White Paper

The Top 10 Laws of Project Management

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Abstract

Project management is subject to a variety of laws. The vernacular of project management includes numerous sayings and proverbs, most without a creditable source and of variable value to the practitioner. This paper looks at ten of the most important principles from inside and outside the field to glean lessons for most projects. Each law's author, origin, and corollaries are explained and the fundamental concept examined for application in **improving project performance.**

Introduction

As projects grow in size and complexity, the Project Management Institute's *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)* also expands. The *PMBOK® Guide* grew from 37 processes and 176 pages in 1996 to 42 processes and 459 pages just 12 years later. Research and writing continues to enlarge the field to the point that the average practitioner would have to forgo managing projects altogether if they were to try to keep up with the growth of the knowledge domain. This paper uses the **Top 10 List paradigm** as an attempt to distill the mass of best practices into something usable in our daily work as project managers.

THE AUTHORS

1. Augustine
2. Lakein
3. Saint Exupéry
4. Fitzgerald
5. Parkinson
6. Constantine
7. Graham
8. Murphy
9. O'Brochta
10. Kinser

The Laws

1 *Augustine's Law: A bad idea executed to perfection is still a bad idea. (Brainy Quote, 2007)*

Norman R. Augustine is a former Chairman and CEO of Lockheed Martin and a writer of wry observations on business and life including a large number of "laws." One corollary is: A good idea poorly executed is of no use to anyone.

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VALIDATING THE PROJECT'S STRATEGIC ALIGNMENT

No single decision in project management has more importance than **choosing which projects to perform**. When choosing the projects that go into the portfolio, any idea of strategy or prioritization is often lost. Projects are initiated at many levels without any overarching strategic planning; then, schedules and budgets are arbitrarily trimmed to fit the emergent needs of the organization. The most underappreciated concept in all of initiating is that of opportunity cost (von Wieser, 1889). For every project we select to do, we are giving up the opportunity to do an essentially *infinite number of other projects* (Kinser, 2008). All projects need to be carefully examined to be sure that they align with the organization's strategy and deliver the most value when compared to other potential endeavors.

USING CONTROL GATES IN THE PLANNING PROCESS

Running a complex process all the way to the end before performing any quality assurance increases the likelihood of losing all the value created. Yet, many projects proceed all the way to the approval of the project management plan without any kind of control gates. A control gate is a point where significant product or project management deliverables (e.g., preliminary or final product design, work breakdown structure, risk management plan) are examined to verify completeness and quality prior to performing more work. The ideal time to validate return on investment is early on since relatively little money is spent in most projects during planning compared to execution. As da Vinci said, "It's easier to resist at the beginning than at the end."

2 *Lakein's Law: Failing to plan is planning to fail.*

Alan Lakein is a self-help writer focusing on personal time management. Lakein is a proponent of dividing one's tasks into lists of A, B, and C priorities to get the most important things done first. The law originally stated: "By failing to plan, you will free very little if any time, and by failing to plan you will almost certainly fail" (Lakein, 1974, p. 45). A corollary is: "Exactly because we lack time to plan, we should take time to plan" (Ibid.).

AVOIDING THE "JUST DO IT" MENTALITY

Organizations, too often, rush planning and value the execution of the project above all else. "At the outset of a project no one is doing project work; rather they are doing project planning, which is often wrongly interpreted as doing nothing" (Graham & Englund, p. 68). Planning is how we deal with the temporary and unique characteristics of projects; twenty of the processes in the *PMBOK® Guide* reside in the planning phase of the project. Remarkably, project management is often the most overlooked deliverable during the creation of the work breakdown structure (WBS). Project management should be a top-level element in the WBS with further decomposition focusing on the planning deliverables—generally documents—to emphasize the fact that work *is* being done and products are being created. The very first of these deliverables, the project charter, should initiate the link between the project's vision and the necessity of planning.

PLANNING TO PLAN: SETTING EXPECTATIONS IN THE PROJECT CHARTER

The project charter should address, in part, a summary milestone schedule, a summary budget, and assumptions (PMI®, 2004). The "project management plan approved" milestone should be a major element of any schedule since the plan defines how the project will be executed, monitored, and controlled (Ibid.). Likewise, if the planning process is to consume project resources rather than be treated as an overhead function, it should be a line item in the summary budget. In any case, **an assumption should be written** stating the organization's willingness to support a given amount of effort to produce a valid project plan. Once this charter is approved the project manager can use it to defend their planning

time rather than falling prey to the "Just Do It" mentality.

3 *Saint Exupéry's Law: Perfection is achieved, not when there is nothing more to add, but when there is nothing left to take away.*

Antoine de Saint Exupéry was a French aviator, writer, and philosopher. An author of over a dozen books largely inspired by his experiences as a pilot, he is most known for his children's tale *The Little Prince*. The law originally stated: "In anything at all, perfection is finally attained not when there is no longer anything to add, but when there is no longer anything to take away" (Saint Exupéry, 1939, p. 42). Corollaries are: the "keep it simple stupid" principle (KISS) in engineering and "Deliver to the requirement, no less, and just as importantly, no more" (Kinser, 2008).

VERIFYING THE WBS

As the fundamental scope planning tool and the foundation for many other elements of the project plan, the importance of the WBS can hardly be overstated. Each element must be defined and assigned, and the correctness of the WBS decomposition must be verified. We must determine "that the lower-level WBS components are those that are necessary and sufficient for completion" (PMI®, 2004, p. 116). The project team can most effectively address these "tests" of sufficiency and necessity by examining the WBS from the bottom up. For each level they should ask, "If we complete all of these deliverables, will the corresponding higher-level deliverable be complete?" It is equally important to "remove" each element and ask, "Can we still create the deliverable above?" Only then can we be sure to deliver the required scope, no less, and just as importantly, no more.

THE PROBLEM WITH EXCEEDING EXPECTATIONS

Too many organizations and project managers define success as exceeding goals or expectations when in fact delivering a project under budget and ahead of schedule is just as bad, or even worse, than delivering it equally over budget and behind schedule. Our **misguided attempts to exceed expectations** can cause problems ranging from padding estimates by tying up resources needed elsewhere to sacrificing other projects of more value to the organization. Project managers must champion the idea that perfection is delivering exactly to the requirement.

4 *Fitzgerald's Law: There are two states to any large project – too early to tell and too late to stop.*

Ernest Fitzgerald, engineer, manager, and former U.S. Air Force employee, is known for his work as a whistleblower that revealed waste in military contracting. Fitzgerald's original First Law of Program Management includes the corollary: "Program advocates like to keep bad news covered up until they have spent so much money they can advance the sunk-cost argument; that it's too late to cancel the program because we've spent too much already" (Stephenson, 1993, p. 305). Another corollary is: Projects have momentum, once started they become increasingly difficult to stop.

THE DELIVERABLE ORIENTATION AND EARNED VALUE MANAGEMENT

Earned Value Management (EVM) is best thought of as a control system for projects (Kinser, 2007). By creating the project baseline, collecting the right measurements, and comparing these using EVM formulas, we can determine what corrective actions need to be taken. By focusing on deliverables through all these steps, we remove much of the uncertainty that can mask true project performance. Since the cost performance index (CPI) becomes remarkably stable after the 20% completion point in the project, it is vital that EVM be used as early as possible to communicate the actual status and forecast endpoints. In this way, we overcome the "to early to tell" state (Christensen & Heise).

PROJECT TERMINATION IS *NOT* THE SAME AS FAILURE

Too many projects that should be ended are not because they have momentum. The mindset that a killed project equals a failed project can elicit undesired behaviors from stakeholders. A project that is discontinued could be the best money you never spent – **sunk cost is just that**. It can never be recovered but can always be increased. "You need to identify and terminate infeasible projects early. Sending a message to project managers that project termination threatens their career will tempt them to continue projects that should die" (Bohem, 2001). A poorly performing project should never be considered "too late to stop."

5 *Parkinson's Law: Work expands to fill the time available.*

C. Northcote Parkinson was a teacher and writer who captured the public's imagination in the mid-1950s with his satiric writings on government and business. Parkinson originally stated, "Work expands so as to fill the time available for its completion" (Parkinson, 1957, p. 1). This law has wide implications for projects. Corollaries include: "It is the busiest man who has time to spare" (Ibid.); and, any project without an established due date will take an infinite amount of time.

DEADLINES FOR EVERYTHING

If given an hour for a task an individual will take an hour, given a day they will take a day. They may start the activity at the last possible minute (the student syndrome), perform it in a leisurely manner, or gold plate the deliverable (Goldratt, 1996). This is why the "busiest man" corollary exists; an individual will theoretically deliver in the shortest amount of time when they have the least time to spare. Only by **imposing tight but realistic deadlines** on every element of the project, from meeting durations to final completion date, can we hope to overcome this aspect of human nature.

IMPLICATIONS FOR THE CRITICAL PATH METHOD (CPM)

A Gantt chart is created for many projects, and projects often start with a poor idea of true activity sequencing and CPM dates. Without a Gantt chart, each activity must be managed as if it is critical, which leads to a great deal of wasted effort. A network diagram containing this information allows the project manager to answer a host of invaluable what-if questions and puts enormous power over the schedule in their hands. Unfortunately, widely sharing the network diagram can put that same power in the wrong hands. According to Parkinson's Law, most people will start any assigned activity on its late start date, consuming all float and turning all paths critical. If *any* activity then exceeds the planned duration the entire schedule slips.

6 *Constantine's Law: A fool with a tool is still a fool. (Ambler & Constantine, p. 124)*

Larry Constantine is a software engineer and designer credited with seminal work in the Structured Design approach to software development. One important corollary of this law is: A fool with a tool is a more dangerous fool.

WHY PM METHODOLOGY IS "SOFTWARE AGNOSTIC"

The *PMBOK® Guide* makes only broad references to software and information systems, recognizing that project management can be performed using purely manual methods. This is reflected by the fact that the most advanced technology used by participants in the majority of Project Management classes is the humble Post-it® note. The **problem with providing tools** is that if you give someone a hammer, everything can start to look like a nail. The average project management software tool is focused on the creation of the schedule. Many people believe that if they hand you a file from this tool they have given you a plan. This is not true.

A person given more power without effective training is indeed more dangerous.

APPLYING LEVERAGE THROUGH THE WISE USE OF TOOLS

Only after understanding the principles of project management can one make effective use of automated tools. When performing CPM or EVM calculations in class, participants are frequently told that this is something that they will probably never do again manually unless they are sitting in the PMP® Exam. The real value of the exercise is that participants can see what is going on "under the hood." They can follow the flow of the data and numbers through the technique and appreciate the final results. Turning people loose with project management software before doing this is akin to allowing a child to use a calculator for math homework before they can perform the basic functions without one. Once the concepts and processes are understood, enormous leverage can be applied by the use of appropriate tools.

7 *Graham's Law: If they know nothing of what you are doing, they suspect you are doing nothing. (Baker, Campbell, & Baker, 2007, p. 28)*

Robert J. Graham is a professor, consultant, and author of many books in the field of project management focusing on people and effective communication. One corollary to his law is: if someone tells you *too* much about what they are doing, they may actually be doing nothing. When a rhetorical "What are you up to?" results in an interminable recitation, there is a good chance that not much is being accomplished.

USING THE COMMUNICATIONS MANAGEMENT PLAN

It is widely acknowledged that about 90% of a project manager's time is spent in communications, yet it is one of the simplest, most overlooked items in a typical project plan. In most cases the communications management plan should be the first project management deliverable created after the charter since it guides our interactions with all project stakeholders for planning and the rest of the project life cycle. Some organizations will even create a team operating agreement (TOA) prior to the creation of the project charter. As a core element, the communications management plan will be the subject of numerous references throughout a well written project plan.

STAKEHOLDER MANAGEMENT AND (RE)SETTING EXPECTATIONS

The setting of unrealistic expectations is a major factor in stakeholder dissatisfaction and the *perception* of project under-performance or failure. This is only a perception because it is reasonable to consider the true failure to reside with the holders of the expectations themselves if they were unrealistic from the start. In project after project that is described as any or all of the following: under-delivering scope, over budget, behind schedule, in trouble or crisis, further examination will most often reveal unrealistic expectations as the real culprit.

News about the rebuilding of the World Trade Center almost seven years after 9/11 is a perfect example. "The **schedule and cost estimates** of the rebuilding effort that have been communicated to the public are **not realistic**," wrote Chris Ward, executive director of the Port Authority, which owns the site and is responsible for the biggest projects on it. "Indeed, it is time that the design of that complex project be made to conform to real budget and schedule expectations, which will require tough decisions that have not been candidly addressed up to now" (Roug, 2008).

8 *Murphy's Law: If anything can go wrong, it will.*

Although entire books have been written about this law and its origins, it is now generally

credited to Edward Aloysius Murphy, Jr., who was an American military pilot and aerospace engineer involved in the research and development of safety systems for aircraft (Spark, 2006). The corollaries to this law are innumerable, but two are addressed below.

MANAGING STAKEHOLDER'S RISK TOLERANCES

All stakeholders exhibit a certain tolerance for risk ranging from a belief that "Murphy was an optimist" to an unwillingness to accept almost any level of uncertainty in a project *(Murphy's Laws and Other Observations)*. The project manager must work to align the tolerances of stakeholders with the level that is judged appropriate for the successful completion of the project. The organization's tolerance for risk and the concept of risk homeostasis should also be considered (Wilde, 2001). Wilde posits that people and groups have a target level of risk that they are comfortable with, and they will accept more or less risk in individual cases to stay at that level. This implies that an organization will adjust the acceptable risk in individual projects to balance risk overall to the desired state.

USING RISK MANAGEMENT PLANNING TO CONTROL MURPHY

Clearly the absolute phrasing of Murphy's Law is an overstatement, but the spirit of the law is that of **defensive design**. One should try to figure out what a user could do wrong and try to reduce or remove that possibility. The law only addresses the probability of the risk and also assumes that all uncertain conditions or events are negative. The formal risk management process recognizes that both probability and impact must be considered and that some risks can present positive opportunities. Keeping another corollary in mind: "If everything seems to be going well, you have obviously overlooked something" (Murphy's Laws). This helps emphasize the importance of the risk identification process. Just the act of conceptualizing a risk removes its most damaging characteristic – the characteristic of surprise.

9 *O'Brochta's Law: Project management is about applying common sense with uncommon discipline. (Zozer, Inc.)*

Michael O'Brochta is an author, lecturer, trainer, and consultant. As senior project manager at the CIA, he led the project management and systems engineering training and certification program to mature practices agency-wide. One of his corollaries is: "Great project managers have mastered the basics and have the discipline to adhere to them" (O'Brochta, 2008).

PROJECT MANAGEMENT IS *NOT* ROCKET SCIENCE

Many people outside and new to the field of project management believe it to be a highly technical, mathematically laden enterprise. It is no wonder, then, that the two most feared aspects of the PMP® Exam are the critical path method and earned value management. CPM requires that we are able to follow an arrow and perform the challenging operations of addition and subtraction. EVM is even more worrisome, since it introduces the advanced concepts of multiplication and division. Although the knowledge domain does of course encompass much more, the most involved techniques even *mentioned* in the entire *PMBOK® Guide* are probability distributions and Monte Carlo simulation. Clearly, there is something more to good project management than math and engineering, and that thing is common sense.

DEFINING AND UTILIZING DISCIPLINE

"Return to the basics" and "practice the fundamentals" are concepts that every coach espouses. They apply not just to physical sports, but in all fields of endeavor. The basics of project management are not complex; they are mostly common sense, what is **usually lacking is discipline**. Few people actually like writing status reports, reviewing old lessons learned files, or negotiating with the customer, but these are essential to success.

DEVELOP DISCIPLINE BY:

- Setting goals
- Practicing the activity
- Measuring achievement
- Practicing the activity
- Seeing progress
- Practicing the activity
- Receiving reinforcement
- Practicing the activity

The trick to instilling the necessary discipline is to reduce the pain involved in the doing. When starting (or re-starting) an exercise program, the discipline required is enormous. "It's too hot, cold, humid, windy, or I'm too tired, sore, busy, or lazy to run today." There is always a reason to not exercise anything, including self-discipline. By doing an activity regularly and seeing the benefits, the need for discipline decreases, and we actually start looking forward to exercising, "mentoring" the customer, or running a meeting per a carefully crafted agenda.

10 *Kinser's Law: About the time you finish doing something, you know enough to start.*

James C. Kinser was an engineer, efficiency expert, and jack of all trades. Raised in the Southern Appalachian storytelling tradition, he knew that the best way to teach something was to tell a tale. As a corollary he used to say: "If you don't write that down, you won't remember it for when you need it."

THE TALE OF THE THREE BOOKCASES

When I was about 12, my Dad initiated a project to build three bookcases, one for us and one for each of my grandmas. He'd scared up a good bit of cherry-wood and made a detailed pencil drawing on graph paper. Graph paper was used for everything in my house; until I started school, I didn't know they even made paper with lines that only went in one direction. We fired up the table saw, and I got to hand him wood and act as "catcher" on the backside. After we'd cut the wood for one bookcase, he turned the saw off, surprising me to no end. You see, for me, things like the economy of scale, process improvement, and always being on the hunt for a better way to do things had been bred in the bone. I asked him, "Aren't we going to cut all the wood, build all the bookcases, and then sand and finish them all at once?" "No," he said. "I reckon we'll build one, figure out what we did wrong, and then build the other two. It'll end up taking less time, and we'll wind up with better quality bookcases." He paused thoughtfully and said, "About the time you finish doing something, you know enough to start."

TRANSITIONING THE LESSONS LEARNED

Everyone has heard the truism: "Those who cannot remember the past, are condemned to repeat it" (Santayna, 1905). You cannot consider a project finished unless you **learn from it**. The steps are simple. However, the enforcement can be difficult until it becomes an accepted practice. Gather the lessons learned at a meeting that is held at closing or post-project. The project manager must then create a separate report on these; a project closing form/checklist can help make certain this is finished and published. Put the lessons in a database; a three ring binder can suffice if necessary. Use an initiating/planning checklist form to ensure that project managers of similar endeavors review these prior to baseline approvals. Repeat these steps until the rewards become so obvious that the need for onerous discipline is diminished.

Conclusion

Truisms are called that because – well … they are true. As the field of project management grows more complex and our jobs more challenging, it is possible to lose sight of the basic principles. By paying attention to these ten laws, it is possible to improve project performance, deliver more value to organizations, and make the project manager's job a little easier.

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