



The role of luck in the strategy-performance relationship

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Abstract

Purpose – Strategic management scholars seek to link strategic factors to performance. When specific causal links cannot be identified, however, other potential explanations should be considered, including the notion of luck. This paper aims to introduce a distinction between scholarly and practitioner perspectives of luck and identifies why this distinction is critical to both scholars and practitioners.

Design/methodology/approach – This paper proposes a framework linking luck and competitive advantage. It also reports the results of an exploratory empirical investigation on the perceived role of luck in firm performance.

Findings – Scholars and practitioners have different views of luck's role in organizational performance. Managers are more likely to assign luck for bad outcomes rather than good. In addition, the more quantitative a manager's work function, the less likely he or she is to perceive a luck-performance linkage, and the higher the manager is in the organization, the more likely he or she is to perceive luck as affecting outcomes.

Research limitations/implications – There are a number of reasons why luck should receive prominence when considering the strategy-performance relationship: many of the linkages between strategic factors and performance are identified after the fact – they are viewed as causal when they were actually lucky; empirical research may identify relationships whether they actually exist; researchers tend to find what they are looking for; and academics will be more likely to explain "luck" if they are using the appropriate tools to reveal it.

Practical implications – The positive link between management level and luck's role in performance identified in this study suggests that the more a manager knows about a firm's resources and attributes, the more likely he or she is to downplay the role they actually play in performance. From this perspective, managers seem more willing to acknowledge the role played by luck as they progress into greater levels of responsibility and control.

Originality/value – A significant portion of empirical work seeks to explain differences in performance across organizations by identifying the links between various strategic factors and performance. Although this research has contributed much to the knowledge about the strategy-performance nexus, it assumes that strategy-performance linkages necessarily exist and that they can be readily identified. In other words, most scholarly work in this area is based on assumptions that minimize or preclude the role of luck or randomness in the determination of firm performance. Building on previous work, this paper adopts an alternative perspective on the strategy-performance relationship, highlighting the often overlooked role of luck.

Keywords Competitive strategy, Management strategy, Business performance, Risk management, Organizational performance

Paper type Research paper

Strategic management is about superior performance and strategic factors that enhance it. High performing firms may enjoy superior performance because of the unique insights and abilities they controlled when their strategies were selected and



executed. Alternatively, they simply may have been lucky (Barney, 1986; Denrell, 2005; Peters and Waterman, 1982). This latter view, however, is not widely addressed in the literature.

The assumption that high performance emanates from effective strategizing and managerial excellence seems to permeate the strategy-performance literature (Morrow *et al.*, 2007; Parnell, 2005). As such, a significant portion of empirical work seeks to explain differences in performance across organizations by identifying the links between various strategic factors and performance. Although this research has contributed much to our knowledge about the strategy-performance nexus, it assumes that strategy-performance linkages necessarily exist and that they can be readily identified. In other words, most scholarly work in this area is based on assumptions that minimize or preclude the role of luck or randomness in the determination of firm performance. Although stochastic perspectives on firm performance are not entirely new (e.g. Barney, 1986; Jacobson, 1988; Mancke, 1974; Parnell *et al.*, 2000), published works adopting this view have been limited (Parnell and Dent, 2008).

This paper is concerned with two key questions. First, how is luck defined from scholarly and practitioner perspectives? Second, what role does luck play in organizational performance? We address these questions in the remaining sections, and close with an assessment of future research directions.

Luck in the strategy context

The role of luck in firm performance seems to be viewed from three broad scholarly perspectives. First, luck may play little or no role, a view consistent with scientific inquiry's assumption of causality (Kovenklioglu and Greenhaus, 1978) and the perspective that a belief in luck is irrational (Day and Maltby, 2003). Second, luck may be seen as influencing performance in one or a few iterations, but the laws of averages and probability ensure that it plays little or no role over an extended period of time and should not be a primary concern for researchers. The best hitters in baseball may perform poorly for a few games, but they will outperform the others over the course of a season through "normal" variation. This view is also broadly consistent with scientific inquiry because it also largely ignores the prospective role of luck, at least in the long run.

There is a third perspective, however. What is often called luck may play a significant role in the long term either by generating short-term success that fortuitously positions a firm for superior performance in the long term, or by directly creating long-term success through a series of "lucky" endeavors. Complexity theory has shown that many processes are highly sensitive to initial conditions, so that one unexpected event may be disproportionately amplified over time (Dooley, 1997). Merton (1968), for example, has offered that academic scholars reach the top of their fields because of the "Matthew effect". His work showed that the citation of certain references is sheer luck, but that those who get this lucky break benefit from a snowball effect that follows them for their entire career.

Most strategy-performance research is based on one of the first two perspectives, however. In a similar vein, our work suggests that scholars divide phenomena into two broad categories based on presumed degree of organizational control. Factors under the organization's control that are believed to be causally linked to firm performance receive the most attention, while those largely outside of the organization's control

receive relatively little. Within this context, the notion of luck receives little or no attention because its effect on the organization is independent of the firm's strategic action and therefore not of direct interest to the researcher.

There are two problems with such a dichotomy based on organizational control. First, in a pure sense both categories – factors under or not under the organization's control – are virtually unoccupied. While organizations may have some degree of control over many factors associated with firm performance, one could argue that they have *complete* control over none of them. Following this logic, all firm performance may be viewed as a function of relatively controllable factors – including strategies – and a host of largely uncontrollable factors. Such a view is consistent with the statistical notion of explained and unexplained variance. The notion of luck is associated with the latter category.

Second, such a dichotomy based on organizational control discounts the possibility of mutual causality, the situation in which cause and effect are so intricately interwoven that they cannot be discretely identified (Dent, 1999). For example, as Bolman and Deal (1997) have noted, "Leaders make things happen, but things also make leaders happen. [...] Leaders are not independent actors. They both shape and are shaped by constituents" (p. 296). As will be discussed later in the paper, luck may arise in the way the two phenomena commingle. Although many researchers acknowledge a role played by some form or "luck", delineating its role in the strategy-performance linkage presents a challenge, one that has been exacerbated by the myriad connotations of the term. A careful examination of the various perspectives on luck, however, suggests the existence of two different constructs that we call "objective luck" and "subjective luck" (Rescher, 1995).

Research has shown that the term "luck" means different things to different people (Meyer, 1980; Meyer and Koelbl, 1982). To bring definitional clarity to this subject, scholars seem to agree that someone is "lucky" if she experiences an infrequently occurring event over which she has little or no control, with an outcome that affects her more positively than she believes it would a similarly situated person (Hafer and Gresham, 2008; Pritchard and Smith, 2004). There are many conditions in this brief definition that are best illuminated by example. An obvious individual example would be someone winning the lottery, clearly an infrequent event over which a ticket-buyer has no control. Someone would believe that he was far luckier than a similarly situated person, perhaps the person who bought a ticket before or after him.

Objective luck: the scholar's perspective

Defining luck is challenging because of its numerous connotations in both professional discourse and everyday speech. It is a term frequently used and generally understood, but rarely defined. Scholars seek to identify causal relationships and therefore tend to view luck as a *post facto* phenomenon that suggests some degree of random variation. A firm that makes "good decisions" yet performs poorly might be considered to be "unlucky" because random variables intervened in a negative manner. Because researchers aim to explain as much of the variation in firm performance as possible, unexplained variation is acknowledged, but assumed to consist of factors that may well be identified in subsequent studies.

Interestingly, this issue was addressed more than a decade ago when scholars noted the relatively low percentage of firm performance variance explained by industry

membership. For example, McGahan and Porter (1997) found that industry accounted for 19 percent of variance in profitability within specific SIC categories; likewise Powell (1996) suggested 17-20 percent. Indeed, the field has shifted from industry and strategic group levels of analysis toward the firm level in an effort to explain a larger percentage of performance variation. Nonetheless, strategy scholars routinely explain less than one half of the performance variance across firms (Morgan and Rego, 2009; Rose *et al.*, 2008). When strong links between tangible resources and performance cannot be identified, some turn to intangible resources (Galbreath and Galvin, 2006). Luck is rarely invoked as part of the explanation.

Most scholars also take an objective perspective on luck, arguing that it is merely a term assigned when causes are not fully understood. In other words, luck merely serves as a surrogate for the unknown. In essence, the scholarly perspective could be characterized by Ralph Waldo Emerson's frequent assertion: "Shallow men believe in luck. Strong men believe in cause and effect". From a scholarly perspective, (objective) luck occurs when changes in one variable can be linked to changes in another variable whose shifts do not follow definite direction, reason, or pattern.

Measuring luck presents a challenge in management research. A key problem is that luck is neither what management scientists are trained to analyze nor what they hope to find. March and Shapira (1987) eloquently articulate the blind spot of researchers: "Post hoc reconstruction permits history to be told in such a way that 'chance', either in the sense of genuinely probabilistic phenomena or in the sense of unexplained variation, is minimized as an explanation" (p. 1405). Taleb (2007) makes the same point from a different perspective, labeling it "the problem of silent evidence". He points out that researchers often fail to look at the "graveyard" – explanations that were available at the beginning of any dynamic but not at the end. Taleb (2007) contends that "what truly separates the two is for the most part a single factor: luck. Plain luck" (p. 106). The existence of luck runs counter to the notion that individual and organizational performance can be attributed to one or more identifiable causes. The causes of a phenomenon are limited to factors included in the study and unexplained variance. It is typically assumed that the latter predominantly includes factors that could be included in future studies. Instead of suggesting that luck may play a role in firm performance, scholars suggest avenues for additional research in hopes of identifying more causal relationships. Hence, empirical studies that fail to link strategic factors with performance are rarely published because they do not contribute to our understanding of the (causal) strategy-performance linkage.

From a research perspective, luck is a complex consideration because it does not constitute a variable *per se*, can take many forms, and infers a degree of randomness or unpredictability in a variable. For example, assume that a sales increase at a firm can be explained by three factors:

- (1) the firm's strategy;
- (2) an upturn in the economy; and
- (3) consumer litigation that forced a key competitor to close its operations.

Because the first factor represents an intentional action on the part of the organization, one assumes that *luck is not involved*. The second factor *may or may not represent luck*, depending on whether or not the upturn was or could have been readily anticipated (described below as "prepared luck"). The third factor *probably* reflects a degree of luck,

assuming that the firm did not anticipate the outcome that would result from the rival's litigation. The unexplained variance *may or may not represent luck*. It may include factors not associated with luck that were simply not investigated, such as changes in employee training programs or a new advertising campaign. Conversely, or in addition, it may include other factors such as timing and consumer preference changes that could not have been readily anticipated. Hence, luck is often incorrectly associated with the inability to explain a phenomenon. As the previous example illustrates, both identified and unidentified factors (i.e. the unexplained variance) may or may not be associated with luck.

Nonetheless, there is also a proclivity to identify causal relationships whether they exist or not. Recent work examining performance differences across mutual funds illustrates this point. Contrary to the notion that high performance is best explained by factors such as manager tenure or investment savvy, the majority of performance variations may be more accurately attributed more to luck than to skill (Kosowski *et al.*, 2006). A key problem inherent in denying the existence of luck in scholarly research is that it typically results in the assignment of causality when the evidence is not strong. In this respect, acknowledging the role of luck can promote quality management research both by properly recognizing it as a contributing factor to performance and enabling researchers to suggest luck as a significant contributing factor when the evidence for other factors is too weak.

A close examination of unexplained variance in most scholarly studies suggests why ignoring luck's prospective role in performance is not appropriate. Although it is common in the hard sciences for predictive models to explain more than half the variance, a number of published papers in recognized management journals explain considerably less than half. Interestingly, little or no attention is given to the unexplained variance in most instances. Mancke (1974, 1977), for example, demonstrated that empirical research from an industrial organization perspective could not distinguish between causality and randomness when considering the positive link between a firm's market share and its profitability. Further, it is not uncommon for researchers to acknowledge their inability to link firm or environmental factors with performance, yet proceed to suggest such inferences (March and Sutton, 1997).

Encompassing this perspective, Figure 1, adapted from Ma's (2002) practitioner perspective by adding the orientation of scholars to the cells, illustrates the relationships among luck, randomness, and causality. Ma (2002) assumes that firm performance is "caused" by one or more factors, although these factors may or may not be randomly generated and their link to performance may or may not be understood. Proactive factors include constructs such as a firm's strategy, its relative size, or the concentration of firms in a given industry. Such factors comprise key considerations in many empirical studies. In contrast, serendipitous factors arise from chance and include constructs that can be identified but not readily predicted – such as the death of a CEO or the effects of 9/11 – as well as those that are unknown or speculative in nature.

Figure 1 encapsulates some of the differences in the viewpoints of practitioners and scholars. For example, in situations that scholars see as causally ambiguous, practitioners are likely to find one practical connection among many (a useful weed).

Serendipitous	To the practitioner USEFUL WEEDS <i>To the scholar</i> CAUSAL AMBIGUITY	To the practitioner PURE LUCK <i>To the scholar</i> CHANCE
	To the practitioner SKUNK WORKS <i>To the scholar</i> RESEARCHABLE	To the practitioner PREPARED LUCK <i>To the scholar</i> PERSPECTIVAL
Proactive	Endogenous	Exogenous

Source: Adapted from Ma (2002)

Figure 1.
Luck and competitive advantage: a framework

Or, a practitioner might see himself as helping to produce his own luck (prepared luck) in a situation that a scholar sees as perspectival (depending on one's perspective).

Following Figure 1, most strategy-performance research assumes that performance is a function of endogenous factors that can be readily identified, as well as exogenous factors. When only one or a few factors are identified and a relatively small portion of performance variation is explained, the research emphasizes the factors associated with the identified causality. Little, if any, attention is given to unidentified factors or the possibility that most of the variance may be unexplained. The problem, however, is that one or more factors may be linked to firm performance, but the overall success of a firm *may* be driven by unidentified factors, quite possibly luck. Consider the casino industry as an example. When casinos do their strategic planning, they focus on factors taught in MBA programs such as demographics, leisure interests, payout of gaming machines, competitor analyses, and other common issues of strategy (Atwood, 2007).

However, such factors do not include what have turned out to be the four factors that have had the greatest impact on the financial performance of a casino:

- (1) the loss of an irreplaceable performer in the *Siegfried and Roy* attraction;
- (2) a disgruntled contractor hurt during construction of an annex;
- (3) an employee not providing required IRS tax information; and
- (4) the kidnapping of the casino owner's daughter.

Each of these factors represented a dollar figure that dwarfed the impact of gaming revenues (Taleb, 2007). Such serendipitous events tend to be largely ignored by researchers.

Causal ambiguity refers to the condition under which neither the firm nor its rivals can identify the factors that lead to firm performance (Lippman and Rumelt, 1984; Powell *et al.*, 2006; Rumelt, 1984). Causal ambiguity occurs for a number of reasons. A competence may be complex, tacit, or firm-specific. It may be intricately related to a number of other competencies, or its link with performance may be impossible to identify (Reed and DeFillippi, 1990).

Causal ambiguity in the strategy-performance relationship restricts the use of imitation as a competitive response, however, encouraging rivals to pursue innovation instead, creating an environment whereby the firm's competencies decline in value, a phenomenon McEvily and Chakravarthy (2002) call the competence substitution dilemma. In a similar vein, King and Zeithaml (2001) noted that firms and rivals incapable of linking causes with performance are unlikely to leverage these causes or sustain them, a phenomenon they called the causal ambiguity paradox.

From the scholar's perspective, causal ambiguity is not about luck. Rather, pure luck occurs when the causal links to performance are random but understood. When a drought leads to low corn production and subsequent losses at a vegetable processing plant, the cause is generally attributed to (bad) luck. While the factor that "caused" the losses could be identified, it could not have been easily predicted.

Many researchers tend to focus on the bottom left quadrant of figure 1. When serendipitous factors are presumed (but not proven) to cause performance, additional research is usually encouraged to increase knowledge about the relationship between these factors and performance. Aided by theory, it is hoped that additional research is able to identify the causal links to firm performance. From a scientific perspective, quality research papers move issues or constructs from the causal ambiguity category to the researchable one.

Much can be gleaned from the pursuit of prospective, but not fully understood links to firm performance. Whereas industrial organization research is replete with empirical evidence linking such factors as quality, costs, location, and size to firm performance, similar evidence to support the resource-based view is not sufficiently developed (Powell *et al.*, 2006). Research in this area persists, however, and is fruitful.

Most scholars view causal ambiguity as a temporary state. In theory, all links to firm performance will eventually be classified as either "pure luck" if the factors resulting in performance are random or "causal ambiguity" if they are not. These two categories serve as intermediate positions until phenomena are sufficiently understood.

Subjective luck: the practitioner's perspective

In contrast to scholars, practitioners view luck from a subjective, contextual perspective and often assign luck as a cause when other factors are not known. Managers often wrestle with tactics in an environment of uncertainty rather than a grand strategy in a largely predictable world. Many see scholars as attempting to "overlay a spurious rationality on a more chaotic reality" (O'Regan *et al.*, 2008, p. 26). Executives embrace risk when making decisions – at least to some degree – whereas scholars may apply the economic assumption of perfect information". Executives seek immediate and satisfactory solutions to problems, whereas scholars often seek the *best* solutions with more detailed explanations of phenomena, with an eye on publishing their results. As such, many practicing managers embrace a broader notion of luck.

From the practitioner's perspective, the failure of a new product launch in spite of its success in test markets may be attributed to "bad luck" simply because a manager lacks sufficient information to identify the cause. Hence, luck is seen as a more general term that may include causes that are unknown, widely debatable, not worth understanding because of the time, energy and cost required, or presumed unknowable. Practitioners readily acknowledge luck, and its power in their frequent use of the expression "I would rather be lucky than good".

When an individual cannot explain the causes of an outcome, luck represents a viable explanation. Within this context, luck is a broader construct that refers to seemingly random and/or unpredictable events that positively or negatively affect individuals within an organization or the organization as a whole. What scholars view as causal ambiguity, managers see as an opportunity for luck by identifying accidental innovation and creativity. Although luck is often associated with infrequent events such as a lightning strike or a CEO's heart attack, an event becomes "lucky" (i.e. positive) or "unlucky" (i.e. negative) if it is generally believed to be random and or unpredictable, and is therefore subjective. The cell labeled as "prepared luck" includes all of the cases in which what is seen as lucky or unlucky to one may have been expected or predictable by another, and what is serendipitous for one may be another's misfortune. An example of the former is a weather-dependent business that alters its plans based on an unusual forecast. It may see the situation as having been predictable. An example of the latter case would be a factory that moves operations to another country, greatly disadvantaging the suppliers near the old location and greatly benefiting the suppliers near the new location.

From the practitioner's viewpoint, the consideration of luck is part of managerial decision making. Managers invest time, energy and resources into understanding factors they believe will influence an outcome. Following this logic, managers are most effective when they make decisions that incorporate only those considerations that are worthwhile from time, cost, and effort perspectives. Pure luck may intervene to enhance or detract firm performance, but it cannot be controlled. Effective managers, therefore, tend to focus on factors that they can control.

Perspectives that assume rational behavior on the part of strategic decision makers are useful in identifying relationships among variables in tightly constrained environments, but they ignore luck and are far from complete explanations. Herbert Simon's (1947, 1960) notions of bounded rationality and satisficing provide insight in this regard. Decision-makers often "satisfice" and take the first action that resolves a problem satisfactorily instead of weighing alternatives and choosing the one that maximizes the outcome. Decisions are not necessarily the most rational because their concepts of rationality are bounded by shortages of resources, time, and ability. Undesirable outcomes are deemed "bad luck", although their causes can be identified and the end results altered if the decision makers had placed greater effort prior to the decision.

This problem is further complicated by the various degrees of uncertainty that must be taken into account as well (March and Simon, 1958). Researchers generally approach strategic decision making assuming that executives have relatively complete information and pursue the "best" decision from a rational perspective, but this is not always the case. While managers seek to reduce uncertainty as much as possible, they must account for gaps in available information. When decision makers satisfice,

they acknowledge the role of luck by assuming that some degree of unpredictability will work in their favor.

Experience and intuition are also important in the consideration of luck. Individual or organizational performance may be traced to decisions made by managers who simply “feel” they are correct, but do not follow a systematic decision making process. These managers may have good track records, but it is not always easy to explain why they seem to be successful. When a cause is unknown, luck may be assigned as a surrogate. Wiseman (2003) found that people who listened to their “inner voice” and those who took conscious steps to boost their intuition reported more luckier outcomes than those who did less of either.

Executives often refer to an outcome as lucky when other partial explanations may also be available. As such, what they reference as luck may actually emanate from a variety of sources. A firm may be able to leverage asymmetric information or capitalize on a competitor’s failure. It may be traced to a change in technology, social trends, or government regulation (Ma, 2002).

Executives often attempt to minimize “bad luck” through preparation. The link between preparation and luck is often difficult to identify, however. Consider the failed entry of Rover, a highly successful British company, into the Bulgarian market in the 1990s. Elenkov and Fileva (2006) argued that the Rover failure can be attributed to a series of unlikely events associated with Rover’s lack of understanding of Bulgarian business culture (i.e. “bad luck”). In hindsight, however, they suggest that more effective planning and research might have prevented the failure.

The practitioner’s perspective of luck can be illustrated by Austin’s (2003) model of “chance”. Austin’s work illustrates how scientific researchers have benefited from luck. In this model, chance can arise in four different ways, as follows.

Chance I

Luck that is completely accidental. Some practitioners may infer luck when a firm benefits from one or more events – either identifiable or unidentifiable – and secures high performance without having to take any action. Consider an ice cream producer that simply generates higher sales and profits because temperatures are higher than forecasted. In this situation, the firm does not change its behavior because of the serendipitous climate change, but simply benefits from the “lucky” event. The Ricardian rents generated cannot be created proactively (Rumelt, 1984). This perspective is consistent with Barney’s (1986) notion of path-dependence.

Chance II

Chance I plus motion. This level recognizes that people who are restless and driving in their pursuits will mention their situation to others and engage in a variety of other behaviors that will “increase the number of collisions between events” (Austin, 2003, p. 74). Someone who experiences Chance II has a “chance encounter” that would not otherwise have occurred. For example, a colleague who reluctantly went to a networking event had to wait when the drink servers ran out of ice. While waiting, she struck up a conversation with the next person in line who happened to be a book publisher, someone interested in publishing exactly the type of book the colleague had been working on. Wiseman (2003) found that people who create, notice, and act upon the chance opportunities in their lives report greater instances of good luck. He also

found that respondents who scored higher on the extroversion scale of the Big 5 personality assessment reported more chance encounters. Taleb (2007) encourages “positive accidents” by maximizing the serendipity around you. He notes that one explanation of the great organizational success of the USA is that Americans “take small risks for the rest of the world” (p. 204).

Chance III

The focus in this level turns to the agent who is somehow uniquely equipped to take advantage of a turn of events. The same situation may present itself to a number of competitors in the industry, but only one with some unique characteristic will see the significance of the events and capitalize upon them. As Wiseman (2003, p. 32) puts it, “being in the right place at the right time is actually all about being in the right state of mind”. The Chance III perspective suggests that organizations should develop strategic capabilities so that they will be able to take advantage of opportunities that become available (Hart and Banbury, 1994).

Another way of viewing Chance III is that this is where opportunity is met by preparation. Only those prepared can even see the opportunity. Dell founder and CEO Michael Dell, for example, was the first to realize that most stores selling computers did not also want to repair them. Consequently, retailers held no distinct advantage over direct sellers. A company could sell directly to businesses and consumers with a reliable and less expensive computer and do very well.

Some firms appear to do more than anticipate situations in which luck might be present by helping create them. Organizations can engage in certain activities that may “generate luck” for the firm. In general, structured and systematic research and development (R&D) activities could fall into this category. A more intense and proactive approach can be seen in skunk works, the highly innovative, experimental, and relatively unstructured research activities designed to foster innovation. Firms like Lockheed Martin hope that new discoveries will emerge from the process, discoveries that simply could not be generated via traditional R&D.

For luck to influence firm performance, a requisite response from the firm may be necessary. For example, a firm is directly affected by a “lucky” event, *changes its behavior*, and then reaps the benefits of higher performance. Reconsider the ice cream analogy. If weather forecasters predict an unusually hot summer, an ice cream producer may increase its production in anticipation of the change. When temperatures rise, the firm benefits because of its ability to combine a wise strategic change with the auspicious change in climate. Ma (2002) called this prepared luck because the firm must respond to the luck-induced opportunity or threat in order to translate the luck into superior performance. Instead of “prepared luck”, scholars have used the term “perspectival” to describe phenomena or information that are dependent on the observer of the method of observation (Dent and Powley, 2004).

Hence, firms are more likely to benefit from luck if they are able to anticipate situations where unpredictable changes are likely to occur and execute strategic shifts when such changes occur. An astute ice cream producer, for example, should be aware of the difficulties associated with climate predictions and should maintain sufficient flexibility to adjust production up or down if and when temperatures are higher or lower than expected. Samuel Goldwyn’s (and others’) suggestion, “The harder I work, the luckier I get”, is consistent with the notion that working *smarter, not harder* can

lead to (good) luck. From a strategic perspective, this means that an organization able to anticipate propitious situations and maintain sufficient organizational slack (Bourgeois, 1981; Cheng and Kesner, 1997) to address them is likely to benefit.

In essence, Chance III luck can be increased by a leader looking beyond the scope of work for analogies. If she sings in a choir, how does she see the choir director strategize to ensure an effective performance? If he does interior design as a hobby, how does the interplay of architectural elements contribute to overall excellence? Is there something in a compelling page-turning novel that offers an insight for how a leader can be more persuasive in selling a strategy to others in the firm? Another way to increase Chance III luck is to further self-actualize. Maslow (1962) contends that during peak experiences, people experience a type of perception with incredible richness of detail and an “absorbed, fascinated, fully attending cognition” (p. 71). Self-actualized people have this experience more frequently and it allows them to more clearly see the situation itself and all of the possibilities pregnant within it.

Chance IV

This level of chance is more individualized than Chance III. While Chance III consists of opportunities that arise because of conscious preparation, Chance IV consists of opportunities that arise because of distinctive interests, attitudes, or lifestyle. Continuing with the example of Michael Dell, as a teenager he attempted to completely disassemble and reassemble a personal computer, to see whether he could do it. It is likely that that particular experience gave him the realization that computers can easily be assembled with parts from a variety of vendors. Later, this business strategy led to Dell’s great success in the PC market.

The more personalized nature of Chance IV luck is pivotal. Is someone able to identify a market opportunity because he grew up in a tropical climate and had to care for a sister with multiple sclerosis? What unique perspectives were fashioned from this unique confluence of events? Austin’s model raises the possibility of increasing lucky experiences by being in motion, integrating seemingly disconnected parts of our lives, and reflecting deeply on our unique experiences and what they have positioned us, and not others, to do.

Chance IV luck may increase if people expect to be lucky and engage in counterfactual thinking (Pritchard and Smith, 2004). The positive psychology and appreciative inquiry literatures are rich with examples of the value of self-fulfilling prophecies. Likewise, Wiseman (2003) found that people who expect good luck report more instances of luck than those who do not. Counterfactual thinking denotes situations that, at face, may appear not to be lucky. For example, someone who is in a serious car accident may regard himself as lucky if people in similar car accidents had been killed. Others who have the same accident may regard themselves as unlucky because they compare themselves with people who had no accident that day.

Performance resulting from unknown causes (i.e. random variance) should not be confused with performance resulting from luck. One can only be certain that luck is a determinant of performance if a random factor can be linked to it. Likewise, the existence of luck does not infer that that performance has no cause, but rather that the cause is random, and thereby outside of the direct and indirect control of the organization. Direct control refers to firm action (e.g. a strategy) or inaction that influences performance. Indirect control refers to a firm’s ability to take action that

leverages or palliates the influence of an external factor, such as a downturn in the economy or changing consumer tastes. Hence, luck is a workable explanation when a performance variation is linked to firm inaction and it would not have been realistic for the firm to take action.

Hypotheses

In short, scholars and practitioners seem to approach the concept of luck quite differently. For scholars, luck can only be ascertained *post facto* and is actually a result of random variables. They are not trained to analyze luck or even to look for it. Strategic management scholars are stymied by their research efforts that have explained a relatively low percentage of relationships of interest. Finally, luck may be “hidden” to scholars because of the “graveyard effect”.

Practitioners on the other hand readily acknowledge luck as a viable explanation when causal relationships cannot be identified. They believe that they can increase their luck by having more encounters in the world and by using their unique experience base to see what may be lucky for them, yet invisible or unlucky to others.

The previous discussion of luck from scholarly and practitioner perspectives notwithstanding, little is known about the extent to or conditions under which practicing managers believe luck plays a role in determining firm performance. The exploratory analysis reported herein seeks to fill this gap by investigating the nature of the link between practitioner perceptions of luck and organizational performance. This study endeavored to see whether additional empirical information could be brought to bear on these differences in perspective between scholars and practitioners. Specifically, three hypotheses are tested.

At the individual level, attribution theory suggests that managers use information about performance to explain less than satisfactory results (Green and Mitchell, 1979). Individuals may use luck to explain either high or low performance, depending on the situation (Charness and Levine, 2007). Cultural and situational influences aside, however, there is a greater tendency to assign “bad luck” to negative outcomes than to assign “good luck” to positive outcomes (DeCarlo *et al.*, 2007; Tepper, 2006). This hypothesis probes the scholarly/practitioner difference of whether or not “luck” is randomly distributed.

- H1.* The perceived role played by luck in overall performance will be inversely related to that performance.

Individual attributions of luck may be based on a number of factors, including gender, personality, experience, and even race (Day and Maltby, 2003; Elenkov and Fileva, 2006; Ellis *et al.*, 2006). Managers with quantitative business backgrounds such as production and finance tend to offer scientific explanations for phenomena, linking factors such as *objectively* defined product quality and interest rates to business decisions and performance. Alternatively, those with more qualitative backgrounds (e.g. marketing and general management) often highlight the roles of management and customer perceptions, *subjectively* defined product quality, and timing in organizational performance. As such, they tend to be more open to more subjective explanations, including luck (Adaval, 2006; Moizer and Pratt, 1988; Musteen *et al.*, 2006). *H2* is designed to determine whether or not professionals who took more courses

with objective content (finance, operations, etc.) will be less likely to attribute luck than those who took courses with more subjective content (management, marketing, etc.):

H2. The perceived role played by luck in overall performance will be inversely related to quantitative extent of the respondent's functional background.

Although we believe luck may play a more prominent role in firm performance than generally recognized, it is equally problematic to *overuse* luck as an explanation. Nonetheless, there is a general tendency to attribute outcomes to luck when less is known about the process by which such outcomes are generated, both at individual and organizational levels (Adaval, 2006; Celentani and Loveira, 2006; Chowdhury, 2005; DeCarlo *et al.*, 2007; Kovenklioglu and Greenhaus, 1978; Stone and Tudor, 2005). Managers at higher levels in the organization tend to possess a greater understanding about factors associated with superior firm performance (David *et al.*, 2002; Goll *et al.*, 2007; Denrell *et al.*, 2004).

H3. The perceived role played by luck in overall performance will be inversely related to the management level in which the respondent functions.

In Emerson's quote, "strong men" (likely those more successful) believe in causation, not luck. Consequently, those who have been more successful in their careers are hypothesized to attribute less of that success to luck. This hypothesis also tests the self-serving bias that could be present in *H1*.

Methods

Hypotheses were tested by sampling 219 managers enrolled in a post-graduate business school in the Southwestern USA. In addition to several descriptive, demographic, and strategic questions, each respondent was asked to evaluate the overall performance of his or her business relative to its closest rivals (1 = well below the average, 5 = well above the average). Respondents were also asked to estimate the percentage of overall performance attributed to each of five factors:

- (1) cost controls;
- (2) product or service differentiation;
- (3) niche focus;
- (4) other strategic factors; and
- (5) luck.

The latter was defined in the survey as "factors that are generally unknown or unpredictable".

The sample was split between 111 males and 108 females, with 89 working in manufacturing and 130 in service industries. The average age of respondents was 30 years. Although a convenience design was employed, this sample represents a cross-section of managers suitable for further analysis. Nonetheless, results should be interpreted in light of the exploratory nature of the study. Table I summarizes the descriptive statistics.

The first hypothesis was supported. The perceived role of luck in overall performance was significantly associated with overall business performance ($r = -0.375$, $p = 0.000$). Luck was more likely to be attributed as a cause of poor performance than

Variable	<i>n</i>	Minimum	Maximum	Mean	SD
Age	219	23	51	30.14	5.34
Management experience	219	0.0	11.0	3.421	2.92
Experience with company	219	0.1	15.0	3.876	2.98
Year company founded	215	1875	2007	1969	29.13
Overall business performance	219	1	5	3.49	1.04
Emphasis on low cost	219	1	5	3.37	0.96
Emphasis on differentiation	219	1	5	3.75	0.087
Emphasis on focus	219	1	5	3.87	0.99
Emphasis on other factors	219	1	5	3.07	1.08
Emphasis on luck	219	1	5	2.58	1.03
Low cost role in performance	219	10	100	26.13	17.57
Differentiation role in performance	219	0	50	23.97	12.30
Focus role in performance	219	0	50	24.53	11.22
Other factors role in performance	219	0	50	14.68	10.75
Luck role in performance	219	0	45	10.63	7.47

Table I.
Descriptive statistics

of superior performance. It was not significantly associated with age of the respondent, age of the company, or experience with the company. Luck is not seen as evenly distributed by respondents in the way that scholars view the situation.

In addition, *t*-tests were employed to identify any association between the perceived role of luck in overall performance and both gender and industry (manufacturing versus service). Results demonstrated no significant differences.

The second hypothesis was supported. An analysis of variance (ANOVA) test was performed to assess the link between the perceived role of luck in overall performance and functional background (see Table II). Luck's perceived role was greatest with respondents from marketing backgrounds, followed by general management, production, and finance. The difference among these groups was significant at the 0.000 level. The more objective the coursework taken, the less likely a respondent is to identify good or bad luck.

The third hypothesis was rejected. An ANOVA test was performed to assess the link between the perceived role of luck in overall performance and management level (see Table III). Luck's perceived role actually *increased* with management level, with non-managers reporting the lowest influence (7.6 percent) and top managers reporting

Functional background	<i>n</i>	Mean role of luck in overall performance	SD
General management	49	12.00	8.12
Production	32	8.94	7.66
Marketing	47	15.47	6.96
Finance	50	7.56	4.35
Other	41	8.49	7.18
Total	219	10.63	7.47

Table II.
ANOVA: functional background and the role of luck in overall performance^a

Notes : ^a*F*-statistic = 22.978; significance = 0.000

the greatest influence (15.6 percent). The difference among these groups was significant at the 0.000 level.

Discussion and implications

Although the research design is exploratory, findings underscore the role managers *perceive* luck to play in firm performance, if not the actual role of luck itself. The positive link between management level and luck's role in performance suggests that the more a manager knows about a firm's resources and attributes, the more likely he or she is to downplay the role they actually play in performance. From this perspective, managers seem more willing to acknowledge the role played by luck as they progress into greater levels of responsibility and control. However, other differences among managers, including such factors as personality, were not assessed.

Accordingly, the potential implications for managers are as exploratory as the literature review and the empirical test. It will be important to affirm the latter results with different and larger samples. Nonetheless, the first hypothesis and finding is consistent with the "correspondence bias" or "fundamental attribution error" that has been well documented (Jones and Harris, 1967). Two suggestions for reducing this error are to assess one's own outcome with others who are similarly situated and to try to identify an additional causal relationship that at first may not be apparent.

H2 and its findings are an additional call for greater quantitative literacy among managers. Hofstadter (1982) coined the term "innumeracy" to connote a lack of understanding of the mathematical phenomena arising in everyday life. John Allen Paulos (1988) provided dozens of examples of how people are hindered by their lack of basic mathematical knowledge. Rescher (1995) argues for closing the gap between the subjective and the objective by bringing personal expectations in line with actual objective realities in a situation.

In retrospect, it is perhaps not surprising that luck's perceived role increases with management level, as per the *H3*. The larger an executive's scope, the more s/he encounters a complex causal jumble of forces, events, and variables. He/she may experience little or no outcome when employing levers that are intended to have an effect. Moreover, a given action may produce a result in only one iteration because the causal "soup" is in a different state the next time.

This finding may also have a provocative implication. What if one factor that has allowed people to be more successful in climbing the corporate ladder is a more accurate understanding of cause and effect? More senior leaders may be more astute at discerning when a cause can be linked to an effect, and more importantly, when it

Management level	<i>n</i>	Mean role of luck in overall performance	SD
Non-management	52	7.98	5.58
Lower management	83	9.53	7.41
Middle management	57	12.74	7.02
Upper management	27	14.63	9.10
Total	219	10.63	7.47

Table III.
ANOVA: management level and the role of luck in overall performance^a

Notes: ^a*F*-statistic = 7.496; significance = 0.000

cannot. They may be labeling many of the latter as luck. Such managers may subconsciously be better at “influencing” luck by employing Rescher’s (1995) three principles of prudence:

- (1) risk management – increasing the objective understanding of true risk;
- (2) damage control – taking appropriate protective steps through purchasing insurance, hedging against currency fluctuation, etc.; and
- (3) opportunity capitalization (similar to Austin’s Chance II and III) – “positioning oneself to take advantage of opportunities so as to enlarge the prospect of converting promising possibilities into actual benefits” (Austin, 2003, p. 187).

Harung (1999) reaches the same conclusion with a different explanation. The unified field of mind and matter, the transcendental reality is “the most fundamental level of individual subjectivity and, at the same time, the source and basis of the material world which we experience as objects of perception” (p. 12). As a person increases in her human development, her thoughts and actions align better with the transcendental reality or natural law. More of her intentions occur, apparently without intervention on her part. She may experience this alignment as fortunate coincidences. In some respects, Austin’s (2003) model also has many implications for the practicing manager. It provides a roadmap for becoming luckier. From this perspective, there is a mutual causality (Dent, 2003) between an individual (or an organization) and luck. As such, luck can be seen as both cause and effect. Nothing can be done to impact luck at the Chance I level; it is purely random. At Chance levels II-IV, however, an individual can increase her/his luck. For example, luck can be increased in Chance II ways by joining a professional association, striking up a conversation on an airplane, or eating lunch with others rather than at the desk. Alternatively, a firm’s ability to differentiate its offerings from those of its rivals may lead to sales growth and ultimately lower costs through scale economies, creating additional slack resources that can be utilized to enhance differentiation even further. Each of these actions increases the probability of a connection being made, a resource being identified, or a fresh perspective arising. Ma’s (2002) prescription for increasing luck suggests:

It helps for firms to be aware of the contextual conditions under which one’s odds of getting lucky could be enhanced. Many lucky incidents may seem to be merely lucky incidents to the uninformed observers; they might just be the outcome of certain systematic and visionary efforts duly rewarded. In order to better improve a firm’s odds, general managers have to be constantly on the alert to scan the environment, spot new trends, and act on transient opportunities. They also need to fight their own arrogance, ignorance, and negligence. Moreover, it helps that they remain open-minded and tolerant about useful weed and skunk work type of internal corporate venturing activities. To put the proactive perspective into extreme, luck is created (p. 535).

Wiseman (2003) has taken participants through “Luck School” and shown that people can execute strategies to improve their luck. He reports that 80 percent of the graduates became luckier and that they estimated their increase in luck at 40 percent.

Implications for research

The existence of luck in the cause of individual or organizational performance does not necessarily belittle scholarly pursuits, nor does it mean that managers should not be

concerned in taking the “right” action. Extant research and common sense tell us both that luck exists and that it only partially explains most management phenomena.

One could argue that acknowledging the noteworthy role luck plays in individual or organizational performance could limit the role of academe. If all performance could be attributed to luck, for example, then both management education and research have limited value. Conversely, if no performance can be attributed to luck, then management education and research have maximum value. From this perspective, the existence of luck contributes to managerial ignorance. We reject this argument, however. Even if luck accounts for a sizeable proportion of firm performance, it is still necessary for managers to understand the roles played by other factors (e.g. strategy, execution, etc.), or following Austin, understand the steps that can be taken to become luckier.

There are a number of reasons why luck should receive prominence when considering the strategy-performance relationship. First, many of the linkages between strategic factors and performance are identified after the fact; they are viewed as causal when they were actually lucky. Following this logic, ignoring luck can lead researchers to identify “causes” or linkages that do not necessarily exist.

Second, empirical research may identify relationships whether or not they actually exist. Consider the application of cluster analysis. Barney and Hoskisson (1990) noted that any clustering algorithm will produce a set of clusters whether or not such groupings are meaningful. The same logic holds true in other algorithms, where researchers “beat the data to make it confess”.

Third, researchers tend to find what they are looking for (Leask and Parnell, 2005). Because they seek to identify specific causal relationships, scholars have a vested, perhaps subconscious interest in downplaying the role of luck in performance. Hence, few look to luck as an explanation of the phenomena they investigate.

Fourth, academics will be more likely to explain “luck” if they are using the appropriate tools to reveal it. Taleb’s (2007) *The Black Swan* is a treatise on how researchers often use Gaussian (bell curve) based mathematical techniques (regression, factor analysis, etc.) in situations where they are not appropriate. Such uses will often grossly underestimate the infrequent (sometimes lucky?) event, because the tails of the bell curve decrease so rapidly.

Finally, critics who consciously or unconsciously deny the role of luck simply suggest that the researcher tested the wrong set of presumed causal variables. Hence, the upper right quadrant in Figure 1 is presumed to be empty, an assumption widely held among hard and social scientists alike, but largely untested. It is also the case that researchers can help close the gap between the subjective and the objective by casting a broader net of variables being tested. Many of these, such as hunches, may seem ephemeral, but it is incumbent upon the researcher to continue to develop methods to understand and explain actual phenomena, whatever they may be.

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Appendix. Survey items

Age: _____

Number of years of managerial experience: _____

Number of years with my present company: _____

In what year was your company founded? _____

What is your gender?

- Male
- Female

What is your industry?

- Manufacturing
- Service

What is your level of management?

- Non-management
- Supervisory/Lower management
- Middle management
- Executive/Upper management

What is your functional background?

- General management
- Production
- Marketing
- Finance
- Other

Overall, how would you evaluate the performance of your business compared to your closest rivals?

- Well below the average
- Below average
- About average
- Above average
- Well above the average

Please consider each of the following strategic factors. In the second column, evaluate your company's influence on each strategic factor on a scale of 1 (low) to 5 (high). In the third column, please estimate the percentage of your company's performance that you would attribute to this factor so that the total of the percentages equals 100%.

STRATEGIC FACTOR	Our Emphasis on the Factor [1=low, 5=high] (please circle one)		% of Our Performance Attributed to this Factor
	LOW	HIGH	
#1: Our ability to CONTROL COSTS by operating more efficiently	1 2 3 4 5		____%
#2: Our ability to DIFFERENTIATE PRODUCTS OR SERVICES from those of our competitors	1 2 3 4 5		____%
#3: Our ability to FOCUS on and serve the needs of a particular market niche	1 2 3 4 5		____%
#4: OTHER STRATEGIC FACTORS not associated with #1-3 in this list	1 2 3 4 5		____%
#5: LUCK: Factors that are generally unknown or unpredictable	1 2 3 4 5		____%
TOTAL			____ 100 %

Figure A1.

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