the SME and the project organization must approach his work with a systems view since nothing can be done in isolation to be effective in prescribing or making change.

Spider Chart

In keeping with the systems view, the SME and the project organization must determine which problem really needs focus, and since he is often on site for a definitive point in time, focus is needed on the most serious problems. The use of a spider chart allows for the project organization to not only determine which problem is the most critical, but also allows for the comparisons of the seriousness of the problems.

Martin Stankard (2010) outlines that the benefits of using the spider diagram (Figure 1) as allowing the team see how a set of problems or actions interconnect in an system. He also notes that this tool allows the team to see which individual items have the greatest leverage or impact on the rest of the items. And finally, the tool allows everyone to identify which items are most promising starting points and which might be best for measuring results, again not leaving individuals out of contributing toward defining the value the SME will have on the project organization.

Figure 1. Spider Chart



Since the SME must add value to the overall organization, this diagram allows for focus, and since the project organization is a system, this diagram shows the relationship within the system so all the stakeholders understand what focusing or changing one area may also impact their area(s). This illustration does help with stakeholder buy-in and also helps to build legitimacy for the SME since everyone now understands the linkages between where the SME may be assigned and how it may or may not impact their area of the system.

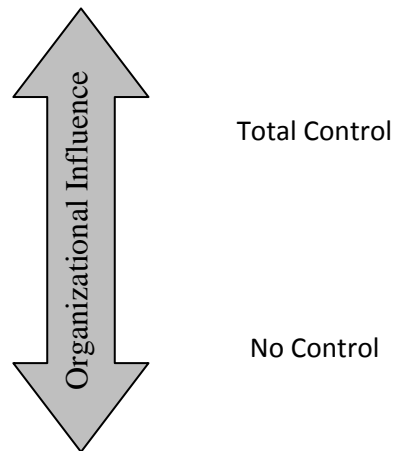
Stakeholder Management and Organizational Culture

For an SME to really add value to the project organization, it is important that he understand the importance of stakeholder management and a solid understanding the culture of the project organization.

Many times an SME comes into the project organization with a mission, but he does not understand the importance of stakeholder management to be successful. He can often be seen as “stepping on toes” or being called ineffective due to the fact that he may be threatening, either real or perceived, someone’s position or territory, so understanding and working the range of control he may have is vital to the overall value he will add over the long-run. It is also a key role of the project sponsor to ensure that the SME is supported in the area of stakeholder management so he is not left alone in the stakeholder wilderness to possibly die alone on the project.

Prendo (2010) in Figure 2 provides a good model for the range of control of stakeholders that must be understood by both the SME and the project organization. Some SME’s may have total control based on his expertise or the level of desperation in the organization, but more than likely the range of the control will lean closer toward the area of little or no control. The challenge for him is to learn how to add value by understanding the range of control and to come up with a strategy to increase the level of control to be a successful change agent.

Figure 2. Prendo (2010) Organizational Influence

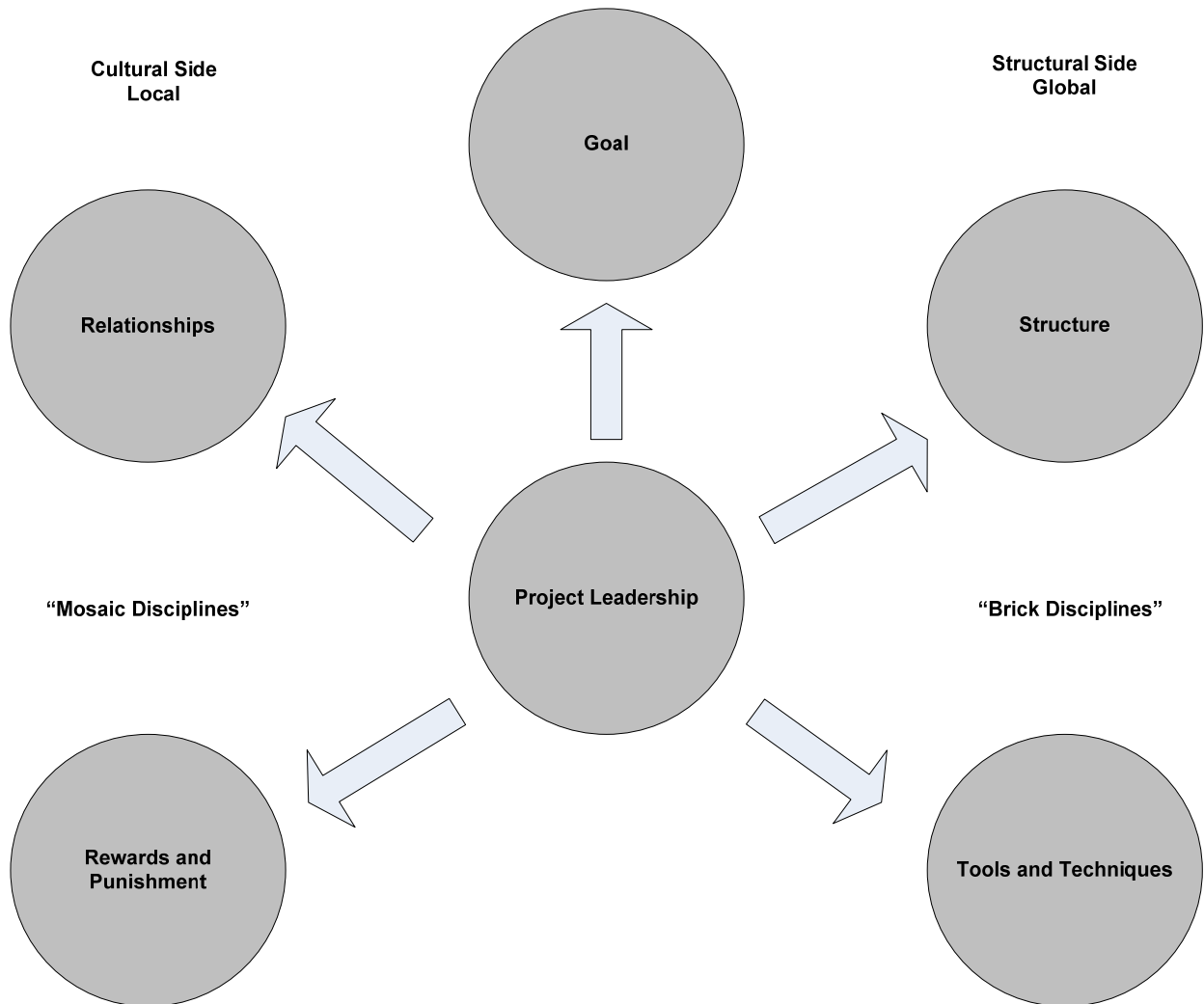


6 Box Model

For the SME to truly add value to the project organization, he must also clearly understand both the cultural and structural side of the organization, with the cultural aspects being more local in nature and the structural aspects being some level of adaptation of global standards, such as the PMI Global Standard. The Six Box Model presented in Figure 3 outlines the five areas that all need attention and management: Goals, Structure, Tools and Techniques, Rewards and Punishment, and Relationships, with overall Project Leadership touching each one of these areas. The model is also divided into two sides, one cultural for “Mosaic Disciplines” such as the local goals, relationships, and rewards and punishments systems that are in place and differ from organization to organization, region to region, and country to country. The other side is for the structural side of the model, which also contains goals, but also adds in the “Brick

Disciplines” of structure and tools and techniques, which most organizations use around the globe.

Figure 3. Favin-Leveque (2010) 6 Box Model



An SME and the host project organization must be able to have a full understanding of the Six Box model since not having a full understanding and a plan to deal with the challenges of both sides of the model can have consequences. For example, most SME's are inserted into the project to deal with some deficiency in the brick

disciplines, not the mosaic ones, with the exception of an SME that specializes in those areas. If he is inserted into a project organization focusing solely on a technical (brick) areas, without understanding the key relationships that are often the oil that make the organization move (or not move) and are often tied to some type of reward and punishment system (Mosaic), then he should expect to add little value and fail professionally and possibly take some level of personal negative consequences as a result.

To assist the SME with understanding how to manage stakeholders in the project organization, the Prendo group has outlined some relatively simple “Do’s and “Don’ts” when it comes to stakeholder management, which should assist him in managing the stakeholders effectively. While these are not a guarantee, the contents of Table 7 are solid tips to assist him in being more successful and hopefully adding more value:

Table 7. Giffin (2010) Do’s and Don’ts for Stakeholder Management

Do’s	Don’ts
Consider carefully what “success” is	Make too many assumptions
Have a strategy (and adapt it)	Think that you will be able to please everyone
Identify, map, and rank the stakeholders (up front & ongoing)	Forget that people behave emotionally and politically as well as rationally
Consult early, listen	Consult early, listen
Expect some frustration, but persist	Think that what you say is the same as what they hear
Exploit alliances	Underestimate the complexity of the situation/system
Be sensitive to what you can control, influence, and appreciate	Forget that fixing meetings, etc. takes time
Communicate, communicate, communicate	Lose your sense of humor-they are only humans

Continuing, Prendo couples these “Do’s” and “Don’ts” with some solid action steps to assist the SME with the challenge of stakeholder management. Again, while following these steps in Table 7 is not a guarantee of success, it will hopefully increase the probability of success and the overall addition of value occurring for both the project organization and the SME since he has a vested personal and professional interest in adding value to the organization.

Table 8. Giffin (2010) Action Steps for Stakeholder Management

Step	Action Steps
1	Articulate clearly the elements of the plan which are under your control and various constraints on them.
2	Identify all the stakeholders and rank their importance to the project
3	Gather as much information as possible within the time constraints about the stakeholders, their attitudes and preferences, in order to create a systematic analysis of these factors.
4	Review the plan elements on an on going basis as more information is gathered, keeping in mind the trade-off between information and decisiveness, and that not everyone can be satisfied.
5	Inform and update stakeholders regularly about the plan contents.
6	Communicate and consult constantly, asking for advice and opinions.
7	Exploit the influence network by focusing efforts on opinion leaders and using their endorsements to influence others.

Creating Change

Once legitimacy is established, for the SME to really add value it means that a change must take place within the project organization and that he becomes someone that makes recommendations and sometimes implements change. As many have said in the past, change is not always easy and people resist change. Therefore, he needs some additional tools to make the project organization not only want to change, but to also be motivated to change.

Heath and Heath (2010) in their book, *Switch* discuss how to change things when change is hard. Adding to the work of Jonathan Haidt, a University of Virginia psychologist, who note in his book *The Happiness Hypothesis* that our emotional side is like an elephant and our rational side is the rider, and we face challenges making the elephant move down the path when the two conflict. Therefore, Heath and Heath note that we need to shape the path for the elephant to move down, which is a skill that the SME must also possess, with support from the project sponsor, to not only define value but to also add value along the way.

There are several ways to motivate the individual down the path, and the SME chosen by the project organization must possess these skills at some level to actually add value. Taking advice from Heath and Heath (2010), the SME can reach some level of credibility and aid in managing stakeholders by looking for bright spots in the organization, areas where the organization is doing things correctly. Having an outsider coming and telling a team what is wrong can often send the cooperation level of the team into a tail spin, so highlighting what the organization is doing right can be an effective tool to use to gain some level of legitimacy; duplicating what the organization is doing right in other areas will also make positive movement in the area of building legitimacy, and is strongly encouraged.

Identifying the bright spots is not enough for the SME to be successful in adding value. He must also ensure that while bright spots are being identified and duplicated, where possible, that there are also instructions given at the individual level to help make the participants successful. Pointing someone to a new area without giving directions on

how to get there is not only foolish, but dangerous since a wrong step could ruin his legitimacy.

The best way for the SME to build legitimacy, and ultimately ensure value is added, is to not only to direct the project organization, but to also shape the path and motivate the individuals within the organization to move down it (Heath & Heath, 2010). People that work in project organizations are dealing with a lot of moving parts and often experience a great deal of ambiguity along the way. Adding an SME into the mix adds to the full range of challenges people are already encountering, so he must come up with ways to make the project team members want to move down the new path, meaning it must be beneficial to their own success and not just a new process or procedure that causes more confusion to the team that must execute the project overall.

Even if the team is motivated down the path of change, the long term value of the SME is still in question. What happens if he moves on? Will his ideas still move forward? Will there be long-term value created for the project organization? Will his long-term reputation be intact? Remember, this is just not about at the organization since he also has a stake in this game as well. Heath and Heath (2010) provide another answer, and it is called a “sticky idea,” meaning an idea that has long-term survival, and in order to accomplish that the idea(s) must fit six principles: simplicity, unexpectedness, concreteness, credibility, emotions, and stories.

The concept that an idea must be simple is a simple and straightforward idea. Stripping an idea down to the minimum needed in a complex organization helps people remember and builds cognitive legitimacy for the SME, a building block for his success.

Complexity brings challenges, but simplicity helps people to understand and remember over the long term, so it is recommended that the SME strip things to the core, where possible. This is not always possible for all problems, but incremental simple steps may assist for more complex issues.

Opening up the unexpected for the project organization is also useful. As an SME, there is an opportunity to shine a constructive light into areas of the organization that all or many are not aware of, which will peak their curiosity. Framing these “new” items in a constructive way will assist in helping people within the project organization remember and understand the challenges, therefore keeping them in the front of their minds.

As with most SME’s, there is a report due during and at the end of the assignment, but reports get filed and lost over time, as do his ideas. By making the ideas concrete, meaning not just an abstract concept or discussion but a tangible idea that people can understand and apply daily, is a key to adding value to the project organization and again helpful to his long-term professional goals.

Unless it is truly credible the idea, the idea will die where it was born: on the SME’s notepad. No one will follow an idea unless it is credible, and if they do follow the idea they will stop at some point once they find out that there really is no credibility behind it. For example, he may recommend hiring someone who seems to have great credentials, but once those credentials are proven to be false the idea will die quickly.

Going back to the idea that he must motivate the team down the path of new ideas, the sticky idea(s) must also motivate people down the path since we are all

emotional beings at some level or another. A great idea could work well but if people are not motivated to implement the idea then the idea will just die in a short life or possibly get no life at all within the organization. Therefore, he also must be aware of the motivation factor and is encouraged to look for ways to motivate the team to move forward with the new ideas.

There is no better motivator than a good story, and it is the same with ideas. People react to hearing about successes in other organizations or even within sub-groups of their own organization. The SME must come well equipped with success stories to motivate the stakeholders and must be prepared to broadcast new success stories during his tenure with the project organization in order to motivate the stakeholders and to build legitimacy quickly, which as mentioned before is a key to his success.

CHAPTER 4

CASE STUDY

As mentioned in the beginning of this paper, I have been interested in the value of the SME since I have worked on numerous projects in the past where the value was actually questioned by not only me, but also by the host project organization, and in some cases a client the organization served. The question of the value of the SME was not just a onetime event; rather it was trend I noticed over the course of my career of over 17 years in the project world.

In 2010, I was asked to take over the delivery of a \$100+ million application development project, a project that was underwater from a schedule and budget perspective. The project schedule baseline was originally 36 months by contract, but was then pushed to 52 months after a lengthy and challenging re-negotiation. Since the project was partially funded by the federal government there were also millions of dollars in fines that were shared by the client and our organization for not being in compliance with the federal mandate this project was contracted to fulfill. It should also be noted that since it was a firm fixed price (FFP) contract, our profit margins evaporated, our management became stressed, and we needed a plan to recover what we could without walking away from a contract that was heavily weighted against our group and carried additional huge financial penalties for our withdraw from the contract. Additionally, we wanted to stay in the market segment we were operating in and had our organizational growth strategy based on that segment, so leaving would be disastrous on many

levels. Therefore, we needed to get the project stood up and delivered to our client despite the financial loss.

We also had many organizational challenges on the project. The project was run by the legacy project manager who sold the account for the company we purchased the previous year. He was unpopular with both the client and the team, especially since he heavily favored the application development manager over his other managers, which caused a level of division that was extreme for a project, with the widest gap being between the application development manager and the test manager who decided to move on to another opportunity where there was no division, a better work environment, and an opportunity for future growth.

Since we had to replace the testing manager, my immediate manager, without asking me, made the decision to bring an SME on-board to support the testing group and to assist the new testing manager ramp up to his new role. It was evident that our testing team had significant challenges, meaning we had a weak and underperforming team, a transition in the management of the test team, and serious historical political challenges between the empowered manager of the application development team and the test team, and the overall technical and managerial competence of the team and the new manager were in also question. The idea of bringing in a SME to assist in remedying the situation sounded solid and clear, but in hindsight it was naïve and foolish.

Once on site, we naively sat with the SME to outline what his mission was on our project. We asked him to complete an evaluation of the team and come

back to us with recommendations on how the team should be set up, what changes need to be made, what skills sets are needed, and a plan for implementing his recommendations. This was a very broad mission given to him, but we had confidence that he would indeed be successful in providing the value needed to the organization since he came highly recommended from our testing practice and he had other good references. Based on these items we had a lot of faith in his ability to help move the testing group forward. We also thought we took the correct steps to bring him on board, and he seemed to fit into the organization well, along with the client.

We did introduce him to not only the new test manager, but also to the test team, the application development manager, and the client since we were co-located with the client on-site. Everyone thought he was friendly, and indeed he was, and they looked forward to working with him to help get the project to where it needed to be. He was looked at as a godsend by almost everyone due to his nice demeanor and background, but was panned by a few skeptics that had other allegiances and agendas within the organization.

He also had full reign to talk to who he needed and interview those he chose. He even had the opportunity and permission to speak with the client to gather information on what was going right, what was going wrong, and even listened to suggestions the client had that the test team did not want to follow or change. There was also little or no limit on what project data he could access (depending on the functional area), so access to information was not an obstacle to his success.

We also ensured that he was invited to key project meetings, including meetings with the client, where appropriate. We thought it was essential that he had access to the information being shared at the meetings so that he would also benefit from the dialog and that we try to integrate him into the culture the best he can as an outsider, which truly proved to not be an issue, at least on the surface. All team members and the client seemed to welcome the participation of someone they thought would help the organization progress forward. However, as enjoyable as his time was with us, we ended up with no measurable progress and some would even say the division between the teams was greater after his departure from the group.

The failures were on multiple levels, first with the SME himself. While he had a nice and kind demeanor, he also had a tendency to set his own schedule, including flying back home prior to the end of the week, therefore shortening the available time with our organization. This also sent a dual negative message to the team since he showed his lack of commitment to the team and the project and our seemingly lack of concern since we were not aware of his early weekly departures until many weeks into the engagement. We corrected this problem, but not until several weeks passed and the damage had been done to the group.

We also were quickly looking for an organizational solution to the problems we had with the test team, meaning we were counting on him to come back to us with the way the test team should look rather than looking at the team as part of a system to understand the problems. Indeed he did provide a document

and overview after some analysis, but it was not deep enough to ensure the changes would impact the system overall in a positive way.

Another key mistake was to assume he knew the project without a detailed orientation. While he had an overall view of the project, we did not attempt to integrate him into the team and give him his charter to go and work the issues here found. Despite the warm welcome, he came in as an outsider that was viewed as a threat to the organization and the testing team as a whole versus a tool that was being inserted to assist the testing team and the organization in getting organized to the level they needed to be at to achieve success for the group and on the individual levels.

I believe a different scenario would have been worked out if we used some of the tools Moller (1995) recommends to bring on an SME to help ensure there is value being brought to the project organization. For example, if we would have researched his background more we may have heard that he was a challenge to keep on site or that he was big on telling the team what is wrong, but he did not own any of the solutions. By knowing these items, we could have either steered away from using him or do a better job at defining his role to both him and in the entire organization, which would have been captured in a formal charter document and communicated to the entire team.

Moving further into the process that Moller outlines, it would have been very beneficial to hold an orientation session with him to set the ground rules for engaging the team, what we were looking for from a timeline and schedule

perspective, explain our current processes, interact along with our client and the team, and lay out the roles and responsibilities for everyone so there would be little of no ambiguity within the team or with the SME.

While moving in this direction, we would have been able to avoid the “us” versus “them” situations that occurred during the SME’s engagement on the project. He was immediately noted as an outsider from the first day on the job despite the seemingly warm welcome, especially with the people with business analysis backgrounds since they were threatened when notified that we were bringing in additional expertise in the pure testing arena.

We should have engaged the project team in the use of the SME by using the nominal group technique so everyone involved across the organization had some level of input with the challenges and would have been narrowed down by the voting. This would have really jumpstarted the group into cooperation, just as it has been used on the project with the client included in the process with much success, success that has moved into the executive level of the organization and contributed to turning the project around in other areas.

The utilization of the Is/Is-Not Table would have also added a great deal to determining the value he was supposed to be to the project. By defining what he was supposed to be to each functional area of the project would have assisted in defining the scope of his role and work toward defining what value he would have to each area in the project organization. This table could have been updated

using an iterative process, and could have been used as a tool to keep everyone on the same page as to what he was to be or was not to be to each functional area.

It is important that the organization not only maximize the utilization of the SME, but that he also feels like he has an opportunity for success as well. It is important to point out his early successes, which was not done on this project. We wanted overall results vs. small wins for both him and the testing team, as Heath and Heath (2010) suggest we do as a group. Unfortunately, incremental wins did not propel him or the testing team forward as should have been the case.

We did have problems early on in his deployment, but we merely viewed these as “growing pains” since we had many changes occurring in the entire organization. Further focus and a regular feedback loop would have allowed for us to realize that we were going off course and needed to change tack without making accusations against the SME or the testing team. This dialog would have enabled us to see where we were heading and if we needed to change direction on our already directionless path since we seemed to be making it up as we went along.

Within the plan we did have, we should have had a timeline for our SME. We had a loose timeline of 3 to 6 months for him to complete the work needed, but we did not set up a plan to utilize the time effectively or have the ability to measure the SME with any true deliverables such process changes, re-organization of testing team for success, or signed any approved testing documents. It was all opened ended and his time was a disaster on the project

without any serious value being added to the testing team or the project organization as a whole.

With hindsight being what it is, we should have also viewed the project as a system where making changes to components of that system had some impact on other areas within the system. The team should have worked to put together a spider diagram after the issues have been captured. This would have enabled everyone to take a hard look at what the impacts were to each area so when he was going to focus on those areas he also had an understanding of the linkages to other areas of the organization. In other words, he could focus on a more holistic solution to challenges the project organization was experiencing.

In the end we could have had all the tools in place, meaning using the nominal group technique, the Is/Is-Not Table, and the spider diagram, but failure to get the correct SME, one with the stakeholder management skills and an understanding of organizational culture and how it operates, was our biggest failure since he failed to bring legitimacy to the project organization.

CHAPTER 5

CONCLUSIONS

As with all papers, the information that was presented here can and will be challenged, and that is fine with me since this topic, the role of the SME and the value he provides to the project organization is one that must be further explored and challenged especially since resources for projects become more and more scarce as budgets are cut and global competition is ever increasing in the world of projects. It is my hope that this is the beginning of the topic and not end, and that the information contained in this papers will be beneficial to the project management community.

Within this paper, there was a literature review of the SME that covered the definition of what an SME really is and the skills that one would possess, along with a warning as to what he is not and what to look out for when he presents information, meaning the need to check out the validity of the information provided. The need for him provide value to the project organization is also vital to project success, not only for the project organization, but also for him at a personal and professional level.

Leslie Moller's (1995) four stages of working with an SME: Preparation, Initial Meeting, Process, and Closing, clearly is the wise path to take when engaging an SME and turns a challenge of integration into an asset that adds clear value to the project. By following this recommended path, the chance of a win-win situation for both the SME and the project organization clearly increase since both parties interests are taken into account and proper expectations can be set between both parties. Not following this path

will lead to some level of chaos or at a minimum uncertainty between the SME and the project organization.

Selection the SME should not be a casual event, and the use of Fajardo's (2010) selection criteria, modified by the author, provides a framework to select the correct person for the role that he is about to take on. Using these criteria assists the project organization and the SME make the right choices in order to add value.

To defuse the situation between the SME and stakeholders in the project organization, the use of the nominal group technique was recommended. This technique allows for voices to be heard without some key figures overwhelming other stakeholders. This technique also assists in bringing focus to the SME's role by turning down the noise and looking at key areas of focus over the time that he will be on site to provide support.

The use of the Is/Is-Not table, a table that is normally utilized for root cause analysis, was also found to be a solid tool to help determine what the value is or is not to each functional area of the project prior to the deployment of the SME. By using this table, expectations are clearly outlined as to what he will or will not be to the project organization, which establishes a baseline for the overall organization and his individual performance.

By coupling the use of the Is/Is-not table with the nominal group technique, it is clear that the use of the these two tools accomplishes having the key stakeholders involvement in framing the value the SME is expected to have to the project organization without having the "loud voices" dominate the conversation or the progress. The nominal group technique allows key stakeholders to have a voice, and the Is/Is-not table allows

for the framing of what an SME is to each functional area, which provided guidance for the both the SME and the organization.

Since the SME must view his role from a systems view, the use of a spider diagram was also shown to be useful in helping the project organization allow him to focus on what value he can really provide overall. By using this tool, the linkages and priorities can be set for the overall focus he will have, with stakeholder involvement.

Understanding stakeholder management and organizational culture was presented as a key to the SME being successful in adding value to the project organization. It was clear that there is a range of influence from total control to no control that he must and will operate in during an engagement, and there were tools provided to assist him in having more control than less, such as the “Do’s” and “Don’ts” table illustrating the how to manage the stakeholders. While not a guarantee for success, these items, with help of the executive team and the project sponsor(s), point him toward the direction of success, as do the action steps that were also provided.

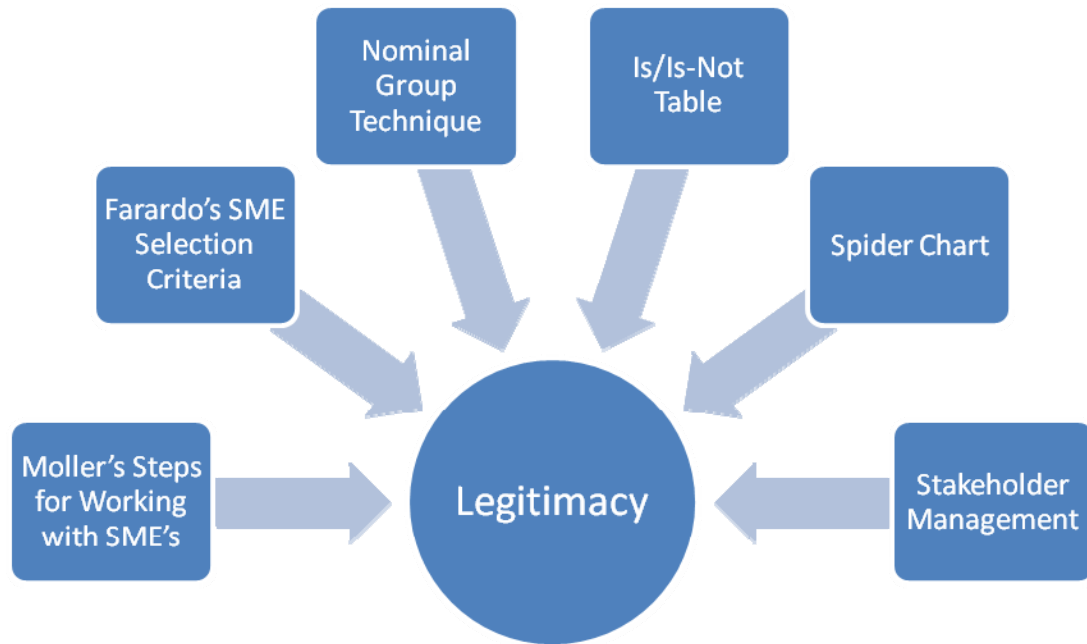
Additionally, a clear understanding of the Six Box model presented will assist the SME in working with the project organization since he needs to understand that there are areas outside of his particular focus area that must be managed effectively in order to truly add value to the project organization. Attempting to make a change in an area(s) without having a full understanding of the political and technical relationships, how the rewards and punishments systems work, the goals of the organization, the structure, and the tools and techniques being used in the organization are, can and mostly likely will be

disastrous for him. Understanding and working the model can clearly assist him with adding true value and being professionally and personally successful.

Clearly there were lessons to be learned from the case study presented, lessons that would have added value to not only the project, but also to the SME's own professional career. One large lesson, and I would note that the real take away from the case study, is that that while both the project organization and the SME may have the noblest intentions, without the use of a jointly understood methodology using some of the tools outlined in this paper to ensure value is clearly being added, in the end failure at some level (real or perceived) will be the result since he will never have achieved legitimacy on a pragmatic, moral, or cognitive level.

During this paper, the need for the SME to demonstrate legitimacy was outlined. It was determined that he must be pragmatically, morally, and cognitively legitimate in order to truly add value to the project organization. Without legitimacy, both he and the project organization may as well either have to accept the fact that there will be less than optimal amount of value added to the project organization or overall failure, which could lead to professional and personal failure as well. Each of the tools outlined in this paper feed (Figure 4) into making the SME legitimate.

Figure 4. Tools That Contribute To Legitimacy



PMBOK and the Standard for Program Management lightly mention the role of the SME, but do not discuss specific roles or how a project organization can determine the value the SME is expected to provide. This is a serious shortcoming in the literature since all projects have limited resources and project teams need to understand how to utilize limited resources effectively, meaning adding the maximum value to the organization.

I recommend that the PMBOK and the Standard for Program Management be updated in the next revision to reflect a process for inserting an SME into the organization, along with the process to ensure that the key stakeholders, including the

SME, understand the role and the value he is to provide overall. By providing this information, people working in the world of projects around the globe can now understand how a vital resource, such as an SME, can be applied with clearer focus and a surer way of ensuring value.

Since project management are processes, which also contains sub-processes such as capturing lessons learned, there will always be additional research on how the SME can add value to the project organization, especially at the project level and within each specific industry. Further research in the area of fully integrating him SME into the organization both internally and externally is highly suggested to further capture the integration challenges which can then be solved and given back to the Project Management Institute to work into their offered literature, even if it is outside of their current literature.

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