Expert Intuition and Investing
May 6, 2014
by John Alberg and Michael Seckler

Advisor Perspectives welcomes guest contributions. The views presented here do not necessarily represent those of Advisor Perspectives.

In our last article, we explored human behavioral biases and why investors often (mis)behave in a highly correlated manner that allows great investment opportunities to emerge. That topic is important for investors. Human nature – especially the way it causes people to focus on information other than companies’ operating results – is a big reason why opportunities exists to outperform via value-based investment strategies.

However, there are great investors who seem unmoved by these unproductive biases and instead exhibit deep expertise, as evidenced by long track records of superior performance. Where does expertise come from? How does an understanding of expertise inform how one should evaluate investment opportunities?

Where does expertise come from?

In his book Outliers, Malcolm Gladwell explores the enormous amount of practice required before expertise is attained. After looking at individuals who ascended to the top of their fields – including chess grandmasters, surgeons and composers – Gladwell concludes that a prerequisite for world-class performance is 10,000+ hours of practice. Across this amount of dedicated time, one can experience the wide range of situations, possibilities and outcomes necessary to become really good at something.

Gladwell’s book popularized concepts about expert intuition that were first introduced years ago by Herbert Simon. Simon’s research showed that experts, through dedicated effort in a specific field, could recognize the nature of new situations and quickly identify likely solutions. This stands in contrast to his observations of novices, who had a limited set of experiences and training and tended to waste time considering irrelevant information and weighing bad choices. Simon’s views are well-summarized by this often-cited quotation:

The situation has provided a cue; this cue has given the expert access to information stored in memory, and the information provides the answer. Intuition is nothing more and nothing less than recognition.¹

From Simon’s perspective, answers appear through pattern recognition. An expert is one who has built a deep familiarity with the patterns of a given domain and thus has a robust body of work from which to reference when making decisions.

A miracle or an example of expertise?

Five years ago, Captain Chesley “Sully” Sullenberger successfully landed his disabled airplane on the Hudson River, saving all 155 people on board. His heroic landing provides an interesting example to consider when reflecting on the nature of expertise.

At 3:25 p.m. on Jan. 15, 2009, US Airways Flight 1549 took off from New York’s LaGuardia airport. The plane was under the command of Sullenberger, a former U.S. Air Force pilot who had logged almost 20,000 hours in flight over his career. Two minutes later, the transcript from the flight recorder shows the co-pilot saying, “birds.”² The cockpit of the Airbus 320 turned dark, and the pilots heard loud thuds as the plane struck a flock of Canadian geese. The bird strike disabled both of the plane’s engines while the aircraft was still below 3,000 feet. Within the next three minutes, Sullenberger did the following:

1. He attempted to reignite the engines while simultaneously radioing the control tower to request a return path to LaGuardia airport.
2. When the engines would not restart, he asked if there was a closer, alternate runway where he could land. The controllers offered him Teterboro Airport in New Jersey.
3. He determined that they could not make it to Teterboro.
He stopped communicating with controllers and successfully landed the plane on the surface of the Hudson River, saving all 155 people on board.

What can this heroic landing teach us about the nature of expertise? Dual-engine failures are very rare, occurring perhaps once a decade. Sullenberger had never directly experienced this type of situation, yet he successfully landed the plane. If expertise involves pattern recognition and applying a vast body of experience, was expertise applied in this instance? Or was the successful landing a miracle?

**Gary Klein and the Sources of Power**³

Gary Klein is a prominent behavioral psychologist who built on Herbert Simon’s ideas by studying how people make decisions under conditions of pressure and uncertainty. Prior to Klein’s research, the dominant academic frameworks for understanding optimal decision-making were comparative decision models. The assumption was that experts have a mental spreadsheet in which they score the costs and benefits of a wide variety of options to determine the best course of action.

Klein observed something different. He noticed that novices, not experts, made decisions in the comparative and deliberative way suggested by prevailing models. He observed that novices employ logical, deductive and deliberative processes because they do not have a body of work from which to draw. Experts, however, do not think about what to do. They simply seek to understand the situation they are in and then they know exactly what to do. They do not have to start from scratch because their experience gives them the answer.

Klein shared this example in an interview with *Fast Company* magazine⁴:

> I had a conversation with an instructor pilot that really stuck with me. … When he first started flying, he was terribly frightened. If he made a mistake, he’d die. He had to follow all of these rules and checklists in order to fly the plane correctly, and it was an extremely nerve-racking time. But at some point in his development, he underwent a profound change. Suddenly, it felt as if he wasn't flying the plane – it felt as if he was flying. He had internalized all of the procedures for flying until the plane had felt as if it was a part of him. He no longer needed any rules.

This helps make sense of Sullenberger’s reactions during the emergency’s first moments. When his engines shut down, he did not stop to evaluate the pluses and minuses of various options. He knew intuitively what to do, and, you could say, he had all the right rules and checklists hard-wired in his mind.

When he considered whether to return to LaGuardia or fly to Teterboro, Sullenberger described how he made his decision.⁵

> Did we have enough altitude and speed to make the turn back to the airport and reach it before hitting the ground? There wasn’t time to do the math, so it’s not as if I was making altitude descent calculations in my head. But I was judging by what I saw out the window and creating, very quickly, a three-dimensional model of where we were.

He did not deliberate. His direct expertise, from thousands of hours of flight time, allowed him to instantly determine how far he could glide the plane and know that it would not be far enough to reach the nearest airports. His rapid decision, if delayed or incorrectly made, would have led to a bad outcome.

But what about the actual water landing? Sullenberger had never landed a plane in the water. Unlike the actions he had taken up to this point, he had no direct experience on which to lean. Instead, as a flight safety expert who taught classes to other pilots, he had studied how other pilots successfully navigated challenging situations. In his autobiography, he tells of how during World War II, Allied airmen had to ditch a great number of planes in the English Channel. From their experiences, procedures were documented for maximizing one’s chances of having a successful water landing. He recalls:

> The procedures called for the landing gear to be retracted rather than extended. It described why an airplane should fly as slowly as possible, and why wing flaps should be down for impact. It also called for the nose to be up in most cases. These procedural guidelines remain in use today and were in my head on Flight 1549.

Once he understood the situation he was in, Sullenberger’s experience told him what to do. He developed his pattern-recognition ability directly through flight time and also by mentally simulating the experiences of others. These patterns allowed him to successfully navigate a situation that he had never encountered.

Calling this heroic landing “The Miracle of the Hudson” is almost an insult to Sullenberger. There was no miracle here. The good outcome was, purely and simply, the result of his deep expertise.
Expertise and selecting long-term investments

When students learn math in school, a teacher might use a bunch of problems in class and for homework. On the test, however, a good teacher will ask the students to answer questions they have never seen before. Why? Because the teacher does not care that they can memorize the answers to specific questions, but rather wants them to comprehend important principles and be able to new problems in the future.

This helps makes sense of how Sullenberger successfully landed his plane in the water, even though he had never done so before. He had mastered the principles of flying and emergency landing, such that he successfully executed his first water landing. This example provides a good basis for understanding how certain investors achieve above-average results over long periods of changing market conditions and a diverse set of companies.

Great investors become great through experience. By making successful and poor investments, sitting on boards and paying attention to investment history, a great investor builds a rich foundation of prior outcomes from which he or she can make sense of new opportunities and make informed decisions. The nature of this foundation is a set of investment principles. These principles form over time and are characterized by what generally distinguishes good investment outcomes from poor outcomes in the investor’s experience.

One challenge investors face in developing these expert principles, however, is that there are irregular cycles in markets. What works well in general across time does not generate good outcomes all the time. Also, luck mixes with skill — poor decision-making can result in good results. Until an investor has participated in hundreds of investments and operated across several market cycles, he or she may be particularly susceptible to drawing bad conclusions from personal experiences.

This is why investment strategies and individual investment options should be evaluated against principles that would have done well across a variety of market cycles and long periods of time. By doing so, you can reduce the influence of outlier successes and failures, mitigate the effects of recency bias and develop the pattern-recognition skills that an expert investor gains over decades of primary experience.

It is helpful to deconstruct this perspective in light of Simon’s quote that we introduced previously: “The situation has provided a cue; this cue has given the expert access to information stored in memory, and the information provides the answer. Intuition is nothing more and nothing less than recognition.”

<table>
<thead>
<tr>
<th>“The situation has provided a cue;”</th>
<th>Examine the operating histories and investment outcomes of a large number of companies over the past half-century. Look for persistent patterns in the relationship between companies’ operating results, market values and investment outcomes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>This cue has given the expert access to information stored in memory,</td>
<td>Using these patterns, look at today’s companies in context of those companies from the past that they most closely resemble.</td>
</tr>
<tr>
<td>And the information provides the answer.</td>
<td>When a company does not have a lot of historical comparables or its comparables had generally bad investment outcomes, consider passing on the investment. When a company’s historical comparables generally performed well as investments, take that as one sign of support for moving forward.</td>
</tr>
<tr>
<td>Intuition is nothing more and nothing less than recognition.”</td>
<td>Build investment expertise by studying the outcomes of many investments across multiple market cycles.</td>
</tr>
</tbody>
</table>

Summary

Our questions were: Where does expertise come from? And how does an understanding of expertise inform how one should evaluate investment opportunities?

Expertise is the manifestation of a body of experience against which a current situation can be compared and understood.
In Simon’s words, expertise is pattern-recognition, and it develops through practice and experience. As with Sullenberger’s water landing, expertise can also be built through studying and “mentally simulating” others’ successes and failures. This resembles the opportunity investors have to shield themselves from counterproductive behavioral biases and build deep expertise informed by patterns of investment history.

Mike Seckler and John Alberg are the managers and founders of Euclidean Technologies Management, a Seattle- and New York City-based investment advisor specializing in systematic value investing. Prior to starting Euclidean in 2008, John and Mike co-founded Employease, a software-as-a-service provider that Automatic Data Processing (NASDAQ:ADP) acquired in 2006. Both John and Mike graduated from Williams College in 1994.