Organizational Dynamics (2015) 44, 161—168

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevier.com/locate/orgdyn

The secret sauce for organizational success: Managing and producing star performers

Herman Aguinis, Kyle J. Bradley

Elon Musk, chief executive officer (CEO) and chief technology officer (CTO) of SpaceX and CEO of Tesla Motors, has produced monumental achievements. Starting with the creation of the online purchasing service PayPal, he has been driven to create companies and products with an immense and worldwide impact. Driven by his desire to protect the earth and provide a sustainable future for humankind, Musk has been at the forefront of several industries, ranging from electric cars produced by Tesla to privatized space exploration with SpaceX. While Musk has proven to be a very successful leader and entrepreneur, he does not stand alone as an example of star performance. Indeed, looking across industries, we find numerous people who have produced outstanding results. For example, Howard Schultz, the CEO of Starbucks, helped his company grow tremendously despite the struggling U.S. economy. Starbucks now stands as the largest coffeehouse company in the entire world. On the popular internet video site YouTube, there are numerous examples of individuals becoming millionaires due to the high volume of Internet traffic they bring in to their channels. They have been able to separate themselves from other video uploaders and accumulate a significant amount of personal wealth. How about sports? Quarterback Peyton Manning stands as a visible example of the influence that stars can have on an organization. In the 2013 National Football League season, Manning led an explosive offense to the Super Bowl and set numerous individual records along the way, including most passing touchdowns in a season, most passing yards in a season, and most games in a season with at least four touchdown passes. Manning's influence on American football is so great that he has been voted the league's most valuable player a record-setting five times.

STAR PERFORMERS: WHO ARE THOSE PEOPLE?

While the accolades received by star performers bring recognition to themselves, often overlooked is the influence that they can have on those around them. If we use a pizza pie analogy, Manning's slice is larger in comparison to the other players on the team (e.g., higher salary, more awards, greater media recognition, and more lucrative endorsements). Star performers also have the effect of making the pizza pie larger for the entire team. Because of Manning's influence on the team, the 2013 Denver Broncos also had five players with 10 or more touchdown catches in a season, breaking the previous record by two players. In short, star performers produce more than other individuals, help increase the productivity of those around them, and have an important impact on the performance of their organizations as a whole.

Star performers are referred to by using different labels such as scale tippers, difference players, difference performers, and game changers. Throughout our article, we refer to these individuals who perform at extraordinary levels as stars. According to Herman Aguinis and Ernest O'Boyle, star performers are individuals who "consistently generate exorbitant output levels that influence the success or failure of their organizations and even society as a whole." What makes these performers special then is not that they possess some specific bundle of competencies, but instead that they produce output at high levels. Star performers are not only found in the executive suite or in the form of extremely successful entrepreneurs and athletes, but exist throughout all levels of the organization, from frontline workers all the way to the top, as we describe next.

STAR PERFORMERS ACROSS INDUSTRIES AND TYPES OF JOBS

While the contributions and value-added of Musk, Schultz, and Manning are extraordinary, recent research results show that the prevalence of star performers is not. In a set of studies we conducted over the past five years involving more

http://dx.doi.org/10.1016/j.orgdyn.2015.05.001

than 600,000 researchers, entertainers, politicians, and athletes, we discovered that the performance of individuals typically does not follow a normal distribution, but instead follows a power law distribution. To show this phenomenon graphically, Fig. 1 presents differences between these two types of distributions. In this figure, the solid black line shows a typical normal curve, which has the characteristic bell shape. In this type of a curve, the majority of scores fall close to the mean μ (i.e., the center of the distribution), with relatively few scores falling at either the low or the high extremes. What this implies is that the majority of individuals are assumed to perform at an average level, with very few people actually achieving a level of performance that would place them in the category of being a star performer. This is the distribution that most researchers in management and related fields (e.g., industrial and organizational psychology) have used to describe performance scores in the past. In fact, many organizations like G.E., IBM, and Sun Microsystems had or have systems in which they force a normal distribution on the performance ratings of individuals by requiring managers to assign a set percentage of their people to each of the performance categories in order to create a normal distribution. Even some business schools do it: the Yale School of Management requires classes to be graded according to the normal distribution, and so does the Tuck School of Business at Dartmouth for their required M.B.A. classes. This practice restricts the number of students who can get top grades and instead clusters the majority of students around the average (i.e., center) of the distribution.

Rather than a normal distribution, our research suggests that performance usually follows a power law distribution, shown in the gray area in Fig. 1. There are two important implications that derive from differences between these two lines. First, the power law distribution has a longer tail than the normal distribution. Under this type of distribution, we would expect to see many more star performers than under the normal distribution. For example, O'Boyle and Aguinis gathered journal publication data for over 25,000 researchers across more than 50 scientific fields including physics,

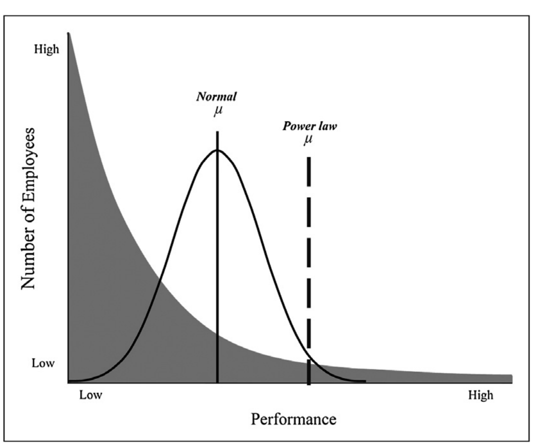

Figure 1 Generic Normal Distribution Overlaying a Power Law Distribution. μ = Mean Value for Each Distribution. The Normal Distribution Assumes that Most Scores Cluster Around The Mean and Fan Out into Short and Symmetrical Tails. The Power Law Distribution Assumes the Presence of a Larger Proportion of Extreme Scores and the Majority of Scores Falls Below the Mean

dentistry, history, mathematics, social psychology, social work, and many others. If the data followed a normal distribution, there should be approximately 35 researchers with about 10 publications or more each (three standard deviations above the mean). In contrast, results showed that there were 460 individuals who have produced that high number of scientific publications. The contrast between what was expected based on a normal curve and what the empirical results showed is included in Fig. 2's Panel A. This number is more than 13 times as many as what would be expected if the normal distribution were true. This same result was replicated across a variety of jobs as well. In a sample of 3,300 entertainers that were nominated for a Grammy, five would be expected to receive at least 10 nominations under a normal performance distribution. However, 64 artists have received more than 10 nominations (see Fig. 2's Panel B). Out of 8,976 individuals to have served in the U.S. House of Representatives from 1789 to 2009, 13 are predicted to have served 13 terms or more if the normal curve represented the data well. However, 173 representatives have served over 13 terms (see Fig. 2's Panel C). This same pattern appeared time and time again, regardless of the type of industry and job. It is becoming apparent that the performance distribution is not normal in most cases and, consequently, star performers are more common than previously assumed.

A second implication of differences between a normal and power law distribution refers to the location of the mean (i.e., average) score. The presence of stars pulls the average of the distribution to the right (i.e., higher average) compared to a normal distribution. Consequently, in a power law distribution, the majority of individuals have performance scores that are below the mean (see Fig. 1). The different location of the distribution's average in a normal versus power law distribution has important implications for management practices. For example, if an organization implements a performance evaluation system that forces a normal distribution when performance actually follows a power law distribution, several star performers will be rated as average performers. This could have demoralizing effects on the individual and result in loss of motivation, drops in performance, or even turnover of some of the organization's most valuable human capital. Our research suggests it is time we change management theories and practices so that we conceptualize the distribution of performance as being non normal instead of changing the data to fit our existing, and often incorrect, conceptualization.

STAR PERFORMERS AND THE NATURE OF WORK IN THE 21ST CENTURY

In retrospect, recent empirical results regarding the non normal distribution of performance are not too surprising. When we look back at the history of work, especially in the United States, it becomes clear why there has been a shift from a normal distribution to a power law distribution. At the start of the 20th century, the economy was driven by manufacturing. In 1913, Henry Ford perfected the assembly line in helping to build the Model T automobile, and other manufacturing companies quickly adopted this method. Subsequently, the majority of individuals through the early part of the century were working on assembly lines to produce