Business Intelligence for the 21st Century

By Bruce J Hayes

History of Standards and Assessment

During the last 35 years software development and technology processes in general have evolved at a rapid, even chaotic rate. For reasons well known to most of us, these processes vary wildly from lean, agile development pockets to large, bureaucracy laced legacy projects. And, a full range in between, with many large organizations mixing various methodologies to try and see what works best.

Attempts to classify, characterize and assess these processes (for purposes of driving improvement) have been undertaken by many organizations including IEEE, ISO, SEI, Federal Governments, Universities and Industry. What has resulted is a number of so called “standards” and associated “assessments” all professing to have a “magic bullet”. Most of these standards share philosophies and some are derivatives of others. Large groups of consultancies line up behind each one and thousands of assessments, improvement projects and process changes have resulted. Results have been sketchy with the majority of these efforts yielding some improvement but not the advertised enterprise wide, step function improvement hoped for. Of course there are “best practice” stories from each one, usually where management has taken the time to really understand their culture, needs, requirements and committed to and aligned for a change in culture. But in today’s environment, who has the time? The pressure is great to deliver results now. Quick fixes are common, but often driving us to never ending reactive behavior and associated resource shuffling.

The bottom line being that many organizations, unless mandated to do so, simply do not take an objective look at themselves and thus become stuck in their ways. Or embrace ad-hoc improvement, trying many different things and hoping for the best.

So how does an organization start the process of driving enterprise wide change, without investing significant time in resource intensive assessments to establish a quantitative baseline and measure subsequent performance progress?

The answer, as with many things today, may lie in web technology. But before going there let’s examine the characteristics and reasons we do assessments in the first place.

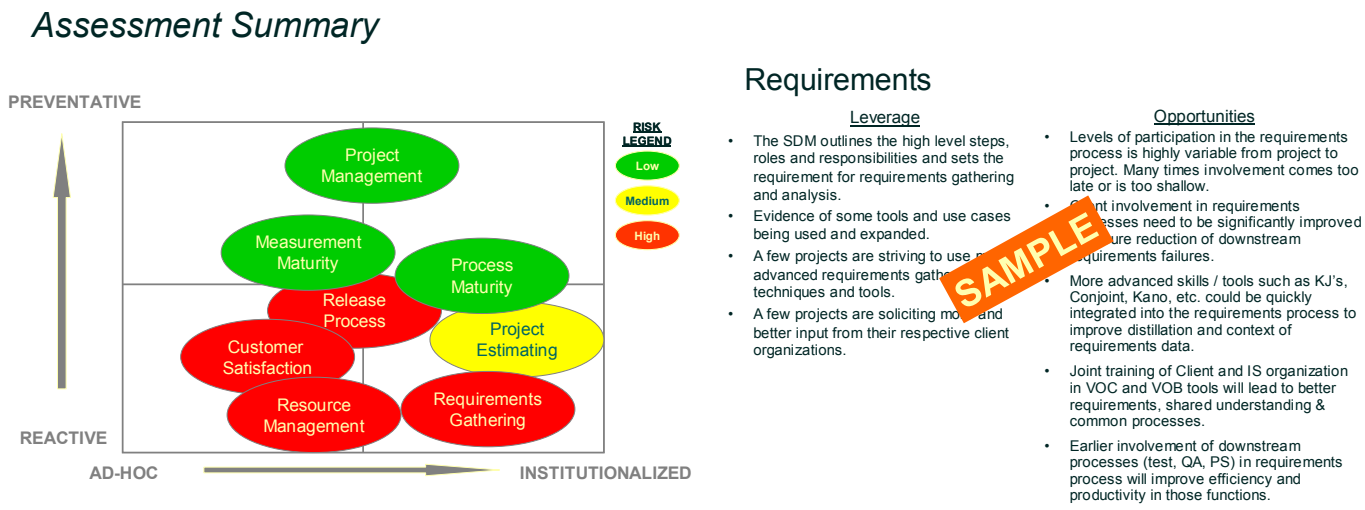
The Current Issues With Assessments

Many will agree that process or organizational assessments, if done right, produce good information and data relative to how an organization performs it’s work. Assessments help provide objective viewing of processes, tools, behaviors and consistency of application across an organization. From that baseline an assessment helps to identify process and organizational strengths as well as weaknesses where opportunities for improvement exist. In some cases we may also receive a numeric score, ranking or dashboard color, relating the subject organizations performance to best practices. We may also see the results displayed demographically (i.e. by location, division, product line, project team, etc.), all useful items for planning and implementing an improvement strategy.

Normally (and especially for lower maturity processes and organizations) self-assessment is a difficult option. Objectivity is difficult to achieve. The skills required to compare an organization to “best practices” and associated “best results” is not resident. And, even if it is, those individuals are too busy with day-to-day issues to respond to organization wide needs.

Hence, a team of objective experts (consultants) is brought in to perform the assessment. For purposes of discussion we will refer to this type of assessment as an “On-Site, Interview Based Assessment” or OSIBA. OSIBA’s, especially for medium to large size organizations are high overhead events. They require lots of planning, can be time consuming and the interviews create a fair amount of work disruption. Further, the sample sizes end up being quite small (relative to total population) within the subject organization, creating risk in the accuracy of results. Further risk is created by interviewee manipulation, pre-programming and bias (individual and methodology).

Figure 1 – Typical OSIBA Outputs *(can be generalized and arbitrary)*



While at Motorola in the 90’s I was involved in dozens of OSIBA’s and saw a strong correlation between organizational sample size and result accuracy. I also viewed extraordinary efforts by managers trying to improve their scores through various manipulation techniques. This may be manageable (by the assessing organization) in many cases, but generally has the potential to drive up the overhead of the assessment considerably. Consider that for a 2000 person organization, a 5% sample size would require 100 interviews or as much as 200 person hours of effort. This would also mean 200 hours of lost labor. Add in planning, work disruption, travel, compilation of results and follow up, and we are talking about a significant resource drain. Even at a 5% sample size, the accuracy of results and conclusions may be at significant risk. Careful planning and associated expenses can help to overcome this, and has in many instances. But do today’s fast moving technology organizations have the time or patience for all of this. And is the outcome worth the effort?

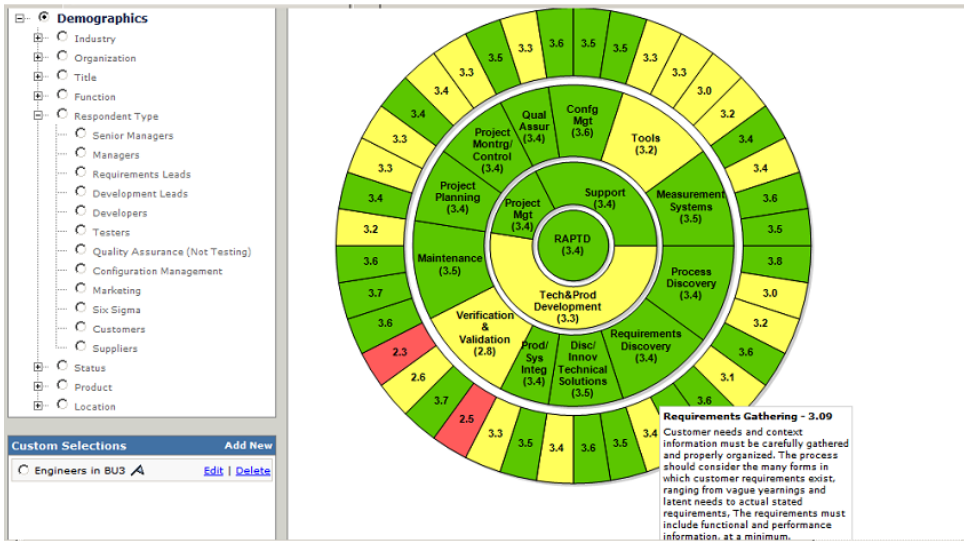
More and more the answer is no. Yet as we’ve discussed, there is value in assessments. So if not an OSIBA, then what? Web technology now makes it possible to scan large swaths of an organization, at a fraction of the cost, with far less work disruption. The key

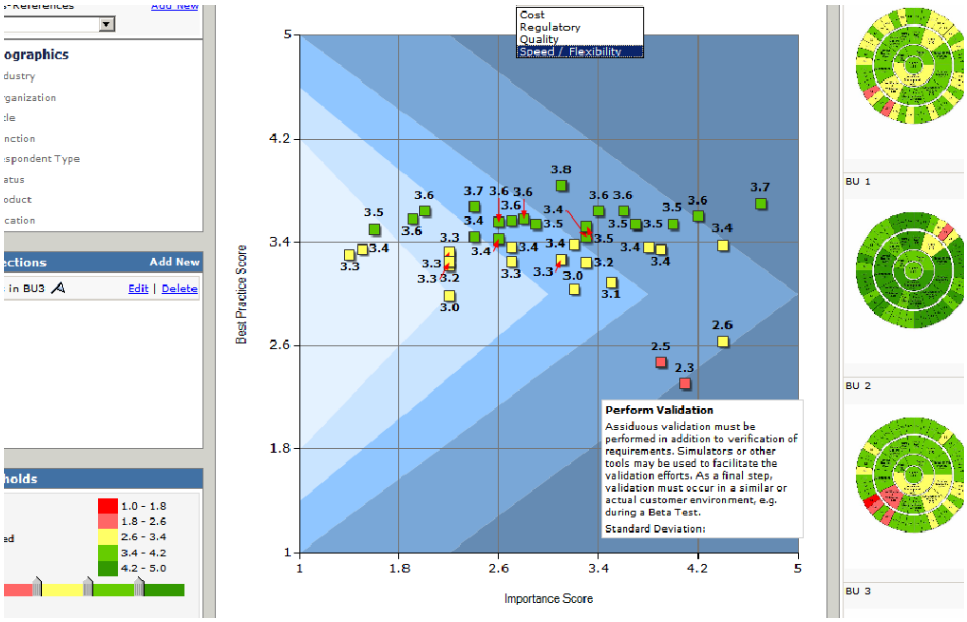
to the technology is capturing and documenting the best practices, developing a question set that can be answered by all layers of the organization, and processing the resultant information in a statistically valid and graphically friendly manner.

The Business Intelligence Approach

Web Enabled Assessment Processes (WEAP's), are becoming more advanced and alleviate a lot of the downside of OSIBA's. Because the question set is standard and fixed, the sample size can be up to 100% of the organization, the questions can be answered in a confidential way (at the leisure of the Interviewee) and much of the bias can be eliminated or normalized. Because the cost per on-line interview is reduced by an order of magnitude over OSIBA's, many more interviews can be conducted improving accuracy and reducing risk. This results in accurate business intelligence of the "as is" behaviors and practices for the subject organization. It also provide great insight into differences in operational behaviors between business units, product lines, project teams or virtually any defined demographic.

Figure 2 - Typical WEAP Outputs *(numerically scored, detailed and organized)*





As illustrated by the sample outputs above, technology allows us to acquire much more detailed responses, organize the results demographically (if desired) and apply an array of analytical techniques in an efficient manner. Through the use of fixed questions with Likert type scaled responses, multiple choice questions and open-ended questions requiring a typed response, a very complete and objective characterization is acquired.

The technology also brings significant efficiency to the process through the use of pre-loaded demographics, alignment of pertinent questions to respondent types, and the ability for the respondent to answer the questions in multiple sittings thus reducing the overhead required to sit with an interviewer for 1 or 2 hours. All of this adds up to a very complete, highly accurate and rapid assessment of the organization.

From here we might have some “quick hit” opportunities or the ability to replicate a best practice from another organization (self healing). We will also be able to target and prioritize actions where they are needed most based on the needs of the business and the customer.

As this technology continues to be adopted, we might even see the day where organizations will share data, industry wide, helping to propagate more meaningful standards data bases, based on data and results, as opposed to interpretations and expert opinions.

About the Author

Bruce Hayes is a co-founder and Board Director at NeuraMetrics Inc. where he focuses on Business Development, Executive Coaching and Business Intelligence tool deployment. He is a highly experienced Operations Professional and Consultant with over 27 years of business and engineering experience. He was formerly a Senior Executive at Motorola where he was one of the key contributors to developing and “operationalizing” Six Sigma. He has served as an Executive Coach and Mentor for many fortune 500 companies who have successfully implemented major improvement initiatives. Mr. Hayes can be reached via email at bhayes@NeuraMetrics.com.