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How to stay in pole position: hire a boss who has worked on the floor for Strategy Magazine

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If you had to make a guess about who will win the Japanese Grand Prix, how might you choose?

In data spanning the entire 60 year history of Formula 1 Championships, my co-author, Ganna Pogrebna, and I have found that it has a lot to do with leadership. F1 teams that are led by former drivers or mechanics outperform those who are led by either managers or qualified engineers. We also find that when a team leader has 10 years of competitive driving experience, instead of zero years, there is a 16 per cent higher chance of their team performing well in a Grand Prix race. That is a big effect.

Our research reveals that the best leaders are those who have previously ‘walked-the-walk’ – individuals who are experts in the core business of their organization. I will return to this later. The first notable point about this study is that it shows that leaders matter.

Leaders matter! Isn’t this a no-brainer?

So, leaders influence performance. This seems obvious, right?

Maybe, but proving it is a lot harder. There are thousands of books on leadership. Most books are based on anecdote not evidence -- usually one ‘man’s’ (because it so often is) stoic story. Individual accounts of leadership may offer entertaining bed-time reading, but they can rarely if ever be generalized to other organizations, let alone other sectors. Why has it been so hard to prove that leaders make a difference? This is related to the difficulties we have in trying to identify the specific effect of leaders on organizational performance, as opposed to all the other stuff (such as strategy, the economy, the market, and so on). If we were to employ the same approach that is used in medicine, we might randomly assign leaders to organizations and then assess the performance outcomes. In social science research this, of course, is not possible. So we try to do the next best thing.

In our study we look at leaders over many years – sixty – and try to measure the change in leader (F1 principal), with the change in performance (the number of Grand Prix wins and podiums). We account for ‘the other stuff’ by controlling, in our analyses, for a

number of intervening factors – for example, every race year (between 1950 and 2011), each F1 constructor (e.g. Ferrari, Red Bull, McLaren), each race circuit (e.g. Silverstone, Monza, Monaco), and finally, we control for the number of cars entered into each Grand Prix. The rules in F1 change constantly, sometimes even in mid-season. But this isn't a problem for us because the changes apply to every competitor.

We also collect detailed background information on every team principal of all F1 constructor teams for the same sixty year period. Based on the leader-characteristics we identified, each principal is classified into one of four types: those who were either former-drivers, former-managers, -mechanics, or -engineers (with degrees).

Formula 1 Championships

In F1, each constructor team competes to win the Championship by entering two cars in consecutive races every year. The goal of a constructor is to maximize the number of points gained in races. Points are awarded based on the final position of each car at the end of the race (the first car wins the largest number of points, with other race points assigned down to tenth position).

Leaders of constructor teams in F1 have to operate in a skilled and stressful environment which requires quick decision making. The principal is responsible for the day-to-day running of the team. Some leaders, for example Frank Williams of Williams or Tony Fernandes of Team Lotus, own and run their own teams. Owner-leaders have extensive powers. In other cases, principals are hired by owners to manage their teams. Such is the relationship between the beverage company Red Bull and principal Christian Horner. The role of team leader will differ; however, the kinds of decisions made by principals include choosing drivers, having the final word on technical issues such as how the car is set up, pit strategy, which gearbox or engine is used, and financial decision-making, for example, about sponsorship or team wages.

This is an expensive sport. The average annual budget of an F1 constructor team is approximately \$173 million.

Who are our four types of leader?

Managers tend to have been successful business people or CEOs who move to F1 from a different (and often unrelated) industry. Manager-leaders do not have experience or education in car making or mechanical engineering or a related field. They are also more

likely to become involved in the industry relatively late in their careers. One of the more controversial examples of a manager is Flavio Briatore.

Drivers tend to have been involved in competitive racing (F1 and other racing competitions) from an early age. Such leaders would often start as Go-kart racers either in their childhood or teenage years and then move to professional racing by their early 20s. (Lewis Hamilton, in Figure 1, may look like a little boy playing, but he was a seasoned go-kart winner). Oftentimes drivers are familiar with the technical side of car making as well as with mechanical aspects of car repairing, even though they do not complete degrees in mechanical engineering or a related field. Successful driver-leaders include Jean Todt (Ferrari), Cesare Fiorio (Ferrari, Ligier, Minardi), and recently Red Bull's Christian Horner. Red Bull Racing won both the Constructors' Championships and the Drivers' Championships in 2010 and 2011.

Figure 1. Lewis Hamilton started racing as a young child.



Mechanics have practical technical experience in car making and mechanical repair, but have not driven competitively, and have not obtained a degree in mechanical engineering or a related field. Leaders of this type may start being involved in car mechanics in their teens by working at a family or friends' workshop. However, despite the fact that they gain mechanical experience from a very early age, mechanics typically become exposed to a competitive racing environment later than drivers. For example, Henri Julien (Automobiles Gonfaronnaises Sportives) started working as a mechanic in his 20s but built his first racing car only in his mid-30s.

Finally, *engineers* are highly skilled professionals and are defined in our study as those with degrees in mechanical engineering. Due to the fact that they devote several years of their life to obtaining education, they become exposed to the competitive racing environment relatively late compared with drivers and mechanics. For example, Tony Purnell (Jaguar, Red Bull) had a relatively long academic career before moving to F1 racing sport at the age of 44.

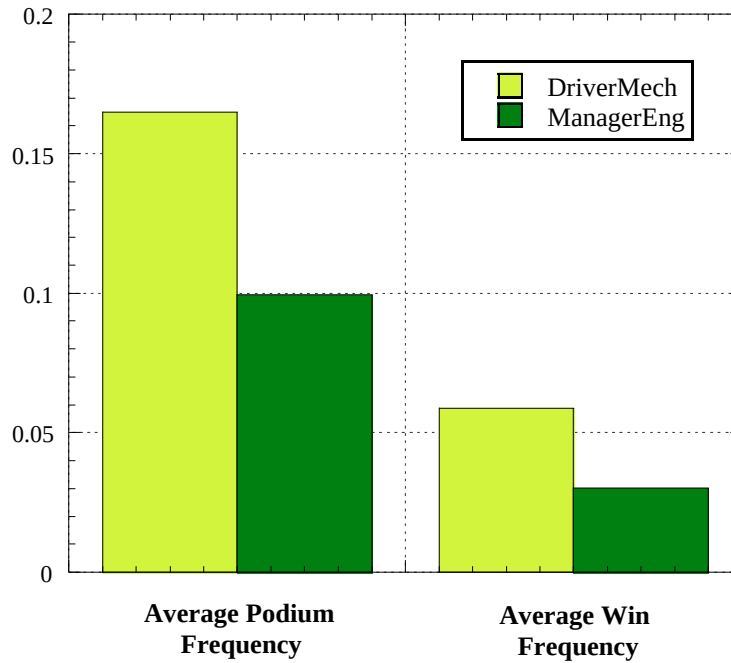
In our dataset there are 42 (29.1%) managers, 35 (25.4%) drivers, 32 (22.4%) mechanics, and 34 (23.1%) engineers. In our analyses we examine the performance of each leader in every F1 Grand Prix (a total of 18,000 cars), between 1950 and 2011.

Who makes the best F1 team leaders?

To try to understand whether constructor teams' performance in F1 depends on leaders' types we first look to see what the raw data are telling us. As can be seen in Figure 2, these reveal that podium frequency (i.e., winning a first, second or third place in a race) and average wins frequency (i.e., coming first in a race,) are more prevalent among teams headed by drivers and mechanics as compared with managers or engineers. Drivers are associated with a winning team in 7% of races, and they garner a podium position in 17% of races. The performance of teams led by mechanics is similar (winning 6% of the time, and getting podiums 16% of the time). Teams headed by leaders of a manager type obtain worse results: they win 3% of races and obtain podium positions in 12% of the races. Constructor teams led by engineers fare even less well: 3% wins and 8% podiums. Drivers and mechanics also have higher average pole frequencies (finishing first in the qualifying, and, as a result, starting the race at the very front of the grid) and average fastest lap (showing the fastest time in the race on any given lap). Former drivers and mechanics win twice as often as other kinds of F1 leaders.

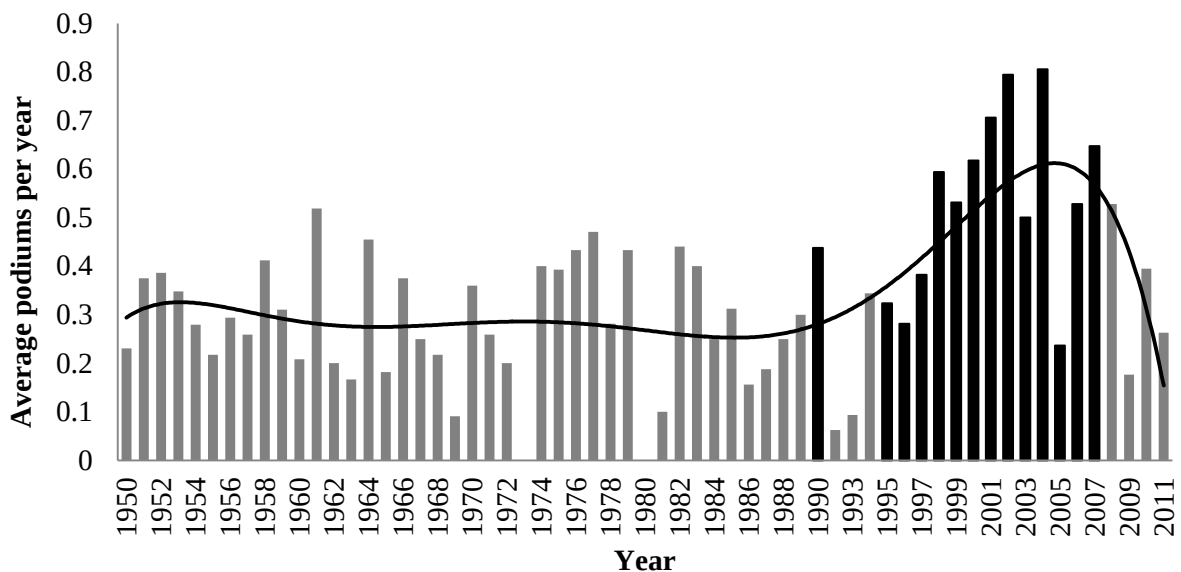
Next we want to discover whether the patterns in Figure 2 are replicated using statistical tests that factor in our control variables (e.g. type of race circuit, the fame of the constructor team, the year of the race, and the number of cars in each competition). To do this we use econometric methods to analyze the data. Here we are asking the question: when other confounding factors are controlled for, can we explain F1 wins and podium positions by the characteristics of the team principals (classified as manager, driver, mechanic or engineer)?

Figure 2
Average podium frequency (1-3) and win frequency of F1 leaders
who were drivers or mechanics (DriverMech) compared with
those who were managers or engineers (ManagerEng)*



Our tests reveal that when other influences are accounted for, the results remain the same; constructor teams led by drivers and mechanics are more successful than teams headed by managers and engineers. Inclusion of each constructor in the equations has the biggest effect, which marginally reduces the impact of leaders. This is because constructors' fame and expertise makes a difference. For example, Ferrari, who are the oldest team in F1 with the most recognized brand, have won 16 World Constructors Championships, more than any other. Notably, if we look only at the history of Ferrari, we can see (in Figure 3), that the most successful team principal was a former driver – Jean Todt.

Figure 3
Driver-leaders' influence at Ferrari Formula 1 Team from 1950 to 2011
(Average podium positions*)



*Black bars show years when the team was headed by former drivers. The most influential driver-leader at Ferrari was Jean Todt.

The effect of a long driving career on team performance

Our final task is to examine whether the amount of driving experience makes a difference to the performance of teams. To do this we identify those principals who have ever had competitive driving experience.

Our results show that time spent as a driver has a big effect on future performance as a leader. To give a feel for the size of effects, it is helpful to consider what happens when a leader has 10 years of experience instead of zero years. This is associated with a 16 percentage point's higher probability of the leader's team gaining a podium position – after controlling for circuit, race year, constructors and number of cars qualified. The extra probability of gaining a podium position when a driver has had a decade's experience of competitive racing is about one-in-seven.

Why might former drivers and mechanics make better F1 leaders?

We have established that there is a strong association between having been a driver or mechanic and winning in F1, as compared with leaders who were principally managers or engineers (with degrees). Second, we find that the more years spent as a racing driver, the better the results for those who later become team heads.

So why might this be?

Better strategic vision: Former drivers and mechanics may become better leaders because they are familiar with all aspects of Formula 1. From an early age driver- and mechanic-leaders develop technical knowledge about the underlying activity of Grand Prix racing. This may mean that they acquire extensive experience in formulating driving tactics and combine it with a good understanding of mechanics. Leaders with high levels of expertise and experience may also communicate more effectively with all parts of the racing team, which is likely to embed team strategy. In short, team principals who have a deep understanding of the core business activities may allow for better identification of strategic opportunities and challenges.

More credibility: Former drivers and mechanics may command more respect because of their proven track record; they may also be viewed as more credible since they have ‘walked-the-walk’. Having been ‘one of them’ may signal that a leader understands the culture and value system, incentives and motivations of their F1 team colleagues. In addition, we might expect driver-leaders to act as role models within the team, and, be more likely to coax high performance and to manage the egos of the drivers.

The capacity to serve as a standard bearer and create the right working environment: We show that drivers who had the most years of racing competitively went on to be the best performing leaders. Arguably, it is only the successful drivers who continue to race. Apart from the credibility this bestows on a team principal, their proven excellence will undoubtedly inspire the people who work for them, and possibly also push their drivers and other team members to go above and beyond in their own quest for quality. In addition, having been an expert may help team leaders hire other outstanding experts.

Mechanics and drivers, who have spent many years in F1, may also be more likely to create the right work environment for other experts and core workers because they understand what conditions are required. For example, experts may be less invested in bureaucracy, than managers, they may allow greater levels of autonomy, and so on.

What our F1 study tells us about leadership

In recent years there has been a trend to promote into leadership positions individuals who are skilled managers, but who do not necessarily have either a background in the sector concerned, or hands-on experience of the core business activity. Similarly, there is evidence that major firms have moved away from hiring CEOs with technical expertise, towards instead the selection of leaders who are generalists. Our research finds, that in contrast to recent trends, it is those who are experts in the core business of the organization who make the best leaders.