



S³ MANAGEMENT: The Stick, The Spring and The Shock Absorber **By Morgan Henrie PhD, PMP; President, MH Consulting, Inc.**

*The law of conservation of energy says that energy cannot be created nor destroyed.
Energy can only be converted from one form to another.*

This article presents a new perspective on managers' position as the person in the middle of the organizational structure, and how they respond to forces received from above and below them. The article's objective is to identify and discuss the manager's positional aspect, or world view style, as the **manager in the middle**. Further, this perspective is framed by the Law of Conservation of Energy. As the lead-in to this article states, "energy can only be converted to one form or another – it cannot be destroyed." Managers must respond to these external energy or work forces by converting them to other forms of work. This article focuses on three principal energy conversion styles managers utilize in fulfilling their positions. The three energy conversion styles form the **Stick, Spring, and Shock Absorber (S³)** management perspective.

While the article can be related to the role of a project manager, this S³ perspective easily applies to all management positions, from the first line manager to the executive level manager. All managerial roles across organizations include a responsibility for being the interface for those above and below them. This bi-directional role requires responses to forces from above that require some action from those below. It responds to forces from below that want/need response from those above. An essential project manager function is to transfer the energy received in appropriate amounts and timelines to maximize the use of all energy sources.

When reviewing the project management standards, project management is defined in various ways. As an example, the Project Management Institute defines project management as "...the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements¹" (PMI, p. 6). Further, PMI's[®] PMBOK[®] Guide presents that along with various specific skills, project management and therefore project managers must have general management proficiencies.

The American Society for the Advancement of Project Management (*asapm*) National Competence Baseline (NCB) presents that:

Project Management is the planning, organizing, staffing, motivating, directing, leading, tracking, measuring, and controlling of all aspects of a project... Project Management overlaps general management in many areas ... and differs in others such as motivating staff because Project Managers seldom have direct control over all the resources needed to do their job.² (*asapm*, p. 9.)

Project management literature clearly identifies that project managers must employ and apply a range of skills, specific to the project environment, that include those from the general management discipline. Consistently, the focus is on the 'what and how' of the way the project manager applies himself or herself in the project, and the range of application of general management proficiencies.

The general management body of knowledge, theories, methodologies, methods and tools is often said to begin with Henri Fayol's 1916 work. In Fayol's early writing, he was the first to identify that manager's key functions are to plan, organize, coordinate and control. In the ensuing ninety plus years, a vast spectrum of books, articles and general information sources has been created to expand, enhance, challenge and contribute to what a manager does, and how, and why they do it.

¹ A Guide to The Project Management Body of Knowledge (PMBOK[®] Guide) Fourth Edition, Project Mgmt. Institute Newton Square, PA, 2008.

² USA National Competence Baseline (NCB) First Edition, American Society for the Advancement of Project Management, October 2005.

When looking at this knowledge spectrum, one finds discussions on a variety of general management approaches and ideas, such as McGregor's Theory X and Theory Y; Taylor's Scientific Management; as well as Fayal's now-labeled "traditional" or "universalist"³ view that management is a process of getting things done through and with people. These are all very interesting but they fail to discuss how the manager, or in this case the project manager, works within and interacts with the broader organization as the person in the middle. Nor do they specifically address the conservation of energy in response to various external forces.

The S³ management perspective describes how managers respond to these external pressures, or energy sources from those above them and those below. It explains where and how these energy sources are applied, and ultimately conserved. The three basic energy conversion styles can be mentally viewed and metaphorically described as (1) the stick, (2) the spring, and the (3) shock absorber (S³). Each of these energy conversion methods exhibits a specific response to applied external pressures.

The Stick

The **Stick** style of manager in the middle converts the forces received in a way that is very similar to what a stick exhibits when pressure is applied to it. One way to visualize this is to draw a mental picture of a stick lying on your desk between two heavy books (the books represent the project team on one end and upper management on the other while the stick is the project manager). With this system in place, if no external pressure is applied then the stick will stay in position, as do the two books. No change in movement direction or velocity occurs if no external force is applied; the system is at status quo equilibrium, or neutral state.

Now, take your hand and apply side pressure to the upper management book. When you apply sufficient pressure, the management book starts to move and if you are applying pressure towards the project team it will move the stick and the project team book in the direction you are pushing. The distance and velocity of the movement is related to the amount of pressure applied and the point at which you are applying the pressure. Ok, from the physics purist's perspective the actual distance moved and movement velocity is moderated by things such as friction, conversion of energy to heat against the table, etc. But for this discussion we can ignore these effects and focus on the simpler input to output relationship.

Translating this mental image to the project team environment, the Stick project manager responds in a manner similar to the stick for the external senior management forces. As the project manager receives pressure from above, this energy is redirected, in close to real-time and at nearly the same force levels received, to the project team. There is no tempering, modifying or redirecting the managerial forces. In the end, whatever forces are applied by management to the project manager are directly transferred to the project team. A sudden and sharp senior management force becomes a sudden and sharp force applied to the project team. Now turn the mental image to when the project team applies pressure to the project manager.

In this scenario, the project team wants some response from senior management. The Stick project manager responds to pressure from below, i.e. the project team, in the same manner as from pressure from above by a direct, unfiltered, unmodified, energy shift. If the project team applies sudden pressure to the project manager this sudden pressure is then redirected upwards with nearly the same force received and in nearly instantaneous timing. Once again, the Stick conservation of energy says that all forces applied to either end are directly transferred to the other end. A sudden rap on one end will be a sudden rap on the other. That sudden rap can derive unintended responses and consequences.

There is a third energy state that can and does occur. This third energy state is in the case when the Stick project manager receives simultaneous upward and downward pressures, i.e. the two books are moved towards each other at the same time. In this situation it becomes a battle of forces where a limited set of conservation of energy options exists.



³ Koontz, Harold, *The Management Theory Jungle*, Journal of the Academy of Management, V. 4, pp. 174-188, Dec 1961.

One conservation of energy option is that either one side applies a greater force level than the other. In this situation the higher force will overcome the lower force and drive it towards a new state. This situation can exist for either side, depending on the project environment.

Unfortunately, the competing energy sources working against each other can and do generate a lot of heat and inefficient energy conversion efforts. What this means in the project environment is that one side may feel like they are being forced to do something they do not agree with or the project team expends critically needed time and funding on an activity or series of activities that reduces their overall project efficiency. Stated within the Law of Conservation of energy, the competing forces are converted to heat which is not a desired energy form. This non-desirable energy form may show up in lower levels of satisfaction, production, quality, etc.

The other potential state of competing forces is that neither has a controlling capability or sufficient energy to drive the other side to a desired result. In this situation sufficient pressure can be applied where the competing energy forces are sufficient that the Stick actually breaks under the strain. When the stick breaks, the competing energy sources are transferred into a sudden project team rupture and cascading impacts.

In summary, the Stick project manager style is characterized as a direct *pressure input* to *pressure output* relationship. Effectively, all energy is converted or transferred from the applying source to the lower energy source. There is no moderating, tempering or any other conservation of energy occurring in this style. While some situations may require a Stick response, in general, it does not create or foster a resilient project management system. The Spring manager, discussed next, provides a measure of tempering or internal energy conversion to these same forces.

The Spring

The **Spring** manager in the middle style, as the mental image of a spring imparts, responds to downward, upward, and simultaneous pressures, at either end, very differently than the Stick style. Reflecting back to the mental image of the stick resting between two books, replace the stick with a spring. As in the Stick mental image, the Spring is now resting between the potential energy forces of upper management and the project team. Each of these energy sources has a level of resistance, or friction, which must be overcome before the respective book can move from its current position.

Adding to this image are the Spring's compressibility and response factors built into its structure. While in the physical world a spring's compressibility and response factors are attributes of the spring's physical material composition, how it was formed, etc., the project manager's compressibility and response factors are also a result of how they were formed. What this means is that depending on the project manager's basic knowledge and skill set they may have different capabilities to convert the external energy sources to appropriate work levels. Different project managers may exhibit different spring responses such as the ability to convert a little, some or a lot of external energy into internal work.



As an example, consider the situation where upper management applies pressure to the Spring in an effort to achieve a specific project team response. This situation is mimicked in our mental picture as someone applying pressure to the management book in an effort to move the project team book. When the management book moves towards the project team, the first action that occurs will be that Spring starts to compress or conserve energy. In this situation, no force may be transferred to the project team as the project manager may be able to address all of upper management's needs, wants or desires, without affecting the team.

The view of the Spring being able to handle the upper pressure is that the Spring compresses and the project team book will tend to remain in place. This energy state will continue pending the application of sufficient force to overcome the variables of project team resistance and the Spring's compressibility or internal work factors. If sufficient managerial pressure is applied, the Spring will compress so that ultimately it will begin

to transfer a level of energy to the project team, and the project team book will move. How far and how fast the project team is impacted is a factor of the level of forces applied by upper management and the Spring project manager's internal energy conversion capabilities.

A similar modifying energy conversion situation applies when the project team brings pressure on the Spring manager as they attempt to obtain upper management responses. As with pressures from above, the Spring will convert energy forces from below into a combination of internal work and external energy transfer to senior management. As before, the Spring will compress and convert a portion of the external energy to internal work. This energy conversion provides a moderating effect between the pressure source and other side of the system. Yet, if the project team applies sufficient energy the Spring will transfer a portion of the energy to senior management. The level and timing of the energy transfer is a function of the project manager's knowledge, skills and competence.

Yet, as with the Stick, the Spring can be subjected to competing pressures which are simultaneously applied from above and below. In this duality of competing pressures, the Spring attempts to conserve the various energy sources as both internal work and transfer of energy to the other sides. Under this dueling pressure situation, the system can respond in one of two ways.

One way the system may respond is if one energy source, say the project team, is applying more energy than senior management. In this state the Spring will transfer the excess energy they cannot internally handle to senior management. This energy transfer results in some change, new direction, or other energy source occurring which brings the system back into an energy neutral position. An energy neutral position results in a decline in project team and senior management forces and the Spring relaxes back to its 'neutral,' at rest, energy state. Ultimately, this conversion of force state releases energy in the form of wasted work very similarly to the light bulb heat on your desk release of heat when all you want is light.

While one side of the energy system may overcome the other, there are situations within the project environment, where the competing project team and senior management pressures may approach equilibrium. Each side continues to press forward not altering direction, state, or reducing energy levels.

In this severe state, an extreme energy conversion may be the only outcome. This extreme outcome is that the Spring's energy conversion capability reaches a position where it can no longer convert or store the energy applied. The end result can be that the Spring manager enters burn out, the Spring escapes from the two competing energy sources by 'jumping' out from being in the middle. In this situation, unless rigidly held in place, the Spring will escape the pressure at two ends by 'flying' out toward the path of least resistance. For the Spring manager the effect may manifest itself by their leaving the project or if they stay on the project, effective and efficient management and leadership may drastically decline.

As in the physical world, all Springs have limits. For managers, these limits may include the level of knowledge, skills, experience and competency they have. A new project manager who has minimal or no experience in high pressure projects will have lower Spring energy conversion capabilities than the seasoned, educated, skilled and competent project manager.

Regardless of the actual limits, as long as these restrictions are not exceeded the Spring provides a tempering affect, by internal energy conversion, to the various external forces. In this situation neither side of the force equation is subjected to or experiences the full energy force applied by the other side. A Spring management style is effective in providing a level of buffering to prevent the sudden shocks that a Stick management style would deliver in similar situations.

On the negative side the Spring may generate oscillations between the two sides in response to the pressures applied. As an example, remember the last time you pushed down on a spring which was held firmly in place on the other side. If you didn't exceed the limits, at some point you released the pressure. Under this scenario the spring converted the applied energy into two different responses. One response was that some energy was kept internally in the form of work.

The second response was the Spring released some energy back towards the direction the pressure was applied. This release of energy oscillated back and forth until a steady state was finally obtained.

The oscillation effect can become the negative side of the Spring conservation of energy formula. During these oscillatory events, the Spring may apply varying and conflicting pressure to project team and upper management. The system enters into oscillating and chaotic response, action, response, action events which may slowly cascade towards a steady state. Throughout this oscillating time frame, the external entities can be subjected to energy sources that exceed the situation requirements. Conflicting and wasted energy efforts may be a real result. Wasted energy is a definite outcome.

The Spring style can provide for a smoother project ride than the Stick. This would be like riding a bicycle down a bumpy road, first with no springs and again on a bike with springs, the rides are different. In this case when you ride the bike with no springs each and every bump is felt. Then when you ride the same road with a bike with springs if the bumps are not large or sudden the ride is smoother as the spring converts the various external bump forces to internal work. Yet, the smooth ride starts to break down if the bumps are large. In this case as the bike encounters the large bumps in the road, the ride becomes very bouncy and the bicycle will become increasingly harder to control. If severe bumps are encountered, the driver, i.e. project manager, may actually lose control as the bike is bouncing all over and each response generates unintended or unexpected results. The Spring can and does provide a smoother ride than the Stick but it doesn't provide the smooth ride and control a shock absorber system can and does provide.

The Shock Absorber

The final S³ management style is the **Shock Absorber** manager in the middle. Shock Absorber managers work towards maximizing the areas of potential and kinetic energy. They tend to maximize the law of conservation of energy for the external forces.

To ensure the highest level of efficient energy conservation, Shock Absorbers leverage the potential energy sources of knowledge, skill, and competence obtained through education and experience. These potential energy sources build one upon the other.

Framing the competence and performance capabilities within the conservation of energy law it all starts with the project manager establishing potential energy in the form of first obtaining foundational project management knowledge. This is achieved in the general process of studying, reading, on-the-job training, etc. The raw material starts to take shape and potential energy is being developed through this molding process.

This foundational knowledge establishes the potential energy that allows the Shock Absorber to develop the next, kinetic energy levels, i.e. skills and competence. Advancing to the next stage is where the distinct capabilities and potential energy sources of the spring and hydraulic fluid, i.e. skills and experience, are joined into a single unit containing a higher, combined potential and kinetic energy than either alone.

The building of advanced potential-to-kinetic energy conversion ability occurs as the manager applies knowledge learned in real world operational and project contextual situations. This direct application of knowledge converts this source to new skills and advances the project manager's competence. Greater potential energy is developed as more knowledge, skills and experience are obtained in the real world feedback cycle of applying the knowledge gained, observing the results, learning and then converting the higher potential energy level into kinetic energy, that actually produces work results. This learn – apply – learn feedback cycle advances the Shock Absorber towards a more finely tuned energy conversion process as they build greater experience and competence. At each step, potential energy is converted to kinetic energy which in turn is converted to stores of higher levels of potential energy based on the feedback process and energy received from the project environment.



Yet, how does this equate to the various forces that the Stick and Spring project manager styles are subjected to?

Within the project environment the Shock Absorber manager is, as with all S³ management styles, buffeted by energy sources above and below them. Senior management is applying various forces on the Shock Absorber project manager to obtain specific results while the project team is applying forces according to their needs, wants and desires. Or, both sides are pressing the project manager for actions that require something from the other side.

The high performing, competent, Shock Absorber manager transfers these external energy sources to various forms of work very similar to how the shock absorber on your car does. What this means is that as pressure is applied to the shock, such as by a bump in the road, some of the resulting energy is transferred to the car itself, some is damped, and stored in the shock absorber itself – in the form of heat, and some is applied back towards the original source. In effect, the Shock Absorber is properly tuned to generate a balanced energy equilibrium state. This force-balancing equilibrium state converts the various energy forces into desired kinetic and new potential energy which provides a smooth car ride as it moves forward towards the driver's intended objective.

This analogy applies to the project environment where the Shock Absorber manager keeps the project environment steady as various bumps and forces are applied. They provide a smooth ride as they guide the project towards intended deliverables—while still transmitting a bit of "road feel".

The smooth project environment ride is the result of the manager understanding and applying their potential energy sources in response to the forces applied to them from either or both the senior management and the project team. This means that the Shock Absorber not only understands but knows how much of the external energy they should absorb themselves, how much should be passed to the other side of the force balance equation and how much they should 'push-back' to the applying force.

The high performing, competent, Shock Absorber manager tempers or dampers the various and often conflicting external and internal forces within the project landscape. They know that the energy state cannot be destroyed and that effective work is achieved by correctly applying the proper amounts of energy in the optimum locations to derive the highest return for all energy sources and a smooth, controlled, ride.

To achieve this balance requires that the project manager utilize the full suite of knowledge, skill, competence and performance at their disposal. Their knowledge set can be viewed as the basic shock absorber framework the design engineer begins with. The skills can be viewed as the spring portion of the shock absorber which allows for internal work conversion and impact tempering. The shock absorber hydraulic fluid is the project manager's competence that allows them to know how fast and at what level to respond to the applied pressures. The combination of all these develops a higher performing manager than if they applied just the spring portion or the hydraulic portion of the shock system to the external forces.

Summary

The Stick, The Spring and The Shock Absorber comprise the S³ management style framework. Each style exists within industries and within the project environment. While it may appear that there is a single best style, as in the world of physics, each style has a time and a place. Sometimes the most appropriate response that should occur is that of a stick, such as during an emergency situation. During an emergency the need for an absolute rapid response may require a stick approach to prevent or minimize a catastrophic result. The need isn't to soften the ride, it is to ensure maximum action in the very shortest time.

At other times a Spring management style may provide the best response. There may be a need to quickly transfer force across the environment with some tempering effect. In this case, a Spring approach may be the best selection.

Yet, while there may be times that a Stick or Spring is appropriate, experience identifies that the Shock Absorber is often the desired style. The Shock Absorber converts the various external energy sources into the required work, at the appropriate locations, within suitable times to keep the project running smoothly and deliver the intended objectives.

When analyzing which style is the best for the specific situation the answer becomes, “it depends.” Project environments are unique and what pressures occur are project specific. The high performing project manager will know which tool they need for each circumstance. Thus, the high performing project manager will have a tool kit that contains the full S³ management style suite.

About the Author

Dr. Morgan Henrie, President of MH Consulting, a Program and Project Management consulting company with offices in Alaska, Virginia and North Carolina. A Project Management practitioner since 1990 he focuses on managing high risk projects, developing university level graduate training programs and training at the university level.



Dr. Henrie is a member, contributor, and certified PMP[®] through Project Management Institute; he was Anchorage, AK 2002 PMI[®] chapter president; he also participated in PMI's project to produce PM Competency Development Framework , 2nd Edition as the Chapter 1 Edit Team Lead.

He is Director of Marketing for *asapm*, American Society for the Advancement of Project Management and a participant in the International Project Management Association's Organizational Assessment working group.

He has presented project management training courses in Alaska, Virginia, and the Russian Far East. He has written and presented more than a dozen papers, both nationally and internationally, that include the leading project management conferences, i.e. Project Management Institute and the International Project Management Association (Europe), as well as engineering and management conferences. His papers that have been either printed by or are accepted for publication in project management, knowledge management and oil and gas journals.

From an academic perspective he is a PhD from Old Dominion University currently researching culture and communications within multi-national projects. He holds a MS Project Management from The George Washington University, as well as BSEE and BA in Technology Management.

His project management experience includes design, development and implementation of major fiber optic telecommunication systems, supervisory control and data acquisition (SCADA) projects as well as near real time training simulation systems that provide operator training and certifications.

He has taught university level Project Management Courses for Old Dominion University and University of Alaska Anchorage American-Russian center. He has also presented graduate level training courses within the Russian Far East in support of U. S. Department of Labor educational grants.

Footnote

The S³ analogy, with manager styles related to a Stick, Spring and Shock Absorber, was inspired by *asapm* President Stacy Goff, who has used the comparison in his Executive, Manager and Program/Project Manager coaching for years. Morgan and Stacy are working together in a series of workshops for Middle Managers and Executives in project-oriented organizations, helping them more-effectively lead project and program managers, and improve organizational PM performance.

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