

## **Executive Summary**

### **How to Maximize the Value of Evidence-Based Decision Making and Minimize the Costs**

Evidence-based management can be a great tool for compensation professionals, but like any tool, can help the user achieve impressive accomplishments or do major damage. The benefits of using evidence-based management can be maximized by using evidence that is high quality, consistent, timely and valuable. Further, the costs in time, money and poor decisions due to evidence-based management can be minimized by using unbiased, easily consumable evidence that is applicable to a business and context while being mindful of unintended consequences

### **How to Maximize the Value of Evidence-Based Decision Making and Minimize the Costs**

By Steve Werner, Ph.D., University of Houston

Seventeen years ago, the author published “Ten Questions to Ask About Compensation and Benefits Research” in this journal (Werner 1997). The focus of that article was that academic research, although potentially useful, should be applied carefully and with substantial caveats by practitioners. That article took for granted that academic research had the potential to help practitioners make better decisions and largely focused on precautions that should be taken before basing any decisions on research. However since that article, an entire new movement has emerged in the field of management known as evidence-based management.

Proponents of evidence-based management compellingly argue that managers and other decision makers in organizations will make better decisions if they are based on sound scientific research coupled with expertise, rather than on intuition, fads, limited experience, tradition, obsolete knowledge or hearsay. Based on the studies of evidence-based management, it is clear that practitioners rarely use scientific research when making decisions and that a case has to be made for the benefits of doing so. So

as a follow-up to that earlier article, this article presents the arguments behind evidence-based management and provides some guidelines on how to maximize its usefulness and minimize any possible negative effects. Specifically, the article suggests that evidence-based management will be of the most value when the evidence is of better quality, consistent, timely and important. The article further suggests that evidence-based management comes with substantial costs if the evidence is not applicable to a business or its context, is biased, is difficult to obtain or has substantial side effects.

## **EVIDENCE-BASED MANAGEMENT**

The fundamental idea behind evidence-based management is that decisions based on scientific evidence will be sounder than those based on other factors. However, hardly any managers use scientific research in decision making. For example, less than 1 percent of HR managers regularly read academic literature (Rynes, Brown, and Colbert 2002). Other factors that organizational decision makers tend to rely on include obsolete knowledge, limited personal experience, opinions of specialists who lack big-picture knowledge, hyped fads, dogma and mimicry of top performers (Pfeffer and Sutton 2006), (Rousseau 2006). Evidence-based management doesn't suggest that one should rely solely on scientific research, but rather that decision makers should derive principles from research evidence and translate them into practices that are effective (Rousseau 2006). Also, this doesn't need to be done in a vacuum; research evidence should be integrated with the decision makers' expertise, other informed expert judgments and the context of the decision. The arguments for evidence-based management generally apply to managers and are certainly applicable to compensation professionals. In fact, many of the examples used by the proponents of evidence-based management come from compensation and HR management.

### **Some Compensation and HR Examples**

Proponents of evidence-based management cite a number of examples of how research counters the conventional wisdom of managers and how it would help make better decisions (e.g., Pfeffer and Sutton 2006); (Rousseau 2006); (Rynes, Giluk, and Brown 2007). Many of these examples are in the compensation and performance-management domain. Here are some examples:

- Although most HR professionals believe that employee stock option programs (ESOPs) turn managers into owners and will have positive performance implications, an analysis of hundreds of studies found that equity ownership has no consistent effects on financial performance (Dalton, Daily, Certo, and Roengpitya 2003).
- Although paying for individual performance is widely believed to be critical to having a good compensation system, numerous studies across many industries and settings have found that dispersed pay levels have strong negative effects in settings where cooperation, coordination and information sharing are important (Pfeffer and Sutton 2006).
- Although HR managers believe that employee participation in decision making affects performance more, setting goals and providing feedback is the more highly effective motivational practice (Rynes, Giluk, and Brown 2007).
- Although most HR managers believe surveys that show that many other factors at work are more important to workers than pay, research shows that employees' behaviors reveal that pay is much more important to them than they imply in surveys (Rynes, Giluk, and Brown 2007).

These examples show research and established doctrine can differ. The evidence-based management argument states that decisions and practices based on the scientific research will be better.

Interestingly, there isn't scientific research yet on the superiority of evidence-based management.

However, a number of other fields have embraced evidence-based decision making with good results.

### **Evidence-Based Decision Making in Other Fields**

Evidence-based practices have entered into the discussion in education, medicine, marketing, rehabilitation and psychology (Rynes, Giluk, and Brown 2007). Evidence-based medicine is seen as a great success story since it has been implemented in the field in the past two decades. For example, broad applications of germ-eradicating practices such as needle sterilization techniques and hand-washing protocols emerged from evidence-based medicine (Rousseau 2006). Studies in medicine have shown that physicians using evidence-based techniques are better informed than those who do not and that patients receiving care following evidence-based medicine experience better outcomes (Pfeffer and Sutton 2006). Nevertheless, evidence-based management is not a panacea; in certain circumstances, it can have little value and high costs.

## **HOW TO MAXIMIZE THE VALUE OF EVIDENCE-BASED MANAGEMENT**

The proponents of evidence-based management make a compelling case. Further, intuitively it makes sense that one would make better decisions based on sound scientific evidence rather than on other less reliable factors. Think of all the progress that has been made technologically and otherwise due to science. It works. Still, using scientific evidence to help make decisions does not necessarily mean one will make the best decision. There are a number of factors that can increase the effectiveness of evidence-based management, thereby increasing its value to the compensation professional. Here are four such factors:

### **1. Use High-Quality Evidence.**

All research is not of equal quality. A recent article presents some of the issues that are currently affecting the quality of scientific research (Unreliable 2013). It is unreasonable to expect compensation practitioners to be able to evaluate complex statistical and methods issues that affect the quality of research, such as statistical power, sampling strategy, construct validity, appropriateness of the statistical technique, multicollinearity, etc. Luckily there are a few easy-to-use proxies for quality that do

a good job of identifying research quality. The first is the quality of the academic journal in which the study is published. High-quality journals tend to publish high-quality scientific research. The highest-quality academic journals that tend to publish compensation and benefits related papers include *Academy of Management Journal*, *Administrative Science Quarterly*, *Journal of Applied Psychology*, *Journal of Management*, *Organizational Behavior and Human Decision Processes*, *Personnel Psychology* and *Strategic Management Journal*. There are, however, dozens and perhaps hundreds of other academic journals that have published compensation-related research over the years, some of higher quality, some not.

Before basing an important decision on a research article, it is a good idea to check the journal quality as a quick proxy for article quality. Overall journal quality is generally measured by the impact factor of the journal. The impact factor is determined by how often articles in other journals cite papers in that journal. Because being cited by other work is also considered a good proxy of article quality, it is assumed that journals with higher impact factors are of higher quality. Impact factor is generally reported on a journal's website, with the highest quality journals having impact factors above 5 and lower quality journals having impact factors below 1.

As mentioned earlier, another measure of research article quality is how often a paper has been cited by other research. Google Scholar ([www.scholar.google.com](http://www.scholar.google.com)) make this easy to find out. Search for an article using the author's name and key terms and the article's citation count will be included in the search results. Articles with more than 100 citations could be considered high impact (and thus presumably high-quality) articles. When searching for a topic on Google Scholar, articles will be generally listed in order of their citation rate, so if you are interested in the scholarly research of a particular topic, the most cited articles on that topic will be presented first. Keep in mind that it takes time for research to become known and cited by other scholars, so the citation count doesn't work as a

measure of quality for articles that are only a few years old. In general, evidence-based management will be of more value if your decisions are based on high-quality research, which can be easily evaluated by the quality of the journal publishing the research and how often the article was referenced by other scholarly articles.

## **2. Use Consistent Evidence.**

Decisions based on scientific evidence that is consistent are more likely to be better than those based on inconsistent evidence (Rynes, Giluk, and Brown 2007). Because any one study could be flawed, consistent evidence is more likely to accurately represent what happens in reality and is more likely to then also predict what will happen in an organization. Compare it to the situation where a compensation practice is modified in a subsidiary and it produces positive results versus a change being made in 50 subsidiaries that produces positive results in all 50. One would be more confident in getting positive results in other subsidiaries having seen consistent positive results in 50 rather than in only 1. Therefore, finding numerous studies that support a decision is better than finding one.

This notion also applies to academics, where a relatively new type of study, known as a meta-analysis, has become popular. Meta-analyses take the quantitative results of numerous other studies and come to an overall conclusion. Because the conclusions of meta-analysis are based on many studies, the results are generally viewed as more valid and generalizable than those of any single study, particularly if those conclusions are consistent across the numerous studies. Evidence-based management will be of more value if decisions are based on consistent research, which can be more easily evaluated by seeking out meta-analytic studies of the topic in question.

## **3. Use Timely Evidence.**

Decisions based on research are likely to be better if the research is consistent and of high quality, but it also needs to be timely. It takes years for a project to go from conception to publication. Not only can it take years to conduct the research, it can take up to five years for a study to be published once it is submitted to an academic journal (this includes the review process and the time an article is “in press,” i.e., accepted for publication, but not yet published). Thus, even newly published research may have been conducted many years ago. Finally, as with decision making in organizations, traditions are difficult to break. Scientific paradigms hang on for years, sometimes decades. For example, the idea of fairness in pay has been around since the 1930s (Barnard 1938). But back then, fairness was thought of as the perception of a person’s pay level relative to the work he/she performed. In the 1960s and ’70s, researchers discovered that fairness perceptions were related not only to how a person perceived pay relative to work, but how that compared to the pay and work of others (Adams 1963). It took several more decades for research to show that perceived fairness of pay also includes the procedures of how pay is determined, how individuals are treated and what information they are provided in this process (Colquitt et al. 2001). The length of time it takes to get a paper published and the strength of scientific paradigms lead to two issues: 1) research conclusions may not reflect what’s actually happening today and 2) the newest freshest ideas will not be reflected in academic research.

Because research conclusions may not reflect current conditions and will not incorporate the newest ideas, decision makers using evidence-based management should supplement research information with information from more current sources as well as their own expertise. That is, current timely information from daily newspapers, weekly and monthly periodicals and active colleagues can be useful in supplementing the research with a fresh perspective. Further, timely information will help decision makers determine if the research they are relying on is still applicable today. For example, research on employee reactions to their organizations offering same-sex partner benefits becomes less applicable the day a federal law mandates it. In general, evidence-based management will be of more

value if decisions based on older research, which may no longer be timely, are supplemented with more timely perspectives.

#### **4. Use Important Evidence.**

Research evidence is more valuable if it deals with major issues and comes to unobvious conclusions (Rynes, Giluk, and Brown 2007). Research on trivial matters may strongly affect the decision, but the decision itself will not have much impact on the organization. In such cases, it would be better to use more accessible information for faster decision making. Relatedly, research that makes no contribution to decision making because its findings are completely obvious is also not of much value. In such cases, the research does not provide much value, and thus it would not be worthwhile to incur any costs for its use. In summary, evidence-based management will be of more value if it is used for important rather than trivial decisions and it leads to nonobvious conclusions. Next, the costs of evidence-based management will be discussed.

#### **HOW TO MINIMIZE THE COSTS OF EVIDENCE-BASED MANAGEMENT**

Using scientific research is not without its costs. Costs can be incurred in at least three ways. First are actual costs. Although some scientific research is available free, academic journal subscriptions and articles can be costly, particularly in large numbers. Clearly, if one considers the research by consultants as scientific, the costs can be substantial. Second, gathering relevant sound scientific evidence can take considerable time. As mentioned by Pfeffer and Sutton (2006), there is a lot of evidence out there (for example, there are currently about 30,000 business books in print) and sifting through it can be daunting. The cost, in time, of gathering the relevant evidence can be substantial. The third cost of evidence-based management is the cost of making a poor decision. Bad decisions made because of evidence-based management have the potential to have staggering costs, potentially leading to the failure of the business. Here are a number of ways to help minimize these costs:



## **1. Use Evidence Applicable to the Business and Context.**

Misapplying research to a business can lead to poor decisions with outcomes that are detrimental to the company (Werner 1997). All research is not applicable to all businesses or all contexts. Is there something about the business – its size, its culture, its structure, its strategies, its leadership, the nature of the work, etc. – that would lead one to question the applicability of research findings? For example, the effectiveness of team rather than individual-based compensation would likely be higher in businesses with a team-centered strategy where cooperation among co-workers is essential. The same is true regarding the organization's context. Is there something about the company's business environment – its geographic location, industry, suppliers, stakeholders, etc. – that would lead one to question the applicability of research findings? For example, the amount of research being conducted in China has increased tremendously in the past decade. Because of the substantial cultural, political and legal environmental differences, it is reasonable to question the applicability of any conclusions from research conducted on Chinese businesses to U.S. businesses. The potential costs of bad decisions based on evidence-based management will be reduced by carefully considering the applicability of the research to the business and its context.

## **2. Use Easily Obtainable Evidence.**

One can reduce the costs of gathering, evaluating and interpreting a large number of studies by using sources that will do it. There are at least three sources that will do this competently. First, as mentioned earlier, meta-analytic research gathers, assembles and interprets all research on a given topic and even statistically corrects for lower quality research. Second, authors of reputable textbooks take considerable care in condensing large numbers of studies into overall conclusions geared toward practitioners. These books are usually revised every two-three years to include the latest research. Two reputable compensation textbooks that are well established, newly updated and have highly regarded

academic authors are *Compensation*, 11<sup>th</sup> ed. (Milkovich, Newman, and Gerhart 2014) and *Strategic Compensation*, 7<sup>th</sup> ed. (Martocchio 2013). A reputable performance-management textbook that is well established, newly updated and has a highly regarded academic author is *Performance Management*, 3<sup>rd</sup> ed. (Aguinis 2013). The third source is popular and practitioner journals and magazines that regularly or occasionally summarize research findings in such a way that they are easily accessible to practitioners. Naomi Werner and the author published such an article in this journal (Werner and Werner 2012). In general, the time costs of gathering, evaluating and interpreting research evidence can be reduced by relying more on meta-analytic studies, reputable current textbooks and research summaries in popular and practitioner journals and magazines.

### **3. Use Unbiased Evidence.**

Research that is highly biased may be highly flawed. Academic researchers strive to be objective reporters of the truth. However, all people have biases and such biases can consciously or subconsciously affect research. Academic research that is highly biased appears to be rare. However, non-academic research is more prone to biases since conflicts of interest will be far more prevalent. Thus research conducted, funded or partially sponsored by organizations or individuals that have a substantial stake in the conclusions of the research should always be highly suspect. Decisions based on strongly biased research will usually result in outcomes that benefit the sponsoring organization, possibly at another's expense. So, the potential costs of bad decisions based on evidence-based management will be reduced by carefully considering whether research is biased and disregarding highly biased conclusions.

### **4. Watch For Side Effects.**

Most academic research looks at what affects important outcomes. At the employee level, common outcomes are performance (task performance, organizational citizenship behaviors, counter-productive

work behaviors, etc.), work attitudes (job satisfaction, organizational commitment, perceived fairness, etc.) and withdrawal behaviors (turnover, absenteeism, counter productive work behaviors, etc.). At the organizational level, common outcomes are financial performance (return on assets, profitability, etc.), stock market performance (change in stock price), marketing performance (sales, market share, growth in market share), and stakeholder performance (firm reputation, corporate social responsibility, etc.).

However, most research looks only at one or two outcomes. So, frequently other possible outcomes are not known. For example, a study may find that 80% sales commissions may increase sales, but will have no information about how it affects employee attitudes, company reputation, profits, etc. Thus, evidence-based decision making could lead to poor decisions if one doesn't consider possible side effects (or unintended consequences) that were beyond the scope of the research. Considering the effects of the decision on other possible outcomes and investigating the potential of possible side effects will help reduce this possibility. The potential costs of bad decisions based on evidence-based management will be reduced by carefully considering whether any unintended consequences are likely.

## **CONCLUSION**

Following up on a paper that appeared in this journal 17 years ago, the author has introduced the argument that compensation professionals will make better decisions using evidence-based management. The benefits of using evidence-based management can be maximized by using evidence that is high quality, consistent, timely and valuable. Further, the costs in time, money and poor decisions due to evidence-based management can be minimized by using unbiased, easily consumable evidence that is applicable to a business and context while being mindful of unintended consequences. Evidence-based management can be a great tool for compensation professionals, but like any tool, can help the user achieve impressive accomplishments or do major damage.

## **ABOUT THE AUTHOR**

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**TABLE 1 Four Ways to Maximize the Value of Evidence-Based Management**

**1. Use High-Quality Evidence.**

Evidence-based management will be of more value if decisions are based on high-quality research, which can be easily evaluated by the quality of the journal publishing the research and how often the article was referenced by other scholarly articles.

**2. Use Consistent Evidence.**

Evidence-based management will be of more value if decisions are based on consistent research, which can be more easily evaluated by seeking out meta-analytic studies of the topic in question.

**3. Use Timely Evidence.**

Evidence-based management will be of more value if decisions based on older research, which may no longer be timely, are supplemented with more timely perspectives.

**4. Use Valuable Evidence.**

Evidence-based management will be of more value if it is used for important rather than trivial decisions and it leads to nonobvious conclusions.

**TABLE 2 Four Ways to Minimize the Costs of Evidence-Based Management**

**1. Use Evidence Applicable to Your Firm and Context.**

The potential costs of bad decisions based on evidence-based management will be reduced by carefully considering the applicability of the research to the business and its context.

**2. Use Easily Obtainable Evidence.**

The time costs of gathering, evaluating and interpreting research evidence can be reduced by relying more on meta-analytic studies, reputable current textbooks and research summaries in popular and practitioner journals and magazines.

**3. Use Unbiased Evidence.**

The potential costs of bad decisions based on evidence-based management will be reduced by carefully considering whether research is biased and disregarding highly biased conclusions.

**4. Watch for Side Effects.**

The potential costs of bad decisions based on evidence-based management will be reduced by carefully considering whether any unintended consequences are likely.