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Project Teams With a Better Life

Written by

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A. Getting in Tune

This paper recognizes that projects fail more often because of the management practices chosen rather than for a lack of qualified technical professionals, time or budget. Our experiences and project industry analysis show very talented and motivated technical professionals frustrated and burdened with failures. Examples of failures include software that does not satisfy the customer's needs or the location of a semiconductor clean room wall that is not located correctly. The blame too often falls onto the technical professionals' shoulders, but the root cause of the scope or deliverable failure was more often than not poor communications. As humans, we see the technical professional but do not 'see' the communications tracks. Typical of human behavior, we blame the visible, the symptom, and not the invisible, the cause. Living with project failures does not constitute a better life.

Everyone wants a better life, even project team members. For this paper and presentation, we define a better life as a good balance between work and play, a balance that provides us with enough time and resources to spend with family and friends. Unfortunately, because of all too common project management practices, most project team members today and for the past several decades have experienced a stressful life style. They have missed important family events, worked late nights, participated in project "fire drills" and dealt with unhealthy stress because of conflict with colleagues and stakeholders. But an alternative better life style is available.

Consider this story. A young man many years ago decided that he wanted to learn to play the harmonica. After purchasing what looked like a perfectly fine harmonica, he brought it home and began learning how to play. No matter how much he practiced, none of the popular tunes he knew or wanted to play sounded right. After many frustrating months of practice that resulted in no improvement, he decided he just did not have the natural ability to play the harmonica and decided to return it to the music store and seek a refund. When he spoke to the owner of the store about his frustration and listed the many songs he had tried to play, the man smiled. "Young man, he said, "harmonicas come tuned to different keys. You purchased a harmonica tuned to the key of A. Most of the popular songs you want to play require a harmonica tuned to the key of C. You have been practicing with the wrong harmonica."

In this paper, we will use the analogy of the key of C and the key of A to represent the choices available in managing projects. Like a musician choosing an instrument, a person can choose how to manage time on projects. With over a combined total of 50 years of project management experiences, we have discovered a strong pattern of choices and consequences. We organized these experiences into two patterns which we will correlate to either the key of C or the key of A. These experiences include projects in the Aerospace / Defence, Healthcare, Public Sector, Energy, Telecommunications, and Construction industries. These projects involved IT, R&D, marketing and installations. The size of these projects ranged from 1 million to 1 billion dollars with project teams of 10 to 50 people. The project management culture and dynamics of these different projects tended to fit into two basic patterns, either the key of C or

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the key of A. We are not saying that a project is 100% one key or the other, but in the complex world of project management each project is played primarily in one key or the other. The total project management experience is then the summation of the different types of choices we make. A project can be managed in the key of C or in the key of A. What we need to realize is that a project will have significantly different results based on the "key" we choose to play.

Like music, projects can be short and simple, or long and complex. The harmony and tune of the project team and management practices are just as important to the success of a project as they are to a musical performance; for example, a local pub gig or a Carnegie Hall concert. Like a professional musician, a project team member enjoys performing well, being successful, receiving recognition by peers, and getting promoted. Each project member has a better opportunity to succeed, as does the project, when the key of the project management culture is understood and matched with the corporate strategy and expectations. Simply put, success often depends upon playing in the right key, by getting the project in tune.

B. The 'chosen' music, the 'chosen' sound, the 'chosen' results

The action of making a choice is usually difficult. Choosing depends on having options to consider, knowledge of each option and adequate time to make and communicate the choice. In our fast paced business world, time is the most valuable and scarce resource. To 'save' time, many choices rely on past practices; for example, an option is chosen because "that's the way we do things around here". When time is allowed for a choice, time is used to identify the options, to understand the benefits and costs of each option, and then to collaborate about the option chosen.

A choice is only good or bad when the choice's typical outcome is either consistent or inconsistent with the desired and expected outcome. For example, good music (desired and expected outcome) can be enjoyed in the key of C or in the key of A. The choice to play in the key of C was 'good' when the desired and expected outcome was a popular music event and common performance. The choice to play in the key of C was 'bad' when the desired and expected outcome was an advanced musical event or performance. In either situation, the musicians (the technical performers) played to their utmost capability.

One situation was a success and the other a failure. The musicians in the successful experience went home enjoying pride in their work, excitement in sharing the experience with family and friends and expecting gains from future engagements. The musicians in the failed experience went home under a dark cloud, withdrawn and doubting future prospects. Did the choice of key cause the success or failure or did the technical professionals cause the success or failure? Our conclusion is that the choice of the music key caused the success or the failure.

Like the options of different music keys, executives have the option of different project management practices. Executives can choose which practices (music key) to create a project management culture to generate particular results. The project performance is more often dependent on the chosen project management practices than the performances of the team's

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technical professionals. These practices must be flexible to align with the different nature of projects in different industries and different functions. These practices must allow for a mixture of choices with the understanding that the results are directly related to the chosen mixture. These choices require periodic review. No culture can exist as 100% one key or the other nor exist for years without adjustments. The resulting culture determines if a better life is experienced by everyone and to what degree of the quality of life.

In our experiences, the practices we associate with the key of C have been utilized from the beginning of time. They are popular, familiar and considered by many as the only choice. The practices we associate with the key of A have been developed in the last 70 years, have a few champions but are gaining more executive support each decade. The results of the key of C practices are the comfort of business as usual (no changes), quick startup response and pleasing popularity. The results of the key of A practices are successful quality deliveries on time within budget with satisfied stakeholders. Research shows most executives choose a culture based on the key of C practices and the results are consistent with the choice of the key of C practices.

C. Practices of the key of C and the key of A

What are these practices? While the choice of key of C and key of A practices exists for all of the Project Management Institute® (PMI®) PMBOK® disciplines, this paper will focus on the Time Management and related disciplines to demonstrate that two sets of practices do exist for establishing a successful project management culture. We chose Time Management because this discipline is one of the key disciplines for all of the ten PMBOK® disciplines.

Of all the disciplines, no other one is more essential than Time Management. From the day we are born to the day we expire, time is an element of our conversations and our expectations, and the amount of time we have is how we measure our quality of life - the time we spend asleep, the time we spend on vacation, the time our friends come over to play, the time we start and finish work - all of these emphasize how important a role time management plays in our personal definition of quality of life.

The same choice exists for executives and project managers. In fact, the choice of which key an organization's time management practices will be "played in" starts with the executive. The executive chooses a project manager. Most project managers are using the key of C practices, those that are the most popular and familiar. The executive's choice then highly influences the choice of Time Management practices, because a key of C type project manager will generally choose key of C time management practices. This executive choice also highly influences the choice of key of C practices for all the other PMBOK® project management disciplines. Since executives have responsibility for multiple projects, the choice of key for one project manager is usually repeated when choosing project managers for other projects.

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The time management practices we will discuss in this paper include, but are not limited to (1) the tangible Work Breakdown Structure (WBS) development, (2) the schedule model development with logic and duration estimates, and the inclusion of resource estimates, (3) participation and task ownership, (4) collaboration, (5) frequency of updates / reviews, (6) the what-if scenario analysis, and (7) governance.

1. Work Breakdown Structure (WBS)

One characteristic of a key of C Work Breakdown Structure is how the work plan or model is organized. Typically, the tasks performed first are included in the first group of tasks at the top of the task list or at the left end of the WBS Chart, and the tasks performed last are included in the last group of tasks at the bottom of the task list or the right end of the WBS Chart. Another characteristic is the use of functions or phases at the top level, like Design, Procure, Build, and Test (see Figure 1). In contrast, a distinguishing characteristic of a key of A WBS is the top level is organized by deliverables. A typical example is the construction of a house (see Figure 2). In a key of A WBS, the top level contains Land, Floors, Walls, and Roof.

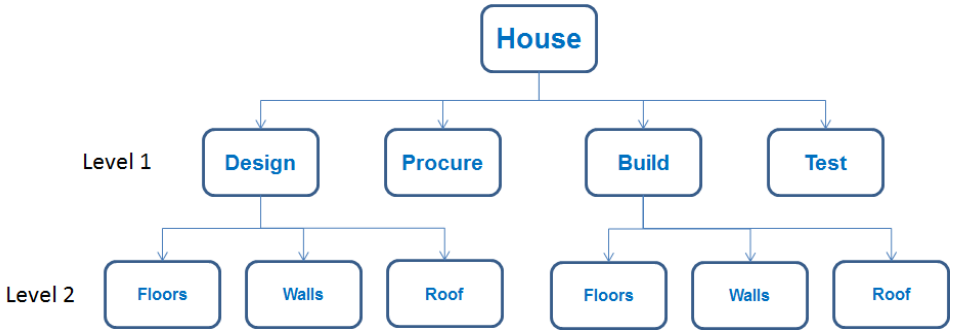

Figure 1: Functional WBS - Sequenced Left to Right by Time

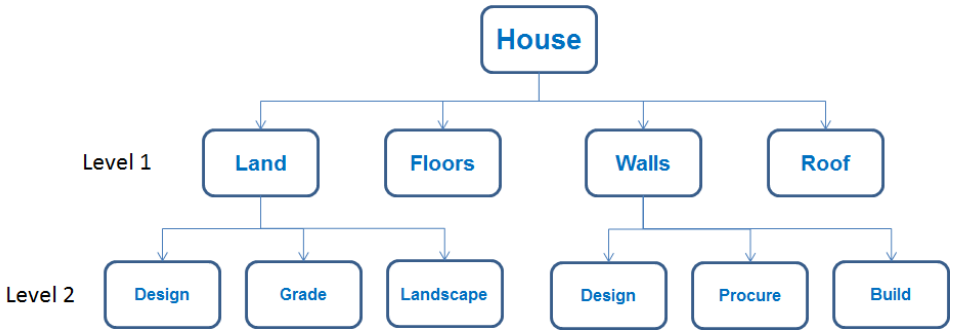

Figure 2: Tangible WBS – Organized by Deliverables

2. Schedule Model Dates, Links, Resources

A key of C schedule model usually involves the practice of entering the Start and Finish dates for each task directly into the schedule tool. Another characteristic is the use of nouns to describe the lowest level task, the level where the 'rubber meets the road'. These task names describe the work; but, not the action. The action is assumed to be understood by everyone. If resources are identified, many detailed tasks have multiple resources assigned to the same

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task. In contrast, a key of A schedule model emphasizes the practice of entering links between tasks and using the links and estimated task duration to calculate the Start and Finish dates for each task. The detailed task name begins with an active verb to communicate the expected action. One resource is assigned to a detailed task so that work that requires multiple team members can be clearly assigned with clear understanding of the scope of each task.

3. Participation and Task Ownership

Another characteristic of a key of C detailed schedule model is the fact that only one or two people build the schedule model. In contrast, a key of A detailed schedule is built by the team working together to expand the top level WBS to the detailed task (short duration) level for tasks in the near team and planning packages for tasks (tasks with large durations) expected to start more than 6 months from the current week. This schedule model will clearly identify the 'task owner' and that team member understands the scope of the task, the links to other tasks, and the Basis of the Estimates (BOE) of duration and work.

4. Collaboration

One-way communication is another characteristic of a key of C approach. The schedule model reports are normally distributed to a small set of people, sometimes only to the company's management and the client. Key of A collaboration uses multiple channels of communications. The schedule model reports are designed for different audiences and purposes, are uploaded to a SharePoint type website for 24/7 access, and comments and modifications are encouraged.

5. Frequency of Updates and Reviews

A project manager playing in the key of C will typically update the schedule model only upon demand from the client or company management. Likewise, client and company management reviews of the schedule model and performance are conducted only on demand. In contrast, a key of A schedule model culture has a documented practice of weekly task owner updates, with weekly posting of reports to a SharePoint site, and regular monthly reviews of the schedule performance with the stakeholders. These monthly meetings are focused on schedule performance with good control of the meeting's direction, and the avoidance of a take-over by technical design discussions.

6. What-If Scenario Analysis

Another characteristic of a key of C environment is the absence of using the schedule model to simulate and analyze different possible scenarios to better understand risk and issue management. On the other hand, in a key of A environment, there is typically a weekly discussion of issues and possible resolutions and associated impacts to the schedule and budget. Monthly reviews of risk and possible mitigation impacts to schedule and budget are simulated with what-if scenarios using the schedule model.

7. Governance

A standing governance organization, whose role it is to validate the schedule, resolve high-level issues and mitigate high-level risks situations is almost always absent in a key of C

environment. The key of A environment, however, relies upon a documented and established governance organization and process to review and assist in schedule revisions, high-level issues resolution and high-level risk mitigation situations on a quarterly basis.

8. Metrics

Far too many project Gantt Charts are just a picture of what a project manager wants the schedule to convey. Also, a schedule file with one thousand tasks creates an impression that the schedule is well developed. Yet, many projects with pretty pictures and lots of tasks fail. Executives do not ask for schedule health metrics to assess the quality of a project schedule. For simple projects or ongoing work, creating Gantt charts from fixed dates is a good approach. For complex projects, a healthy Critical Path Methodology (CPM) is more effective for planning and managing resources, time, people and budgets. The health of a CPM schedule is measureable using one of several commercial tools.

Ref.	Practice	Key of C	Key of A
1	WBS	Phased	Tangible
2	Schedule Model – Dates, Links, Resources	Static Dates, no resources	Links tasks, duration, work and cost estimates
3	Participation & Task Ownership	Limited, one person	Strong involvement 1st week, member task ownerships
4	Collaboration	One-way channel	24/7, SharePoint site
5	Frequency of Updates & Reviews	On-Demand	Weekly task owner status & reviews, Monthly stakeholder reviews
6	What-If Scenarios Analysis	Some or None	Weekly issues reviews with impacts, Monthly risk reviews w/ impacts analyzed
7	Governance	Some or None	Documented, Quarterly
8	Metrics	Some or None	DCMA 14 points, Monthly

Figure 3: Practices and Characteristics of each Key

D. When does the music of each key sound better?

Earlier we stated that neither key is good or bad. The management issue occurs when a certain performance result is desired and the key selection is inconsistent with the expected result. Playing a project in the key of C is acceptable when the desired result is a project completion "as soon as possible." Ongoing work, undefined scope of work, sustainment tasks, maintenance efforts, small projects and small level of effort (LOE) work are ideal forums for the key of C. The key of C forum in many ways is like a jam session. There are no set sheets of music that each musician plays from. Instead, each band member is allowed to improvise and experiment.

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For medium and large projects with fixed budgets, defined scope of work, dedicated resources and complex technical solutions - both hardware and software - are ideal forums for the key of A project music. The key of A forum is like an orchestra with each performer playing from the sheet of music, with lots of practice before the big event, the delivery.

The selection of the key is even more important if the work relates to other projects, is part of a larger program, competes for the same internal budgets, or is a component of a corporate wide project portfolio. The key of A delivers the type of music that minimizes the occurrences of sour notes and out of harmony sounds.

E. Why people play in the key of C when the key of A results are often more desirable

Until someone experiences first-hand the success of finishing several projects on time, within budget and with satisfied customers, a person is unaware of the real value that can be gained by playing in the key of A. More than likely, he or she has not realized that by playing in the key of A, no team member is required to work overtime, or work through planned vacations or family events. He or she would never have experienced the satisfaction and benefit of bonuses or awards given for delivering a project on budget. He would never have felt the joy from receiving recognition or kudos for a job well done that only comes when the customer is happy and satisfied with the solution delivered by the project team.

Another reason is human nature. Most humans by nature will avoid the discomfort of going down a new, different path. Common traits of human nature include a resistance to change, a desire to be popular, a short-sighted vision, and the avoidance of risk. Even when the value of the key of A practices are known and considered, the cost and risk associated with implementing change often discourages many decision makers. The costs and risks are numerous and real: retraining employees; slowing down delivery in the short term; unplanned expenditures for new tools; and staff turnover. A fear of the unknown is one of the biggest obstacles to change.

Seeing what lies ahead a short distance in front of us is much easier to accept than the longer distance view that exposes us to so much more information. The view from 20,000 feet is less detailed than the view from 2 feet, and the average person is more comfortable with making decisions with the details. Even with the knowledge of the values, the strength of diversity and long term vision, the decision maker must overcome the natural fear of taking risks. Many people have received criticism for making a mistake. Taking risks increases the probability of making a mistake, which increases the risk of being criticized. If the risk taking leads to project success, the usual absence of rewards also discourages future risk taking.

A third reason that most people continue to play in the key of C is the lack of qualified, career project management practitioners getting assigned as project managers. A true career project management practitioner has many years of first-hand experience in roles associated with the ten PMBOK® disciplines. For example, a career project management practitioner

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typically has at least three years' experience as a project scheduler, plus additional years as a project cost analyst or project controls analyst, and many more years managing stakeholder relationships, risk, scope, resources, contracts, and quality. Unfortunately in today's business world, the preponderance of people assigned as project managers lack this experience, but yet are thrown into complex projects that they cannot manage effectively. Our education system is very successful at teaching technical skills, like engineering, software development and architecture, but until recently, project management was only considered an extension of these technical careers, not a career.

Fortunately, more and more executives are recognizing the importance of having career project management practitioners managing their projects. We see project manager job descriptions focusing more on experience in the ten disciplines including soft skills for effective communication, relationship building and business management acumen, but excluding technical skill requirements. In other words, focus on finding career project management professionals who will play in the key of A is gaining wider acceptance.

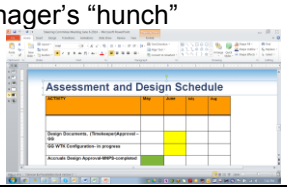
F. Case Studies

Key of "C" Case Study

Customer: US Municipal Government, multi-million dollar, fixed price, enterprise wide IT project. The planned project during was 48 weeks. Status at week 40:

- 4 of 8 key milestone dates have been missed
- Project is being extended by at least 35 weeks
- Professional Services budget is over by more than 75%

<table>
<tr><th>Ref.</th><th>Practice</th><th>Key of C</th></tr>
<tr><td>1</td><td>WBS Organized by Phases, not by work packages</td><td>
<table>
<tr><th>WBS</th><th>Task Name</th></tr>
<tr><td>1</td><td>Overall Project</td></tr>
<tr><td>2</td><td>Phase 1 - Planning</td></tr>
<tr><td>3</td><td>Project Initiation</td></tr>
<tr><td>4</td><td>Executive Sponsor/ Project Manager Intro Call</td></tr>
<tr><td>5</td><td>Project Planning</td></tr>
<tr><td>6</td><td>General Assessment Readiness WTK & Technical</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><td>2</td><td>Schedule Module – Missing Links, missing durations</td><td>
<table>
<tr><th>Task Name</th><th>Successors</th><th>Duration</th><th>Start</th></tr>
<tr><td>Interface Design Document(s) Sign-off</td><td>103,104,143</td><td>8 days</td><td>12/5/13</td></tr>
<tr><td>WTK</td><td></td><td>6 days</td><td>12/9/13</td></tr>
<tr><td>Employee Import</td><td></td><td>5 days</td><td>12/10/13</td></tr>
<tr><td>GL Acct Entry Import</td><td></td><td>2 hrs</td><td>12/9/13</td></tr>
<tr><td>Paydata Export</td><td></td><td>3 days</td><td>12/9/13</td></tr>
<tr><td>Sub Teacher Interface</td><td></td><td>5 days</td><td>12/9/13</td></tr>
<tr><td>Accruals</td><td></td><td>5 days</td><td>12/5/13</td></tr>
<tr><td>Accruals Interface 1</td><td></td><td>5 days</td><td>12/5/13</td></tr>
<tr><td>Determine Testing Strategy</td><td></td><td>1 day?</td><td>10/28/13</td></tr>
<tr><td>Payroll</td><td></td><td></td><td>10/28/13</td></tr>
<tr><td>Accruals</td><td></td><td></td><td>10/28/13</td></tr>
</table>
-
</td></tr>
<tr><td>3</td><td>Participation and task ownership</td><td>The project schedule was built jointly by the vendor and customer managers, without any involvement of the team members performing the work.</td></tr>
<tr><td>4</td><td>Collaboration</td><td>Project schedule was never posted to a SharePoint site. The schedule was never reviewed during weekly team meetings to help team members understand task status.</td></tr>
<tr><td>5</td><td>Frequency of Updates / Reviews</td><td>Over the course of one year, the project schedule was updated less than 10 times. Schedule reports provided to management were not based on actual data, but based on the project manager's "hunch"
 
</td></tr>
<tr><td>6</td><td>What if Scenarios Analysis</td><td>Impacts to schedule could not be performed because tasks links were missing, dates were hard coded, and durations missing on several tasks.</td></tr>
<tr><td>7</td><td>Governance</td><td>Monthly Steering Committee meetings are held. Project delays accepted as normal course of business. General attitude of "we will get to it when we can."</td></tr>
</table>

Key of "A" Case Study

Customer: US Navy, 3 year $15M R&D project with possible follow-on contract expected at $20M. Before changing the tune from key of "C" to key of "A", 3 major milestones had been missed and the customer was considering project cancellation. After changing the tune, the next 3 major milestones were met and the customer approved the follow on contract.

Ref.	Practice	Key of C	Key of A
1	WBS	**Phased** WBS / Task Name 0 ONR Launcher Program 1 Major Milestones 2 Requirements 3 Design 4 Procurement 5 Build 6 Assembly & Unit Test 7 Integration & System Test 8 Fire at Range	**Tangible Deliverables** **Executive signed WBS Level 2 Diagram** WBS / Name ONR Launcher Program 1 Systems Engineering and Program Management 2 ACL - Advanced Containment Launcher System 3 CD Component Development (CD) Barrel 4 ACT Advanced Containment Test Launcher System 5 Development Test and Evaluation
2	Links Resources	Schedule Model – Static Dates, missing links No resource data on detailed tasks	Schedule Model – Calculated dates based on links and durations Resources are identified for each detailed task
3	Participation & Task Ownership	Limited, one person or two people	Signed WBS Chart Project Director Project Manager Chief Scientist Chief Engineer Task Owners Project Manager Team Members
4	Collaboration	One-way channel	SharePoint site Project Manager Team Members
5	Frequency of Updates & Reviews	On-Demand	WSR – Weekly Status Request Weekly Status Reports Weekly Schedule Issue Resolution Meetings If necessary Only invitees, involved individuals Weekly Stakeholders Meeting
6	What-If Scenarios Analysis	Some or None	Issue: Produced Gantt Chart showing impending resource usage conflict for major machine required for 3 months for each of 3 ongoing projects. Client was approached with a what-if analysis, impact study, and possible solutions.
7	Governance	Some or None	A regularly schedule quarterly review was conducted to address stakeholders perception of the project's health and probability of success.
8	Schedule Health Metrics	Some or None	Multiple points test conducted each month to ensure effectiveness and creditability of the schedule model

Figure 4: Table of Practices for Each Key

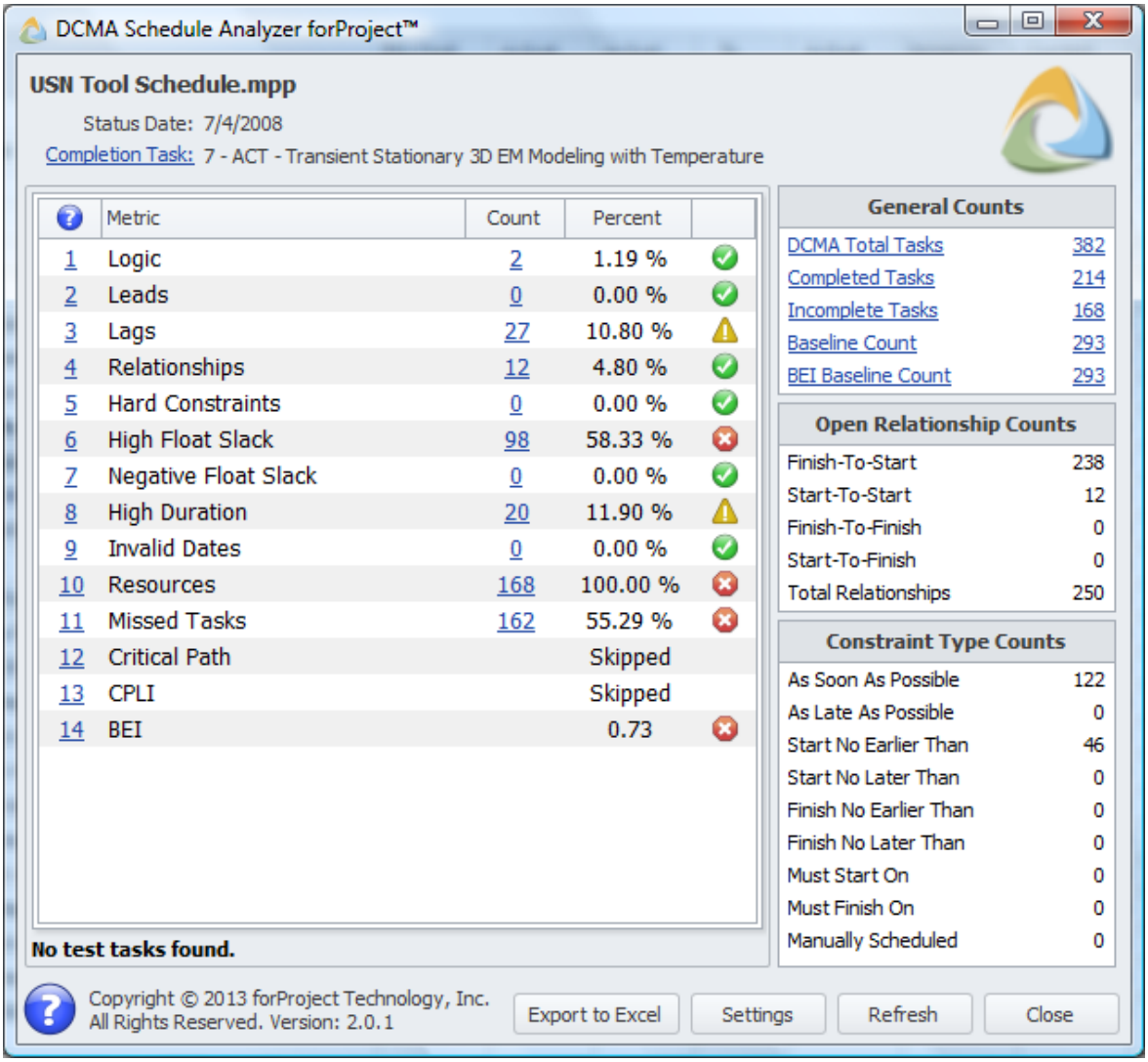


Figure 5: Schedule Health Metric – DCMA 14-Point Table

DCMA: Defense Contract Management Agency

Where can one find more information about these practices? The Project Management Institute® (PMI®) and the International Project Management Association (IPMA) are good sources of project time management information.

Remember the
CHOICE
of
the key of C or the key of A culture
determines success or failure.

About the Authors

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A. Matt Piazza, MBA, PMP, is an international career project management professional based in the Dallas / Ft. Worth metropolitan area of north Texas, USA. He is also a Principal Associate for Delta Solutions Inc., a project management consultancy specializing in Enterprise Project Management Office (EPMO) services. Matt has over 30 years of experience in the project management profession. He earned his B.S. degree in Industrial Distribution from Texas A&M University and his MBA degree from Southern Methodist University in the USA. Matt has applied his project management skills and knowledge in various PM leadership and mentor positions with Booz Allen Hamilton, EDS, IBM, Rapp Collins Worldwide, Raytheon, Texas Instruments Incorporated and other high technology firms. He has been involved in projects creating state-of-the-art satellites, physics research, US Navy weapons system, toll road technology, business intelligence systems, offshore drilling platforms and financial systems. These projects have enabled him to perform in the USA, Canada, Australia and Corsica. He is a former president of the PMI® Dallas Chapter and the DFW chapter of the Microsoft Project Association. He has a PMP® certification from PMI®, and is a Microsoft Project Enterprise Black Belt expert and instructor. More information about Matt can be found at www.linkedin.com/in/piazzamatt. Matt can be reached at piazzam@deltasol.net.

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David Turschmann has helped organizations implement innovative, cost effective IT solutions for more than 25 years. He has worked for large IT companies and directly for local government entities. David offers a unique mix of private sector business acumen and expert-level knowledge of how organizations

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