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Dispelling the Myth that Organizations Learn from Failure

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Abstract

Recent research suggests that failure should be embraced and provides a learning opportunity. To learn, from failure or otherwise, a firm must have an organizational learning capability. A better use of this capability would be to anticipate the technologies to be encountered during the project, and develop up-front management approaches for handling them. By successfully handling these technologies, a firm improves their absorptive capacity, and increases its capacity to learn new content as the program progresses. A look backwards to previous failures or historical best practices doesn't even identify the challenges a new project might encounter, much less the mitigation approaches for handling them. Professional organizations offer quality knowledge maps of universally accepted historical best practices that influence practitioners into using them. The result is an overreliance on historical best practices and a fundamental failure of practitioners to assess the forward-looking challenges a project will encounter. Since challenges are not identified, mitigation plans for handling them cannot be developed. The result is an industry where 95 percent of new product development projects fail, and 83.8 percent of all IT projects are deemed unsuccessful. This paper argues organizations must ultimately succeed to learn how to execute successful strategies.

Key Words

Embracing failure, historical best practices, knowledge maps, fear of failure, backwards focus, proactive planning, projects are unique, overreliance on best practices.

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Dispelling the Myth that Organizations Learn from Failure

1. Introduction

Gino and Staats (2015) suggest firms have four deeply ingrained biases that impede organizational learning. If firms institute ways to counter these biases, then they will unleash the power of learning throughout their operations and continuously improve themselves (p. 118). A bias towards success is said to result in a fear of failure, a fixed mindset, and an overreliance on past performance. Failure is cast as a learning opportunity that ends up being a positive occurrence for firms willing to learn from them. A bias toward action is said to cause exhaustion in workers, and a lack of reflection (p. 112). Presumably, if a firm's best minds are continuously overworked, then they will be too tired to think up innovative ideas and strategies. A bias toward "fitting in" results in workers believing they need to conform, and causes a failure of workers to leverage their strengths when problem solving (p. 114). Presumably, conforming employees would be hesitant to offer non-conforming ideas when supporting work tasks or organizational operations. Finally, a bias towards experts creates an overly narrow view of expertise, and results in inadequate frontline involvement when pursuing organizational strategies and objectives as the frontline employees are taught to just leave problems to the "experts." (p. 116). This paper addresses a fundamental concern the author has, based on 25 years of experience managing complex projects, with advocating, encouraging, or tolerating failure in any form.

2. Can Firms Truly Learn by Failing?

A major premise of the Gino and Staats (2015) research concerns a perceived bias towards success that results in a fear of failure, a fixed mindset, and an overreliance on past performance (p. 112). To counter these biases, Gino and Staats (2015) assert firms need to stress to their employees that mistakes aren't all bad, and that learning opportunities come from failure (p. 113). The problem with this research is one of perspective. Tolerating failure so organizations can learn from them seems like an unrealistic goal, as well as an undesirable consequence, for today's tough market environments. One failure may be all it takes to close the door on a business operation or opportunity. In addition, just because an organization experiences a failure, there is no guarantee that it will actually learn from it. The firm must have an organizational learning capability already in place and generate the absorptive capacity necessary to be able to learn, especially from a failure. Amy Edmondson is careful in her work on the same subject to note that successful learning from failure is not simple and requires context-specific strategies (Edmondson, 2011, p. 49). Another way of articulating this context concern is that organizations have to already be able to learn within the affected subject areas, to learn from such failures. Alternatively, not recognizing their failure does not prohibit project participants from defining a better path forward to learning how to be successful. In fact, it frees up planning resources to focus on future challenges based on the technical requirements and disruptive technologies that will be encountered during the project.

But, isn't this really a cart before the horse circumstance? If the firm already has the capacity to learn, they don't need to experience failures to do so. They can apply the learning at the beginning of the effort (proactive) rather than waiting for a failure to occur (reactive). Also,

learning comes from the gradually increasing absorptive capacity an organization acquires when they learn how to implement strategies right (Ray, 2014). The more a firm learns how to successfully handle new innovation cycles and disruptive technologies, the more capacity the firm will develop and retain for handling future problems. Such learning capacities would necessarily include analysis of failing operational processes or business ventures, but in real time while there is still time to make adjustments that improve these processes to the point where the strategies being implemented, or the organizational processes being applied, are eventually successful. Success can then be said to be a series of real-time adjustments made during organizational operations to address potential failures, improve them, at least to the point where the final outcome is successful and, more importantly, in such a way that the organization learns something during the effort that can become retained knowledge.

Researchers familiar with knowledge creation modeling terminology refer to this process as *internalization* (Nonaka, 1991; Ray, 2014), and the retained knowledge as *organizational tacit knowledge* (Nonaka, 1991; Ray, 2014). The retained knowledge relates to the additional actions that had to be taken to ensure the success of the effort, which is the critical knowledge important to the organization, and which cannot be learned by embracing failure.

Organizations should be focused on this is the type of forward-looking, constructive learning, not on dissecting their past failures which at most, one could argue, only teach the organization how not to perform, and what not to do. Edmondson (2011) identifies three types of failures. First, there are preventable failures (p. 50) in predictable operations, which usually involve deviations from specification. Second, there are unavoidable failures (p. 50) in complex

systems, which may arise from unique combinations of needs, people, and problems. Third there are intelligent failures (p. 55) at the frontier, where "good" failures occur quickly and on a small scale, providing the most valuable information." There is not much to learn from the first category, preventable failures in predictable operations caused by deviations in specifications. Implementing requirement traceability approaches and verification testing processes can eliminate them. In short, just following the predictable operations correctly will eliminate these failures. The second type of failure, unavoidable failures in complex systems arise when stakeholders have a need for a capability that goes beyond the state of what the related industry can provide. These problems can be mitigated through learning at the front end of the project before a failure occurs. Organizations used to developing systems that extend the capabilities of industry are used to handling this type of learning and typically apply up-front systems engineering processes to assess potential design solutions, and the underlying technologies needed to support them. Trade studies are conducted to compare competing technologies, and in so doing the organizations get smarter about the required capability through learning. Learning up front during the planning and conceptual design phases (rather than after a failure) is more desirable as it allows the project team to be proactive instead of reactive, and to develop project plans which can be executed effectively. The final category of "failure" can be thought of as problems where a series of real-time adjustments can be made during organizational operations to address issues that could potentially lead to failure, and improve the results to eliminate or reduce the negative impact to the project. These problems

are the focus of this paper and lend themselves to mitigation through organizational learning regarding the disruptive forces that are causing the negative consequences in the first instance.

3. Firms Need Proper Swing Thoughts

Perhaps the problem with the conclusions drawn by Gino and Staats (2015) is one of terminology rather than a philosophical one. What definition of failure should we apply when looking at this topic? How much value is there by looking at long-term organizational operations, or poorly implemented projects, that failed to achieve their programmatic objectives? Wouldn't a firm's time be better spent focusing on the challenges of the future, rather than the screw-ups of the past? As previously stated, a failure doesn't guarantee that the firm will learn from it. Furthermore, the fact that the firm failed at something is an indicator that it doesn't learn properly in the first instance. Otherwise, it would have made adjustments along the way and turned a failing effort into a successful one. Failure shouldn't even be in a firm's vocabulary. Ultimately, a firm must succeed to learn the important lessons of how to do the processes that implement their strategies correctly. "Succeed" in this instance means to perform at a high enough level, for a long-enough period of time, to successfully implement some business strategy, or to deliver successful products in accordance with programmatic constraints. The focus of the organization should not necessarily be limited to just being successful on the task, but rather, being successful at implementing the strategy across the enterprise. The problem with their work may be one of delivery context. Gino and Staats (2015) correctly point out that an all-consuming focus on success will distract the team. The distraction results from a focus on results, rather than the constructive success factors, and the metrics

implemented to track these success factors that facilitate a successful effort. For those in the reading audience that have played competitive golf, there is a direct link between how well you score, and what one is thinking between shots. If a competitor is focused (to the point of obsession) on their score (i.e., being successful by scoring low), then they are not thinking about their golf swing, and the characteristics that are generating good shots on that particular day. If this same competitor can switch the focus from one of their score to one of the proper swing thoughts, then the next shot is likely to be a good one, and the next one, and so on. Firms also need to have “proper swing thoughts” when conducting on-going operations within the scope of a business strategy or project objective. Their emphasis cannot be focused solely on success, but rather, must be concerned with learning the proper actions that can be taken to improve the success factors important to the accomplishing the strategic objectives embedded in the effort. Just like with proper swing thoughts, the focus is on how to get there, without distracting the team by over emphasizing the desired result. Looking forward and addressing the future challenges of the market environment that might impeded the firm from accomplishing its goals and objectives is the proper strategic orientation in this instance.

4. Looking Backwards as a Basis for Planning is Problematic

Not giving a firm’s failures proper reverence does not prohibit its staff from defining a better path forward. The so called “lessons learned” from past projects involves looking backwards presumably to learn how to plan projects in the future. Today’s marketplace has proven too dynamic for a backwards focus as evidenced by the high number of project failures being experienced. The inescapable conclusion is that firms need to stay focused on what is

happening now in the context of making decisions that improve their future. Bellassi, Kondra and Tukul (2007) studied the effect of organizational culture on new product development (NPD) project performance. NPD projects are challenging and have a unique set of problems. Globalization increases pressure to control costs. Greater competition means constant pressure to be better, faster, and cheaper. The continuous development of new technologies means even if a NPD project results in a successful product run, it will be of limited duration, and will have to be constantly improved while in production. Existing products are also vulnerable to changing consumer needs and tastes. The net result is 95 percent of new consumer product development projects in the United States fail (Bellassi, et al., 2007; Clancy and Stone, 2005). Even when the best project management practices are implemented, including the capture of past lessons learned, there is still a tremendously high failure rate in NPD projects. What could possibly cause projects implementing the best practices of the past to incur a 95 percent failure rate? These best practices focus on the past, meaning they look backwards, as do organizational analyses of failures. Any improvement to be gained through such an effort is minimal at best. The challenges associated with today's projects require a forward looking approach. Managers need to look into a crystal ball, predict challenges they will face in the immediate future, analyze and dissect them, and come up with mitigation strategies to neutralize them. This effort is continuous and ongoing with adjustments constantly made along the way. These mitigation strategies must then be incorporated into the project plan and resource funded. These firms also need to be nimble, adaptive, and on the lookout for unforeseen problems that can be resolved in real time as the program proceeds. A look

backwards to past lessons learned, or to previous failures, won't even identify the challenges a new project might encounter, much less the mitigation approaches for handling them.

The notion that all projects, even those of different types, can be managed using the same management approach (e.g., which could possibly justify a planning approach based on looking backwards at historical past best practices), has been disproved. Shenhar and Dvir (2007) found most modern projects to be “complex, uncertain, changing, are affected by dynamic environments and technologies” (p. 10), and are “failing to meet their goals and objectives” (p. 5). While an update to the Standish Group statistics referred to by Shenhar and Dvir (2005) indicate a positive trend up until 2012, the sheer number of failures is still alarming. Table 1 indicates the failure rates of IT projects as reported by the Standish Group as part of their Chaos Manifesto surveys.

Table 1.

Failure rates of IT Projects as reported by the Standish Group.

Year	% Failed Projects	% Challenged Projects	% Successful Projects
1994	31	53	16
1996	40	33	27
1998	28	46	26
2000	23	49	28
2002	15	51	34
2004	18	53	28
2006	19	46	35
2008	24	44	32
2010	21	42	37
2012	18	43	39
2014	31.1	52.7	16.2

Notes: The table depicts the historical failure rates for Information Technology (IT) projects as reported by the Standish Group in the results of their periodic Chaos Manifesto surveys. Data taken from PMI (2011); Shenhar and Dvir (2007); Standish Group (2015), and Standish Group (2013).

A plot of this same data is contained in Figure 1.

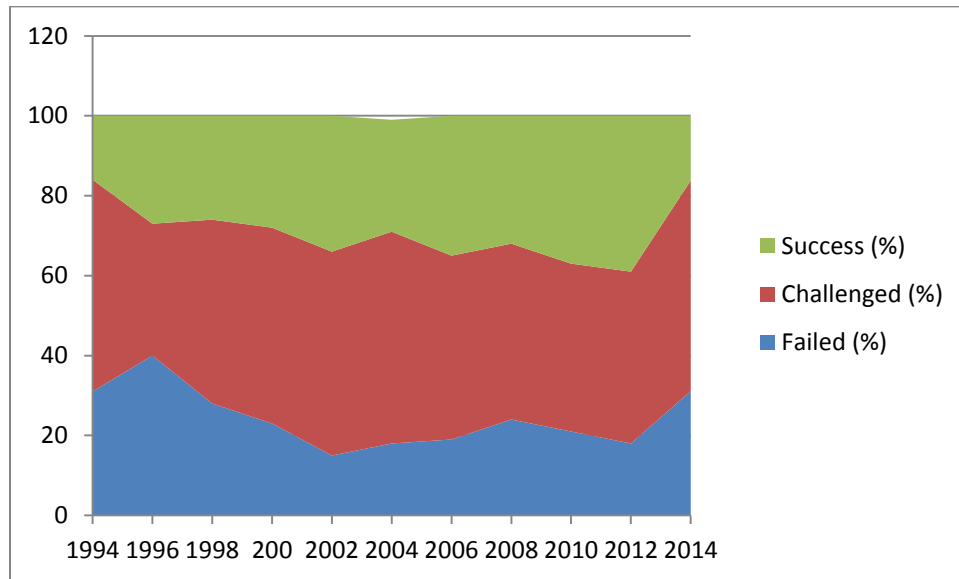


Figure 1. Plot of the number of successful, challenged, and failed projects as a percentage.

Notes: The data is based on the bi-annual Chaos Manifesto survey conducted by The Standish Group. The plot shows that from 1994 and 2012 between 61 and 81 percent of the projects surveyed were unsuccessful (i.e., either failed or challenged). In 2014 only 16.1 percent of the IT projects were successful which reversed the positive trend.

The increasing thickness of the green area in the curve (the percentage of successful projects) up until 2012 indicated a positive trend. Although the positive trend was encouraging, the combination of 18 percent of failed projects when added to the 43 percent of challenged projects in 2012 (which include projects that did not meet business requirements and had 190 to 300 percent overruns) in 2012 sums up to 61 percent of IT projects that can be labeled as *unsuccessful*. Notwithstanding the positive trend, PMI reported at the time the probable causes behind the recent improvements were:

- IT project managers are getting better at making faster decisions and smarter at leveraging teamwork to counteract the shorter, more time-sensitive IT project durations

- Firms are taking on fewer large organization-wide enterprise resource planning (ERP) system rollouts since they cannot manage the complexity of such projects
- Firms are keeping planning efforts smaller and more manageable by implementing new development frameworks like the Agile development process. (PMI, 2011, p. 11)

Thus, firms were having higher percentages of successful projects because they were shying away from the large complex projects in favor of small to “moderate projects where companies are merely revamping or upgrading existing systems” (PMI, 2011, p. 11). This insight tends to reduce the luster that would otherwise flow out of the improving failure trends. In 2014, however, the positive trend reversed, and a total of 83.8 percent of the projects surveyed were *unsuccessful*. Given the data just presented, it is now fair to say that the project management practices being employed by firms over the last 20 years, which primarily implemented management approaches based on historical best practices, has been a huge failure. The only logical explanation for how an entire industry could be fooled is that the reliance on historical best practices, and the organizations confidence in using them, reduced the motivation of their project managers to access forward-looking challenges which the project would likely encounter. If the challenges were not identified and assessed, then there obviously wasn’t any mitigation strategy for handling them incorporated into the project plan.

5. Different Projects Require Different Management Approaches

Virtually every project studied by Shenhar and Dvir (2007) “underwent predictable changes, and none of the projects were completed exactly as planned” (p. 10). To succeed the organization must adjust the project plan “to the environment, the task, and the goal,” rather

than stick to one set approach (Shenhar & Dvir, 2007, p. 10). Firms that have applied the same project management approaches to different project types have failed. Examples include the Denver International Airport project, Israeli Fire Control System project, and the incident response management after hurricane Katrina (Shenhar & Dvir, 2007). The nature of the project type is said to affect the management styles, communication approaches, attitudes and contingencies required for individual successes (Shenhar & Dvir, 2007). In short, the type of management approach appropriate for a particular project is dependent on the nature of the project. A firm simply will not be successful if it keeps applying the same management approach across different project types. But isn't this exactly what industry is doing when it artificially inflates the value of the historical best practices, and encourages managers to plan their projects by leveraging them? By offering up nine knowledge areas and a knowledge map of historical best practices in the Project Management Body of Knowledge (PMBOK) Guide, isn't the Project Management Institute (PMI) advocating that all the Project Management Professionals (PMPs) they have certified (about 660,000 at last count as reported in PM Network magazine) to use them when initializing, planning, executing, monitoring, controlling and closing their projects (PMI, 2013)? These are all backwards focused historical best practices with one exception. If project managers are to rely on PMI's risk management processes, which is the only knowledge area that might be tasked with identifying and assessing the challenges each project will face in the future, then managers need to be made aware that this task is critically important and is relied on to handle future challenges. Otherwise, project managers may fall into the trap of setting up a risk management approach that goes through the motions

of identifying near term risks (which are highly visible) while neglecting to forecast the major project challenges each project will face with evolving innovative technologies that will end up causing a significant impact on how the project should be managed. It is simply too easy for a project team to stand up a management approach nicely structured around historical best practices blessed by PMI in the PMBOK with a form over substance implementation of risk management, and which fails to identify and assess the future challenges the project will encounter. It is simply too easy to setup this kind of project structure and fool stakeholders and the firm's executive management into believing a successful management approach is being implemented. Projects are failing because they rely on processes that look backwards, and do not adequately tackle the tougher job of assessing the unique technologies and programmatic constraints during planning.

To help managers recognize when project types are different and incompatible with the management approach being proffered for a particular project, Shenhar and Dvir (2007) developed the Adaptive Diamond Framework for project management. Project types are assessed based on four dimensional characteristics of the technology, complexity, pace, and novelty of the project. These factors determine the nature of a project and the type of project management approach that should be applied to it. For the limited number of cases where the projects have the same technology, complexity, pace and novelty, the same project management approach can be leveraged and reused, and best practices from historical projects would be relevant. In all other circumstances, the value of the focus on historical best practices would be exceeded by the damage caused by distracting managers and keeping them from

identifying and assessing the challenges their projects will encounter (e.g., arising out of the technology, complexity, pace and novelty dimensions). According to this management framework, executives have to look forward to the challenges their organizations will face along these other dimensions, and develop strategies for countering them. The ability to look forward, anticipate the environment, and develop strategies that lead to success, would necessarily require an organizational learning capability.

6. Fear of Failing Defeats Team Motivation through Transference

Gino and Staats (2015) also contend a bias towards success results in a fear of failure, a fixed mindset, and an overreliance on past performance. Fear of failure can quickly delegate a firm to the middle of the pack by taking away its ability to be innovative and distinguish itself from competition in its operations. A number of sports metaphors come to play in this discussion. First and foremost, players on a sports team have to be willing to do whatever it takes to *“make plays,”* and cannot be focused solely on *“not making mistakes.”* If coaches tell their players not to make mistakes, they doom them to lose the match since they won’t have the mindset to experiment and attempt to find ways to defeat their opponents. Players need to play loose, but smart. It is the smart part of the equation that is in contrast to a policy of tolerating failure with the goal of learning from them. Would a defensive back give up a touchdown to a wide receiver merely to learn from the experience? The goal of the effort, and the underlying strategy supporting the goal, has to be focused on a successful engagement. Just like sports teams, firms also need to play loose, but smart, with a strong prejudice towards success.

Gino and Staats (2015) further provide a bias towards experts creates an overly narrow view of expertise, and inadequate frontline involvement. This problem stems from the fact the organization requests employees to transfer the problem to “experts,” rather than trying to get their frontline perspective incorporated into the solution of the problem. Such an approach is counter to an enlightened management approach dedicated to becoming a knowledge-creating organization. For example, if a firm tells its employees not to worry about a problem since the “subject matter experts” will fix the problem later, this equates to demanding employees to transfer the problem to the experts, which is the equivalent of a coach telling the players on a team to not make any mistakes. It destroys the team’s motivation to defeat obstacles and become competitive, and replaces it with a new goal of merely not making any mistakes. These firms need to learn the characteristics of the underlying market places which will support their strategies. They need to view life as a Scientist would; i.e., view the world as an experiment, develop hypotheses regarding “if, then else” conditions and monitor input variables and results to either validate or discredit the original assertions developed to support their strategies. Employees at all levels, particularly front line employees, can and should participate in this effort. This would create a much better learning construct for firms rather than tolerating failure, and then sending in the experts to try and learn from them, or for adopting a don’t make any mistakes mentality.

7. Summary Conclusions

In summary, tolerating failure is never a good idea for a firm. Dr. Edmondson is sensitive to the dilemma we put executive managers in when we ask them to tolerate failures.

Executives are said to commonly and understandably worry that taking an understanding stance on failure will create a work environment where anything goes (Edmondson, 2011). The data tracking the failure rates of projects in the United States from any number of sources, two of which are cited in this paper, indicate there has been an epidemic of project failures, and it has been going on for over 20 years. The strategies advocated by project management organizations such as PMI tend to focus on historical best practices from by-gone eras. Today's Project Managers have been distracted away from monitoring evolving innovative technologies, which would give them a better understanding of market forces and enable them to predict the challenges that a project will likely encounter. Since these challenges are not being identified, mitigation plans are not being developed to handle them.

Gino and Staats (2015) assert that project failures are not all bad, and that firms can learn from their failures. This paper suggests that this line of reasoning is simply another part of an industry-wide shortcoming in the project management ranks whereby project planners expend most of their time implementing historical best practices and somehow fail to focus on what's important. They fail to predict and analyze the specific challenges (from a forward-looking perspective) the project will encounter. This is a fundamental failure of the project management profession to suggest and implement planning processes that will lead to successful project outcomes.

In addition, this paper also has some specific findings related to contentions as espoused by Gino and Staats (2015). The specific findings include:

- Failure is cast as a learning opportunity that ends up being a positive since it gives firms the opportunity to learn from their mistakes. When explored in greater depth, a flaw in this reasoning arises. For an organization to learn, even from failure, it must have a learning capability backed up by an absorptive capacity in the targeted field or subject area. If the firm already has the ability to learn, then it should be proactive and expend the effort to do so at the beginning of the effort before the failures occur.
- At most, studying failure can only teach the firm what not to do (e.g., don't repeat the actions that caused the previous failure).
- To handle the challenges associated with new product development and information technology projects, organizations need to focus on forward-looking constructive learning. Armed with the knowledge regarding the disruptive technologies a project will face, managers will be ready to handle problems as they arrive with a series of real-time adjustments made during project execution to correct operations by improving the issues that could lead to project failure.
- Like competitive golfers thinking of swing mechanics between shots and not focusing merely on their desire to score well, firms must have the equivalent of positive swing thoughts by refusing to become obsessed with success to the point it distracts the team. The proper focus needs to be on the project characteristics and success factors, in the anticipated market environment. This

will allow the firm to learn and acquire enough knowledge over the project duration to ultimately be successful.

- An over-reliance on subject matter experts fails to capture the input of front-line employees whose job function provides them experience that would be useful in troubleshooting and solving the encountered problems. When employees are asked to wait and let the subject matter experts solve the problem, they gravitate to an unmotivated “don’t make any mistakes” mindset.
- Spending an excessive amount of effort looking backward at historical best practices has been problematic for industry and the project management profession, and has resulted in a high number of project failures. As part of the planning process, managers need to forecast market environments, predict the challenges they will face, and develop mitigation strategies for neutralizing them. By evaluating markets and planning mitigation actions, firms will develop / absorb prior related knowledge that will help them adjust to unforeseen problems as they arise during project execution.
- Shenhar and Dvir (2007) show us that different project types require different management approaches. Project types are said to differ along the four dimensions of technology, complexity, pace, and novelty. Only when projects have the same characteristics along all four of these dimensions would it be safe to reuse similar management practices / approaches.

- By advocating a knowledge map of historical best practices, PMI (2013) has subconsciously guided project management professionals to implement similar project management practices across all their projects. Applying the same project management approach across multiple project types is another example of failing to consider the challenges likely to confront a project, and then adapting the management approach to handle them.
- The result of all the factors that influence project managers to somehow fail to look at one of their most important planning issues, e.g., the challenges their project will face, has resulted in an unacceptably high project failure rate likely influenced by the project management profession.
- While in some cases focusing on failures or “lessons learned” from past projects can be of some limited value, it is never enough, and it distracts managers from focusing on what’s really important to ensure the project’s success.

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