Checklists

Idea In Short

As consultants, you will often experience several competing demands on your time. Client presentations, workshop organization, meeting scheduling, Excel models and analysis, proposal work, practice development, and so on. It is quite easy to let some important deliverables slip through the cracks. Checklists are simple tools that help you better organize your deliverables and prioritize your most important tasks. Checklists help reduce errors, ensure consistency and impose structure in successfully executing your assignments. When you have those busy weeks with so many things to do and so little time, you need a tool that helps you to organize your tasks and manage your work. Checklists also help you carry out routine tasks, such as time card submission and expense reports, while freeing up your mental capacity to focus on other more important activities. They also ensure that you also do not miss any trivial housekeeping activities you're required to perform to ensure a clean project hygiene.

As a consultant, you have a hundred things going on in your project. In addition, you need to be active on the projects (for example, a white paper that is due by the end of month) happening in your firm to gain visibility and exposure. When you do something that involve multiple steps or work on multiple things in parallel, it's easy to forget a few of them. Using checklists ensures that you won't forget anything. This increases your reliability as a professional; your colleagues and clients will begin to trust your ability to deliver high quality results by the imposed deadlines. So, if you do something repetitively and want to do it right every time, a checklist is an indispensable tool. Checklists save you time because you don't need to spend time thinking about or remembering the steps. Therefore, you can dedicate all your time focusing on the task at hand. Checklists also allow you to confidently and effectively delegate tasks. Using a checklist is an excellent way to make your lives simpler and your client engagements more productive and impactful.

B-17 Bombers

B-17, also known as the Flying Fortress Bomber is an iconic airplane. If it weren't for a simple checklist, it never would have gained its renown in the World War II. In the 1935, the U.S. Army Air Corps held a competition for airplane manufacturers vying to secure a contract to build the military's next long-range bomber. Boeing produced a plane that could carry five times as many bombs as the army requested. The model 299 Flying Fortress was a massive plane, with four powerful engines and a giant 100-foot-plus wingspan. The plane could fly faster and further than the previous bombers. On the day Boeing demonstrated its Flying Fortress, the plane lifted off the tarmac, stalled at 300 feet, and then crashed in a fiery explosion. Two of the five crew members died in the crash, including the pilot, Major Ployer "Pete" Hill. An investigation discovered the crash wasn't caused by a mechanical malfunction, but rather pilot error. Major Hill had forgotten to release a lock on the controls. Major Hill was an exceptionally qualified and experienced pilot. He was also the chief of flight testing for the Air Corps.

The issue

The problem was while the new bomber could carry more and fly faster and further than any other bomber in history, it was also an extremely complex plane to operate. To fly it, a pilot had to pay attention to four different engines, retractable landing gear, wing flaps, electric trim tabs, and much, much more. Because the pilot was so preoccupied with all these different systems, Major Hill forgot to release a new locking mechanism on the elevator and rudder controls. Overlooking something so simple killed the two men at the helm. The Air Corps concluded that the Boeing model was just too complex for pilots to operate and so awarded the contract to build its long-range bombers to another company. However, the military still bought a few Boeings to experiment with. Some test pilots believed the Boeing bomber was a much more effective warplane and got together to figure out how they could get pilots to fly it.

The solution

Instead of requiring more training, the test pilots implemented a simple pre-flight checklist. It spelled out all the basic tasks that were needed to fly the plane successfully, such as checking to see if the battery switches and radio were on before taking off. By implementing the checklist, pilots flew the Boeing bomber 1.8 million miles without a single accident. Thanks to a simple checklist, the Army ended up ordering 13, 000 Boeing bombers and the B-17 soared into the annals of wartime history.

Apollo 13

2020 marked the 50th anniversary of Apollo 13. It was NASA's seventh crewed mission in the Apollo program and the 3rd to attempt to land astronauts on the moon, after successful landings by Apollo 11 and 12. The motto for this expedition was Ex Luna, Scientia, which means, From the moon, knowledge. So, expectations were very high that Apollo 13 would open this new chapter in the scientific exploration of the moon. However, the mission ran into problems and remains one of the most dramatic illustrations of the complexity and danger that astronauts and engineers face during space travel. Apollo 13 launched from Kennedy Space Center on April 11th, 1970, with three astronauts aboard. Jim Lovell was the commander; Jack Swigert, the command module pilot knew the command module systems extremely well; Fred Haise, the lunar module pilot, was an incredible expert on the lunar module, one of the top two or three astronauts in the program in terms of his knowledge about the lander.

The disaster

The takeoff and flight went smoothly. But, 55 hours and 56 minutes into the flight, the ground flight controllers instructed the astronauts to gauge the fuel levels - cryogenic liquid oxygen and liquid hydrogen - inside the tanks. When the astronauts flipped the switch to measure the fuel levels, they heard a loud bang and felt the spacecraft shudder. The explosion in the fuel tanks meant the crew was rapidly losing the ability to generate power in the fuel cells for the command module. When they looked at the gauges, they saw that the oxygen reading in one of the tanks going down to zero and the fuel cells start to fail. They knew in that moment that they were not going to land on the moon, because the mission rules forbid it. Despite this crushing disappointment and deep concern for their own safety, the Apollo astronauts got straight to work.

The pressure

There are three main modules on the Apollo spacecraft: the command module; the lunar module, used for landing on the moon; and the service module. The service module contained the damaged cryo tanks. The command module is the only part of the craft that returns to Earth, so the battery power in that module had to be preserved at all costs. The only option was for the astronauts to retreat to the lunar module while they shut down the command module and planned their return trip. At this point, they only had a few minutes of power left in the command module. There was incredible time pressure here. Normally, the

procedure - a checklist to power up the lunar module - takes a couple of hours. But, the astronauts did not have the time to go through a lengthy checklist to turn on all the systems before un-docking from the mother ship and land on the moon. Now, they had to do that two-hour procedure in about 15 minutes.

Working the problem

The astronauts have a phrase - Work the problem i.e. they follow set procedures as they try to assess the situation, while constantly talking to Mission Control. Fred Haise, the expert in the lunar module systems in Mission Control, crossed out big sections that they weren't going to do and focusing on the stuff that they did have to do. He worked out a shortened checklist based on the knowledge the astronauts had of the systems, how they worked and what had to be done when. All along, Jim Lovell copied the numbers from the command module computer, which were called down to him by Jack Swigert. This was essential to calculate the ship's orientation. However, due to technical reasons, the command module's orientation didn't match the lunar module's. So, as the two astronauts were copying these coordinates from one checklist to the other, they performed arithmetic to correct the difference. Though this was simple arithmetic, Lovell wanted to ensure that they didn't make calculation errors under pressure and asked the Mission Control to double-check their arithmetic.

Misfortunes never come alone

The crew still had to get their damaged craft back to Earth. They needed to conduct two major engine firings. The first firing was meant to get them back on a free-return trajectory, using the moon's gravity to slingshot them around and back on a flight path to Earth. The second firing was meant to increase their velocity and get the ship back home faster. The first basic need was to get back on the free-return trajectory. They didn't have to think about how they were going to do that. As soon as they realized that the lunar module was going to be the lifeboat, they already had a procedure to propel the two spacecrafts docked together.

How checklists helped the astronauts

The astronauts faced additional problems, such as preserving power for their return flight, re-entering the earth and so on. However, the basic plans in the form of procedural checklists gave them step-by-step directions to deal with these contingencies. It freed up

their mental bandwidth to concentrate on those issues that had not been addressed in the contingency plans. It was a combination of real-time ingenuity and a solid foundation of contingency planning. NASA spends a great deal of time in advance thinking through what-if scenarios and codifying procedures to deal with them. The Apollo 13 mission dealt with several worst-case scenarios all at once. Checklists helped the team simplify complicated tasks and avoid errors in a situation where the consequences of a mistake were extreme. Astronauts understand that they're human and subject to mistakes. This makes checklists a critically important tool, also to help prevent disagreements.

The Checklist Manifesto

Atul Gawande is a bestselling author of the book The Checklist Manifesto. In this book, the author showcases just how important checklists have become to the successful practice of medicine.

Use in clinical procedures

In one example, a hospital used a checklist for one specific procedure for a year. During that time, the infection rate for that procedure dropped from 11% to zero. The hospital estimated that using that one checklist over a two-year period had prevented 43 infections and eight deaths and saved the hospital two million dollars in costs. Research by Gawande and others suggests that surgical checklists, for instance, can cut complications and mortality rates by more than a third. The Checklist Manifesto is an ode to the power of a simple checklist's ability to increase productivity and efficiency while also reducing errors and costs in the complex modern workplace.

Use in military

Checklists are extensively used in the military. One of the most important functions of an military leader is the ability to draft an operations order [OPORD]. The situation for every mission will be different, the troops involved will be different. However, the checklist is the same:

1. Situation
2. Mission
3. Execution
4. Service Support

5. Command and Control

By following this checklist, the leader is sure that he or she hasn't missed the necessary steps that are critical to success. However, there's a great deal of leeway in what the leader chooses to do in each situation.

Benefits for consultants

Checklists verify that the necessary minimum gets done. Consultants like challenges. With increasing project complexity comes the temptation to skip the simple stuff and instead focus on the sexy and challenging parts of project work. Because the simple stuff is so trivial, we often fool ourselves that it's not important in the grand scheme of things. However, it's often our most simple tasks that spell the difference between client success and disaster. People often bristle at using a checklist because it feels constraining. They want to be flexible and creative, and the checklist seems to take away their autonomy. However, checklists server as a sort of an external memory device. They make sure that you stay on track, they don't lose concentration when you're going through things, and don't miss important steps. If you have a shared checklist with your team, they also provide some external accountability. Such checklists ensure that everyone goes through the same activities and that when the checklist is filled out, the task is done. Thus, it also provides quality assurance that who ever is doing the task is doing it properly. Because checklists provide a binary yes / no answer, they instill discipline among the engagement team. Research shows that giving someone a checklist for a task increases his / her chances of completing it. There's something about having a checklist that spurs people to get stuff done.

Summary

Checklists are also a valuable tool for consultants worried about the quality of their decisions when organizations, tasks, systems and situations become complex. Checklists help simplify and streamline your approach to successfully solving intractable client challenges. As consultants, we need them because we have a limited capacity to process and remember key information, particularly under stress. It doesn't matter how many times you've performed a task or how much training and experience you have in your role;

checklists reduce the likelihood of important steps or tasks getting overlooked and help you feel confident that you've completed your work expertly.