

In-the-SPIN

Newsletter of the

Boston  SPIN

Issue 24, February, 1999

Editor: Carol Pilch

Editorial

Notes from the January meeting are contributed by Regina Wiley. For the February Feature Article, I provide information about CMMI-SW V0.2 and this month's SPIN Perspectives column is contributed by Johanna Rothman. Johanna provides a wonderful and concise description of the consultant's role and responsibilities. And what I really like about this article is that Johanna makes the point that consultants may be both external and internal. If you're not an external consultant but have a role in process improvement in your company, you are undoubtedly a consultant without the title.

Johanna talks about the intrinsic rewards of consulting – seeing an organization change for the better as a result of your involvement. How many of you that have been with an organization in which positive change has occurred have had individuals come to you and state that “things have gotten better” or “we really have improved?” And there is nothing more gratifying or rewarding than hearing this directly from the individuals in an organization when you know that you have been an integral part of the positive change that has taken place.

Consistent with the Boston SPIN charter, *In-the-SPIN* is provided by the Boston SPIN as a means of supporting the free and open exchange of software process improvement experiences and ideas. The steering committee encourages feedback on the newsletter as well as broader participation in the content and production of the newsletter. I'd like to hear from you. If you have an article you would like to publish in this newsletter, send it to carol.pilch@gsc.gte.com.

Boston  SPIN *Software
Process
Improvement
Network*
Since January 1993

SPONSORS:

GTE Government Systems, Needham, MA

We thank the Computer Science department of UMASS- Lowell for providing support and hosting our Web page

SPIN Perspectives

This month's SPIN Perspectives article is contributed by Johanna Rothman, President, Rothman Consulting Group, Inc. Johanna is Vice Chair of the Boston SPIN Steering Committee.

So you want to be a consultant, or What does a consultant do, anyway?

© 1999 Johanna Rothman

Some of you have said, “Oh, I wish I were a consultant.” Maybe you already are. Many of you have jobs in which you do much of what a consultant does. Look at this checklist, and check off the activities you do as part of your job:

- Assess what's going on in your job, your project, your company
- Look for lessons learned and apply them to other projects
- Look for and assess quantitative data about the company
- Measure yourself
- Measure your projects
- Continually learn
- Give advice (and sometimes get ignored)
- Explain your observations (even to people who may think you have three heads)
- Give talks at conferences
- Write articles

If you checked at least four of these items, then you're already a consultant, even if you're not an external consultant. You can even be your own consultant!

Internal and external consulting have a lot in common. Your

Continued on next page

IN THIS ISSUE . . .

Editorial.....	1
SPIN Perspectives	1
Meeting Summary.....	3
Boston SPIN Calendar.....	3
Feature Article.....	5
Boston SPIN	6

title is not relevant, your activities are. You may be a Process Coordinator, a Project Manager, an SQA Manager, or a VP of Product Development. Consulting includes:

- Identifying the system of the project, organization, or company. Who is part of this system? Where are the boundaries?
- Observing the system. What's going on where?
- Helping the system. The consultant's end objective is to help the system (the project, organization, or company) do its work better.

Identify the system

A client calls for help on a project. If you're inside an organization, maybe you are asked to help a project in trouble, or assess an organization. Especially as an internal consultant, check out who the client is, and their relationship to the system you're assessing. If someone other than the people involved in the system called you, you may not be dealing with a willing client.

The first thing I do is to identify exactly what and who influences the activities under observation. I call this the system. If I know who the participants are, and what their assigned roles are, then I can observe the system. If you're inside an organization, you may already have observed the system.

Sometimes, the system is just a project. Sometimes it's an organization within a company. Sometimes, it's the entire company. I clarify with my client where my boundaries are. Although I might want to work on a "bigger" problem, I know I can do some good on even "small" problems.

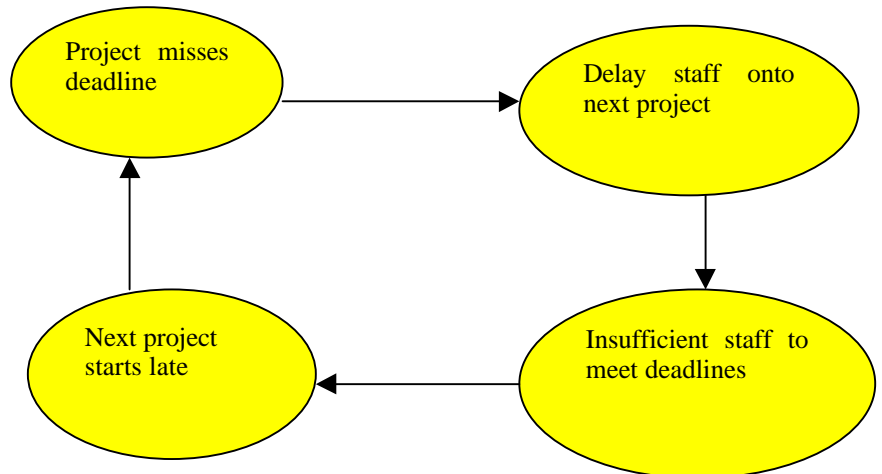
Internal consultants generally are assigned smaller problems. The challenge many internal consultants face is how to effect change within a small system.

Observation

Project assessments, audits, and retrospectives all help you observe the system. You can measure things about the system; you can identify the causes and effects of the activities happening in the system. For projects, I frequently like to measure the size and complexity of the project, the defect counts by phase, the schedule estimates and actuals, requirements churn, and testing progress. (You can take many more measurements. See David Heimann's wonderful article in the last In-The-SPIN.)

I also identify the positive feedback loops. These are the loops that reinforce whatever activities are happening, just like positive feedback in an audio system. Here's a typical positive feedback loop. Project A misses the ship date. Some of Project A's staff are supposed to work on Project B, but they get done with Project A late. They start late on Project B. Despite their heroic efforts, Project B is late. Project C was supposed to start, but it's now way behind, because of the delays on Projects A and B. This positive feedback cycle of insufficient staff causing late projects causing insufficient staff continues until someone just can't stand it. This person may not know

what's wrong, but they bring in a consultant to identify what is wrong.



When you identify the system, and observe what's happening, and explain it to the client, then you've done the first part of your job as a consultant.

Helping

Helping a client takes many forms. Sometimes you give advice. Sometimes you ask questions. Sometimes you do nothing. My top priority is to do no harm while I'm helping.

Giving Advice

The challenging part about giving advice is choosing which advice to give and how to give it. Giving advice is easy. Getting people to use your advice is hard. In this case, an internal consultant may have an advantage over an external consultant. An internal consultant might be able to motivate or nudge the organization to make progress more easily than an external consultant can. Some external consultants act as project managers or "nudges" to help their clients succeed. This is effective, if the client wants it.

Asking Questions

Sometimes I unintentionally give advice by asking questions. Since I'm outside the organization, I frequently have questions about how things work or about effects I think I see. Sometimes the questions seem foolish to me. When I ask questions about the system, I may give advice without realizing that's what I'm doing.

An internal consultant can ask questions also.

Doing Nothing

Internal consultants may find it difficult to do nothing as part of their assistance plan. Sometimes the organization needs time to come to a status quo. Interventions can be damaging when the organization is in chaos.

Even external consultants may find it difficult to do nothing. After all, most of us consultants got into this work because we enjoy helping people. It may be difficult for us to see how doing nothing can help others.

Continued on next page

Consulting Rewards

Consulting rewards are based on effectiveness. Internal and external consultants want to be effective. My rewards are intangible: helping an organization see the effects of their actions, making a manager more effective, and helping create a positive work environment. Non-consultants might see the frequent flyer miles, but they are the least reward.

Whether you're an internal or an external consultant, I can recommend these books for further reading:

Weinberg, Gerald M., *Secrets of Consulting*, Dorset House, New York, 1985.

Block Peter, *Flawless Consulting*, Pfeiffer and Co. San Diego, CA, 1981.

Weiss Alan, *Million Dollar Consulting*, McGraw-Hill, New York, 1992.

Meeting Summary

Notes from the January Meeting

Contributed by Regina Wiley, Kronos, Inc.

Topic: "Optimum Software Testing"

Speaker: Bill Silver, Principal, Quality Fractals

Bill Silver is not a stranger to the Software Quality Assurance realm. He opened his discussion expressing that the end goal of his talk is to challenge the listeners with new ideas, as well as to learn something from his listeners. I'm not certain if Bill learned something from his listeners but he definitely challenged the audience with new ideas.

Bill started with a few questions: Think of a project you are familiar with:

1. On this project, do the developers write code in C++ or some other non-tool generated code?
2. Is a static analysis tool (i.e. Lent) run on the code? A tool that the developer uses to parse the code.
3. Is a static analysis tool used to parse the Style of the code?
4. Does the developer perform some sort of debugging?
5. Is a case tool used to determine path coverage?
6. Has this project gone through a CMM assessment?

It was amazing to see the results in the room, representing approximately 24 projects. The results were poor. These questions represented a high level assessment.

Next Bill established a common ground. This was an eye-opening questionnaire. Again, with audience participation the results appear below:

1. Is it critical that Senior Management understands software Process Improvement? Y-98% N- 2%
2. The performance of a software project is primarily determined by the maturity of its software process. Y- 80% N - 20%

3. The key goal of S/W Process Improvement is a consistent software engineering process. Y-96% N-4%
4. Quality is defined by the customer. Y-75% N-25%
5. As an assessment of the improvement methodology, rate the SEI CMM on a scale of 1 (poor) to 10 (best). 9-10 0%; 7-8 50%; 5-6 20%; 3-4 10%; 1-2 0%.

The revolutionary thought here was that Bill disagreed with the results and pointed out the difficulty of gaining common ground. He challenged our process paradigms. Bill pointed out that we have to take the responsibility for closing the communications gap with senior management. He noted that process is a part of this but it certainly is not the primary focus. Think about it, senior management does not want more process. However senior management is always interested in more capability. We want to do what's right for a project. A few key points from Bill's slides:

1. Quality and process people have to be able to connect with management. Speak their language. When thinking about process, did what I do help the company succeed?
2. We have to think four-dimensionally. This is a great place to apply the Stephen Covey production capability principle.
3. When measuring process, it is key to include people and infrastructure.
4. We have to iterate simple rules to attempt to assess complexity.
5. Quantum Business Optimization (QBOp) methodology model is scalable and can be used on every aspect of the business.
6. Business performance metrics help define the levels of importance.

In summary, the primary benefits of QBOp are that it can be used for every aspect of a business, and that it addresses software testing.

Boston SPIN Calendar

Information about Upcoming Meetings

by Johanna Rothman, Program Chair

February Meeting Announcement

Topic: "Good Enough Testing: Heuristic Models for Assessing Your Test Process"

Speaker: James Bach

When: THURSDAY, February 25, 1998. 5:30-8:30 pm
5:30 PM - Socializing & networking
6:30 PM - Dinner
7:30 PM - Speaker

COST: \$25.00 (Includes dinner and speaker)

DINNER RESERVATIONS: Call 781-942-8421 before February 21, if you intend to have dinner.

Continued on next page

MEETING ONLY: Please do not RSVP for dinner if you are not planning to have dinner. If you intend to arrive at about 7:30pm just to hear James Bach, please email Johanna at jr@jrothman.com or call 781-641-4046. We need this notification to make sure we have enough chairs.

Who: Everyone (Academia, Government, Industry)

Location: Wyndham Garden Hotel, Waltham (Joint meeting with ASQ, Boston section) exit 27 off Rte. 128 (420 Totten Pond Rd). The Wyndham Garden is east of Rte. 128. (Wheelchair accessible)

Info: See our web page, <http://www.cs.uml.edu/Boston-SPIN> For SPIN info, contact Johanna Rothman, 781-641-4046, or jr@jrothman.com

Abstract: In intellectual enterprises, "Good Enough" is an abstract concept and a challenging goal-- at least for those of us who want to be *absolutely certain* we are doing a good enough job. One thing we do to evaluate the goodness of software is to test it. But how do we know that our testing is itself good enough? We need methods of evaluating the goodness of testing. In this talk I will present several heuristic models for evaluating a test process. They are part of a work in progress at Reliable Software Technologies to produce a comprehensive heuristic testing methodology.

About the Speaker:

James Bach is a Principal SQA Practitioner at Reliable Software Technologies, in Sterling, VA. In his fifteen years in Silicon Valley-style software companies, including nine years at Apple Computer, Borland International, and Aurigin Systems, he's been a programmer, tester, QA manager, and roving problem-solver. For three years, James was Chief Scientist at ST Labs, an independent software testing company in Seattle that performs substantial testing and tester training for Microsoft.

James is a frequent speaker and writer on the subject of software quality assurance and development processes. James writes and edits the "Software Realities" column in IEEE Computer magazine, is a former section chair of the American Society for Quality and the Silicon Valley Software Quality Association, and was part of the ASQ committee that created the Certified Software Quality Engineer program. He is best known, however, as a pioneer in the emerging discipline of Good Enough software.

There will be no formal roundtables this month, because this is a dinner meeting.

Snow cancellations: We will notify the membership via email to the SPIN distribution list, post the notice on the SPIN web page, and announce the cancellation on Channel 7 TV and radio, WRKO AM 680.

Looking for Interesting Speakers

We are always looking for interesting speakers. If you'd like to speak at Boston SPIN, please review these criteria before sending us an abstract:

Speaker Guidelines:

1. Boston SPIN looks for relevant topics facing software groups who want to improve their processes. Particular relevance to recent advances/ changes in this field are particularly welcome.
2. Preference is always given to speakers who present information pertaining to actual experiences in the field as opposed to purely theoretical presentations.
3. Our membership attends hoping to learn how they can enhance their own results. We request proven, practical detail in your presentation.
4. The presentation should be based on the presenter's personal experience.
5. If you are a vendor or a consultant, remember that the most effective presentations are those where you explain your area of expertise and show how to be effective. Please do not use your time at Boston SPIN as a sales pitch.

We developed a speaker checklist so that none of us would have to rely on our short term memories. Please use the checklist to prepare for your SPIN talk.

Speaker checklist:

1. 60 days in advance of meeting: deliver 2 paragraph abstract, one paragraph bio to jr@jrothman.com
2. Within one week of meeting date: If desired, email copy of paper or overheads to heimann@world.std.com so that it is downloadable from the SPIN web page.
3. At the meeting: Speaker provides one copy of overheads to Charlie Ryan for our library.
4. Optional but highly recommended: bring 50-60 copies of overheads to SPIN meeting.

If you have information you'd like us to hear, please send an abstract to Johanna Rothman, jr@jrothman.com. Or, contact Johanna at 781-641-4046.

Monthly Round Tables

What: These are focus group or "birds-of-a-feather" sessions. They provide a professional forum for sharing information and experiences, for learning about other techniques, and for finding out that you are not alone.

Do you need or want to share information about handling thorny situations at work? Do you wonder what metrics are most important? Quality, scheduling effectiveness, time to market...? Would you like to know how to manage a project that you have just been thrust into in mid stream? Could you benefit from leading edge approaches and innovative solutions for handling current project challenges? In an effort to elevate your organizational ranking from SEI CMM Level 2 to Level 3, are you in search of Lessons Learned from other survivors? Would you like feedback from the diverse backgrounds

Continued on next page

(Government, commercial, industrial, consultants) on topics related to your projected career moves?

Propose your wish list or questions as a Round Table and get your information from the movers and shakers in the software community. Round Tables are generally informal discussions, with a facilitator, to stimulate and moderate discussion.

A member of the SPIN Steering Committee will assist as Scribe for the discussion. Round Table proposals may be submitted by posting a sign-up sheet with the SPIN Steering Committee Round Table Coordinator, Caroline Starita (staritac@amp.com). Proposed Round Table sessions will be posted for sign-up prior to the monthly meeting in order for attendees to register their interest.

When: 6:30 - 7:00 PM, before SPIN Meetings

For further roundtable information, contact Caroline J. Starita, 978-442-4004 or staritac@amp.com or see the Boston SPIN web site, <http://www.cs.uml.edu/Boston-SPI>.

Future Program and Speaker Schedule

Date	Speaker/Topic
Mar. 16, 1999 @ GTE	Carol Pilch "A Tailorable Mini-assessment Method"
Apr. 20, 1999 @ GTE	Cem Kaner "Good Enough Testing or Bad Software"
May 18, 1999 @ GTE	Chip Groder "GUI Testing"
June 15, 1999 @ GTE	Open



Feature Article

This month's Feature Article is contributed by Carol Pilch. Carol is with GTE Government Systems and specializes in Software Process Improvement.

CMMI-SW V0.2 (formerly CMM V2.0, Draft C)



Version 1.1 of the CMMSM for software has been under review and revision for over two years. In 1998, that effort became part of an integrating framework for Capability Maturity Models (CMMs), identified as CMMI. The result is the release of CMM V2.0, Draft C as CMMI-SW V0.2.

The SEI is planning to release CMMI-SW V0.2 for public review in March 1999. Pilot testing of the models is planned for May through December of this year and CMMI-SW V1.0 is planned for release by the end of this year. Other integrated models planned for release this year are systems engineering (CMMI-SE), software and systems engineering combined (CMMI-SW/SE), and software and systems engineering implemented with Integrated Product and Process Development methods (CMMI-SW/SE/IPPD).

General Changes – CMM V1.1 to CMMI-SW V0.2

Maturity Levels

The name of level 4 is changed from "Managed" to "Quantitatively Managed".

Goals

A goal is added to each key process area to capture the institutionalization of the process. This goal includes concepts such as documenting, training, and tailoring.

Key Practices

An activity is added to every key process area that addresses "planning and performing according to a process." This activity ties together the implementation and institutionalization aspects of the key process area and maps directly to the goal on institutionalizing the process.

Training for each key process area (KPA) is more explicit in CMMI-SW V0.2. For example, the Requirements Management KPA identifies software configuration management for the project, negotiating and resolving conflicts, and application domain of the software project as training topics.

Measurement activities are also more definitive in that the purpose of the measurement is identified.

Verification performed by SQA for most key process areas is identified as product assurance and process assurance.

Continued on next page

Level 2 Specifics – CMMI-SW V0.2

Requirements Management

An ability to “establish and maintain a plan for managing the system requirements allocated to software” has been added. It is usually included in the project’s Software Development Plan.

Software Project Planning

Practices are added to cover the handling, storage, packaging, and delivery of software to the customer, aligning project objectives with strategic business plans, and an internal commitment process.

Software Project Control

This KPA undergoes a name change. In CMM V1.1, it was “Software Project Tracking and Oversight.” The use of documented procedures is decreased and a key practice is added to illustrate the internal commitment process.

Software Quality Assurance

Examples of non-independent SQA are included. An example is provided where in an organization with a stable, institutionalized, mature process and an open, quality-oriented culture, the SQA role may be performed, partially or completely, by peers of the software engineers, and the SQA function may be embedded in the process. The KPA has also been changed to apply to non-project software groups but keeps the primary focus on the software project.

Software Configuration Management

Practices were added for handling, storage, packaging, and delivery of software and for making the KPA applicable to non-project software groups while keeping the primary focus on the software project.

Software Acquisition Management

This KPA has been extended to apply to commercial, reused, customer-supplied or subcontracted (including modified off-the-shelf) software. Responsibility for managing software suppliers is assigned to a subcontract manager who is knowledgeable and experienced in software engineering or who has individuals assigned who have that knowledge and experience.

In the next two issues of In-the-SPIN, I will be providing information about Levels 3, 4, and 5 of CMMI-SW V0.2. The complete CMM-SW V0.2 is available for downloading from the SEI’s web site:

<http://www.sei.cmu.edu/activities/cmm/draft-c-c-original.html>.

Note: SM Capability Maturity Model is a service mark of Carnegie Mellon University.



Boston SPIN

The Boston SPIN is a forum for the free and open exchange of software process improvement experiences and ideas. Meetings are usually held on third Tuesdays, September - June. Boston SPIN welcomes volunteers and sponsors.

For more information about our programs and events contact:

Charlie Ryan
ESC/DIB (Building 1704, Room 202)
5 Eglin Street
Hanscom AFB, MA 01731-2116
Telephone: (781) 377-8324
Email: ryan@sei.cmu.edu

For information about SPINs in general including ***HOW TO START A SPIN*** contact:

Dawna Baird of SEI (412) 268-5539,
dbaird@sei.cmu.edu.

IN THE SPIN is available on our Web page.

TO RECEIVE NOTIFICATION OF NEW ISSUES send email addressed to danallen@danallen.com. We have 2 separate email lists: one for this newsletter and one containing announcements that we receive from other process organizations and forward out.

TO ADD YOURSELF TO THE ANNOUNCEMENTS LIST send email to ryan@sei.cmu.edu.

Send letter-to-the-editor, quips, quotes, anecdotes, articles, offers to participate in the newsletter committee, and general correspondence to Carol Pilch, carol.pilch@gsc.gte.com.

Send job postings to heimann@world.std.com.

Back issues and other information about Boston SPIN can be found at our WEB HOME PAGE:

<http://www.cs.uml.edu/Boston-SPIN/>

