The Checklist Manifesto Summary

By Atul Gawande

What if someone said they have the perfect product to help us perform at a consistently high level, with little chance of error? Would you rush to buy it? Well, we could already have this product available.

The Checklist Manifesto reveals surprising evidence on the magic of simplicity. Using a simple checklist can significantly reduce human error in complex professions, including medicine, aviation, engineering, and business.

In our tech-centric culture, it's easy to overlook the humble pen-to-paper checklist. We often look to technology to solve our problems and search for the latest shiny gadgets that promise to make our lives better and more straightforward. To remember important details and perform at our best, we need to go back to basics.

Acclaimed surgeon and writer Atul Gawande, draws from personal experience, and leans on real-world examples of how a basic checklist can be the difference between life or death. As a general surgeon at Brigham and Women's Hospital in Boston, Massachusetts, and a professor of surgery at Harvard Medical School, Gawande is all about the checklist. He believes that ‘under conditions of complexity, not only are checklists a help, they're required for success.’ Checklists don't just assist in getting things done; they help us get things done correctly. So, if you work in a complex or high-pressure environment and want a simple effective way of doing things correctly, then look no further.

Briefly, we explore how checklists are used in hospitals to save lives, in kitchens to produce exquisite cuisine, and in venture capital firms to improve the probability of making a high return on investment. We'll also learn about the power of "pause points," team huddles, and how we need only sixty seconds or less to run through a checklist, mitigate avoidable mistakes, and consistently boost our performance.

An Abundance of Knowledge Isn't Always a Good Thing

Inherent to the "knowledge worker" role occupied by many of us in today's economy, is to process data. Our task is to be able to collect, interpret, and apply the vast amounts of information we store in our heads, and to respond appropriately to the situation at hand.

We're *only* human, and we make mistakes.

When it comes to mistakes in the workplace, there are two kinds of errors: errors of ignorance, and errors of ineptitude. Ignorance is a failure that occurs when the situation demands a "know-how" that's beyond our control and capacity. These kinds of errors can generally be forgiven, as long as we continually keep learning, and give of our best. There are, however, instances where we have the knowledge, but either forget or overlook something, leading to a mistake. These are what our author calls, "errors of ineptitude."

We all have moments where we know what to do, but we fail to apply our "know-how" correctly. Have you ever sent an important email, only to reread it and find several unnecessary spelling mistakes and typos? We

hold so much in our heads that it's all too easy to forget the basics, such as doing a simple spell check before clicking send. What's concerning for our author are the more grievous consequences of errors of ineptitude – such as failing to check if a patient has allergies before prescribing medication. In high-pressure, high-risk environments, like medicine, Gawande believes such errors are less forgivable because lives are at stake.

It’s estimated that we now have over 13,000 diagnosable syndromes, diseases, and injuries. Add to that the thousands of drugs and procedures available to treat patients. To constantly remember, organize, and apply the proper knowledge in the right way is an impossible task. While surgery saves millions of lives annually, unsafe surgery can also cause substantial harm.

According to the World Health Organisation, despite the advancements of surgery, 150 thousand Americans die each year during surgery. What's more alarming is that research consistently shows that half of all deaths and significant complications during surgery result from avoidable human error. In *Black Box Thinking*, Matthew Syed discusses the difference in mindset between the aviation industry and the medical industry. He argues that these high numbers of hospital-related deaths could come down drastically if medical professionals adjusted their attitudes and were more collegial and collaborative. Furthermore, making minor, yet crucial adjustments makes a difference.

For example, a minor oversight, like not washing our hands or forgetting to have reserved blood on hand can be a matter of life or death. According to Gawande, 'The volume and complexity of what we know has exceeded our individual ability to deliver its benefits correctly, safely, or reliably.' He says, 'It's just too easy for an otherwise competent doctor

to miss a step, or forget to ask a key question or, in the stress and pressure of the moment, to fail to plan properly for every eventuality.'

There's only so much we can carry mentally before we forget something or simply miss a step. For this reason, experts need checklists – simple one-page written guides – to walk us through the critical stages of any complex procedure. The humble checklist offers us a cognitive net to catch the flaws of our attention, memory, and thoroughness.

Checklists make sure we get the basics right and free up mental space to focus on the complexity of the task at hand.

A Brief History of the Checklist

It's the 30th of October, 1930. Crowds gather to watch Boeing Corporation test-fly their latest, cutting edge aircraft: model 299, nicknamed “the flying fortress.” The plane roars down the runway, takes off smoothly, rises to 200 feet. Then the unimaginable happens. It stalls mid-air and crashes to the ground with a fiery explosion.

What happened?

Investigations into the crash revealed that "pilot error,” not a mechanical failure, was the cause of the crash. It was believed that either the pilot or co-pilot forgot to turn off the gust locks.

A team of pilots from Boeing Corporation got together to prevent future mistakes, and find a solution in order to make their newest model flyable for military purposes. They concluded that they didn't need better aviation training – the test pilot who flew the plane was highly competent

and experienced. Neither did they need to improve the aircraft itself – mechanically, it was faultless. What they needed was to mitigate avoidable human error. And to do this, they created a simple checklist. The checklist was small enough to fit on an index card, and the points covered menial tasks such as 'check the doors and windows are locked,' and that 'elevator controls are unlocked.'

Their simple solution worked. The humble checklist saved Boeing from bankruptcy and ensured flight safety going forward. With a checklist in hand, pilots flying the Model 299 could fly the planes a total of 1.8 million miles without a single accident. Boeing ended up selling thirteen thousand units, giving the US Army an unprecedented air advantage in World War II.

Many people are afraid of flying, but this story should help to ease that. According to our author, both the aviation and construction industries are complex, but have an excellent track record of minimal human error. Despite the complexities of the modern aviation industry, the odds of being killed in an airline flight are 1 in 29.4 million. The construction industry also has an extremely low rate of “errors of ineptitude.” According to studies, in the United States, the annual avoidable failure rate in the construction industry is less than 0.00002%. That means only 1 in 50 thousand structures partially or entirely collapse due to "avoidable error." Just as a pilot consults a checklist, so too does a structural engineer before laying foundations or starting a new floor of a building.

Gawande believes that mitigating errors of ineptitude are primarily due to the processes of being thorough, and using procedural checklists before completing tasks or making critical decisions. Inspired by these findings, Gawande created a campaign for checklists to be used more in medical settings.

The Checklist Gets Admitted to Hospitals

Meet medicine's checklist pioneer, Peter Pronovost. He's an anesthesiologist at Johns Hopkins Medical Center, with a Ph.D. from Johns Hopkins Bloomberg School of Public Health.

Pronovost wanted to mitigate the common problem of central venous catheter-related bloodstream infections. He devised a simple five-step checklist for doctors to follow when inserting a central venous catheter. The steps were simple. Number one: wash hands with soap, and number 2: clean the patient's skin with chlorhexidine antiseptic. The success of the checklist was largely dependent on empowering nurses to remind the doctors if they were remiss in following any one of the five steps. The staff complied, and the results after one year's monitoring of CVC infections were outstanding.

The ten-day line infection rate dropped from 11% to zero. Skeptics believed this “too good to be true.” So, in 2003, Pronovost teamed up with the University of Michigan to participate in the "Keystone Initiative," which involved studying the extent to which using a checklist could reduce infections. In the first three months of the project, the infection rate in Michigan's ICUs decreased by 66%. In the initiative's first 18 months, they estimated it saved 1,500 lives and $175 million. This level of improvement was maintained for three years. In short, checklists save

money and, more importantly, lives. Gawande insists, this initiative by Pronovost ‘already saved more lives than that of any laboratory scientist in the past decade.’

Drawing inspiration from Pronovost, Gawande's public health research involved teaming up with the World Health Organization. He developed a checklist to be tested in eight hospitals worldwide, in what was named the Safe Surgery Saves Lives program. The hospitals were asked to use this checklist before any surgical procedure. The results were astounding. Deaths from surgeries across the eight hospitals were reduced by 47%. Gawande even recalls a personal experience of how the checklists saved his patient's life. During one routine surgical procedure, something went wrong, leading to a critical need for blood. Thanks to the checklist, extra blood had been prepared ahead of time.

A simple written list might not be a "sexy solution,” as Gawande puts it, but it's a low-cost way to effectively prevent avoidable errors, save lives, and ensure the best surgical outcome. More so, checklists help us to work effectively as a team. And in today's world, we no longer need a lone hero but combined team expertise.

Teamwork Makes the Dream Work, but Not Without a Checklist

Teamwork, and seamless clear communication are critical to performing in high-pressure complex situations.

Studies show that people who don't know each other's names don't work together as well as those who do. So a mandatory step in the Safe

Surgery Saves lives program, is the team “huddle.” At the start of a procedure, the medical staff members get the opportunity to introduce themselves and discuss any possible complications.

Despite the need for team huddles, and adopting the routine of using a checklist, not all of us appreciate the process. During his research, Gawande found that only 20% of surgeons would like to use a checklist in their operations. The problem, Gawande believes, is people are resistant to the "virtues of regimentation." Doctors want to show courage, wit, and daring. 'We have an image in our mind of what it means to be heroic in day-to-day work' he says. ‘But I think the idea of heroism needs to be updated.'

You’ll probably have heard of the heroic pilot, Captain Sully, who safely landed a commercial plane on the Hudson River. On the morning of January 15th, 2009, shortly after takeoff, his plane struck a flock of geese and lost both engines on the aircraft. Despite the intense panic and pressure to make a quick decision, he and his co-pilot consulted a checklist so he could accurately assess the situation and take action. He decided to land the plane on the Hudson River.

The media rapidly mythologized pilot Chesley "Sully" Sullenberger as a hero. However, Sully insists for the record that, ‘This was a crew effort.' Sullenberger and his co-pilot showed bravery, but they also methodically went down a list to ascertain their options before landing safely. As Gawande says, ‘They adhered to their rigid discipline – they went through their series of checks.’

However, for a checklist to be effective and bring teams together, it needs to be short, concise, and unambivalent. Let's turn to a "checkers expert," Daniel Boorman, a veteran pilot who creates aviation checklists

for a living.

Get Straight to the Point

First, we need to have a clear pause point. A particular point in time when you know you need to pause and complete the checklist. For example, there are three such points in surgery: before anesthesia, before incision, and before leaving the operating theatre.

A checklist must be quick to complete. Each checklist should take no longer than 60 to 90 seconds to finish. Any longer, and we'll resist doing it or take shortcuts. Five to nine items are ideal, and each item should be written in precise language. Nothing should be ambiguous or be capable of being misunderstood.

Each checklist should have "killer" items. These are items that, if missed, would significantly influence the quality of our work or put lives at risk. For example, this would remind medical staff to identify a patient's allergies before surgery.

How we check off our items also matters. Our author confused the nurse in his team during the early implementation phase right before a surgical procedure. This confusion occurred because it was unclear how the checklist should be used. The nurse checked off the steps for the procedure before it began. Gawande’s intention was for each step to be read out as it was completed.

To prevent confusion, Gawande suggests there are two ways to use a checklist: the "read-do," or "do-confirm." Read-do, means to read out the step then complete it. Do-confirm, means completing the step and then

confirming completion.

With these checkpoints, any profession can harness the power of the checklist.

Checklists Are a Recipe for Success, Across All Industries

Checklists are similar to recipes; they tell us what to do, and when.

Checklists are certainly part of chef Jody Adams' success story. Her restaurant, Rialto, is rated as one of Boston's best places to eat. Checklists help her and her team to consistently deliver flawless plates of food. If you had to walk into Adams' kitchen, you'd see checklists displayed on all the workstations. She uses checklists to ensure that special requirements for customers are met, and once a dish is ready to be served, it gets the final "check" by Adams or the sous chef.

Checklists also cash cheques. According to neuroscientists, the prospect of making money stimulates the same primitive reward circuits in the brain that cocaine does. This is explained further in Simon Sinek's *Leaders Eat Last.* In the face of excitement, no matter how objective we try to be, our brain might work excitedly against us and dismiss important information. So to prevent error, one renowned financier, who Gawande refers to as "Cook," uses checklists to make sure he and his team are objective at all points in the investment process.

For example, they have "The Day Three Checklist." At the close of play on day three of an investment process, "Cook" and his team confirm that

they've gone over the company's financial statements for the previous ten years. After this, they ensure that they've read the footnotes on cash flow statements, and that they've looked to see whether cash flow and costs match the reported revenue growth. Using checklists is a quick method that helps him and his team be as focused as possible every step of the way, ensuring that they've got the critical information they need, and that they remain systematic and dispassionate during the decision-making process.

Whether we're in kitchens, boardrooms, or operating theatres, the trusted checklist can help us all to perform at our best. Consistently.

In Conclusion

We have a lot of "know-how" but we're also human. We make mistakes. And sometimes these mistakes are costly, particularly when lives are at stake.

To ensure we don't forget to do the basics, we need to go back to basics. The humble checklist is free to use and quick to do. It is, quite literally, a lifesaver. In high-pressure, high-risk professions, it's so often ineptitude, rather than ignorance, that leads to error.

This cost-free, simple, but effective tool – the checklist – can help prevent fatal errors or costly oversights. As our author says, 'Checklists get the dumb stuff out of our brain, the routines that our brains shouldn't have to deal with.' They take care of the obvious and give our brains the chance to do what they do best: concentrate on the task at hand, make high-level decisions, and solve complex problems.

So number one, get a pen and paper, number two, write down "Checklist

Manifesto," and number three: read it.