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Book Review

ACTUARIAL CHECKLISTS

BY JAY M. JAFFE

RECENTLY I INVITED my investment advisor to join me at a lecture. The speaker was Atul Gawande. Dr. Gawande is a Harvard-educated physician, a MacArthur Fellow and a Rhodes Scholar. He practices medicine at the Brigham and Women's Hospital in Boston and is a professor at the Harvard Medical School.

When my friend greeted me, he immediately announced that Gawande had made a significant contribution to the operations of their firm and, consequently, the management of my assets. My immediate reaction was that I had misheard my friend's remark. How could a physician be so important to the management of my assets? As I discovered during the course of the evening and my subsequent reading of Gawande's book, *The Checklist Manifesto: How to Get Things Right* (Metropolitan Books, 2009, Kindle edition \$8.89), Gawande's prescription was applicable to many situations and professions besides medicine.

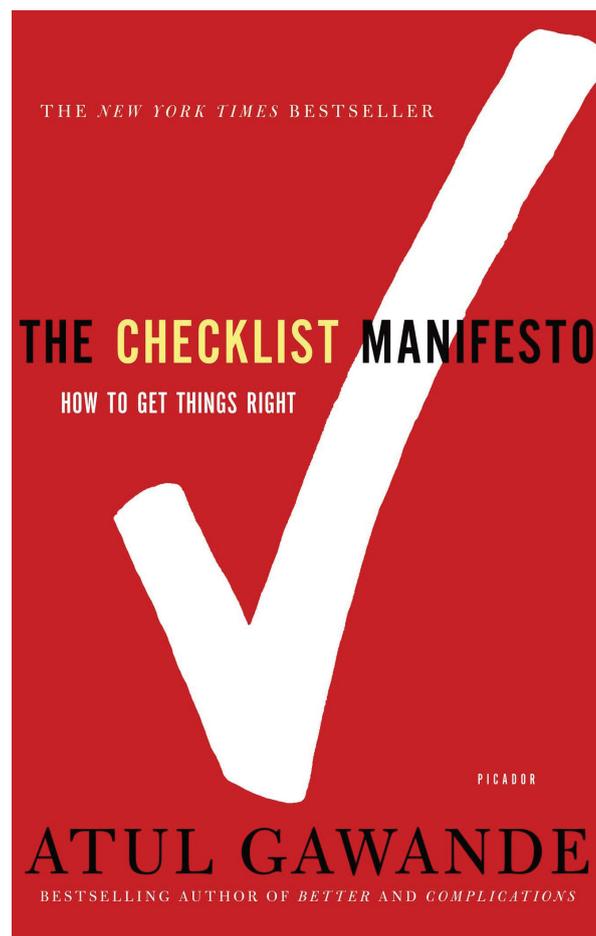
Gawande makes it clear that "in the end, a checklist is only an aid." The contribution of a checklist is not the checklist itself but the discipline that the checklist brings to the management of any operation (pardon the pun).

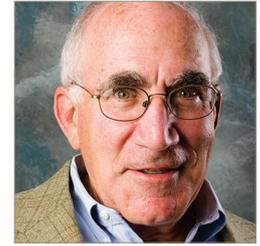
I'm sure that none of us wants to find out that the pilot of our next flight bypasses the checklist before taking off or landing. We all have accepted that the pilot's checklist is both necessary and the right way to fly a plane. We recognize that the checklist does not ensure that all accidents will be avoided if the checklist is used but rather that a checklist helps to minimize the probabilities of an accident because it helps to reduce "stupid mistakes." In other words, it provides discipline to a process and, as a result, increases the chances that pilot error won't be the cause of an accident.

Our world today is very complex and becoming more complex each day. Gawande explains that "in

a world which success now requires large enterprises, teams of clinicians, high-risk technologies, and knowledge that outstrips any one person's abilities" checklists make it much easier for groups to work together. Complex projects require the

team members to park their egos at the door rather than having dictatorial leaders. He laments that the closest professional codes come to articulating the need for effective teamwork is the "occasional plea for 'collegiality.'" Simply being nice to





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each other won't provide the discipline to manage the complex problems professionals work on today.

Gawande's book provides several concrete examples of how checklists have made the practice of medicine not only safer but better. The main point of these examples could easily be that operational discipline (i.e., the use of checklists) can help reduce health care costs. Saving people's lives or performing better surgeries doesn't depend only on finding new drugs or technology! Sometimes we forget Occam's razor that the simplest solution may

database have been accounted for but also that the model is sufficiently accurate for the actuary to be comfortable that it will produce appropriate results. Think of this as a pilot's takeoff checklist.

Once the model is used there should be another checklist that checks the results for consistency between prior uses of the model or otherwise helps to determine the reasonableness of the results. The main purpose of this checklist is not to be absolutely certain that the results are correct to some level of accuracy but rather

On a personal note, I am now greatly comforted knowing that my investment advisor is following a disciplined procedure

to managing my money. The team handling my nest egg requires each new member of their team to read *The Checklist Manifesto*, and I have seen how they directly use checklists in their asset management business.

Incorporating checklists into many diverse areas of our daily lives seems obvious once you've read Gawande's book. But as the author points out, most professions seem to need pushing in order to develop and use checklists. I doubt if actuaries are any different from others when it comes to adopting the concept of checklists.

Gawande's stories of how the medical profession and we as patients have benefited from checklists should encourage every actuary to think about how checklists could be implemented in our profession. I'm sure that there are many ways actuaries can incorporate checklists into our standard way of working and improve both the efficiency and accuracy of our projects. If you have any experience with checklists, please send them to me, and together we'll publish a follow-up article about actuarial checklists. **A**

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If you've read this far, you're probably wondering why my investment advisor was excited to hear Gawande speak about checklists.

be the best one to pursue. Checklists aren't a new technology, but they have been shown to reduce medical costs by avoiding the most common medical errors.

Even though actuaries don't deal with life and death or the irreversible impact of failed medical services situations in the same sense as doctors, the actuarial profession faces the same general types of operational and management issues as the medical profession and should be able to benefit from creating and using checklists. I can think of at least two types of actuarial checklists.

The first is the up-front checklist. The purpose of this checklist is to be as certain as possible that we haven't forgotten to consider an assumption or that the data we are using are correct. For instance, if an actuarial valuation model is built to reduce the number of cells that require calculations, a series of steps should be in place not only to ensure that all of the members of the

to prevent the "big error." In other words, are the results consistent with an actuary's expectations? If not, the actuary had better go back to "square one" and repeat each and every step of the process in order to ascertain whether (a) the actuary's expectations were wrong or (b) the results are incorrect. Think of this as the pilot's landing checklist.

If you've read this far, you're probably wondering why my investment advisor was excited to hear Gawande speak about checklists. The answer can be found in Chapter 8 of the book. A large portion of this chapter is devoted to how and why investment advisors use checklists. As in medicine, not only does the use of checklists help investment advisors avoid bad investment decisions, but also the checklists have enabled them to operate more efficiently. Increased efficiency translates into better investment performance because in the investment business as in most other businesses "time is money."