



## **Evidence-based Management**

Learn what really matters based on evidence:  
Introduction to Evidence-Based Management

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CQ Net is the evidence-based management (EBM) team learning platform. Learn strategies & interventions that have been supported by scientific research. This CQ Dossier is part of the introduction series of our Evidence-Based Management Learning Teams (EBMLT).

## Executive summary

Evidence-based management is the practice of selecting management strategies and interventions that have been supported by scientific research (Barrends, Rousseau, & Briner, 2014). While a wealth of high-quality, evidence-based research currently exists in the field of management, many managers still use less reliable means of making decisions, such as following anecdotal evidence or popular trends (Rousseau, 2006; Rynes, Colbert, & Brown, 2002). However, with some training in the core principles of locating, evaluating, and reading empirical research, any manager can become capable of rooting their decisions in science rather than speculation.

### What is evidence-based management (EBM)?

To be an evidence-based manager is to rely on properly analyzed data and critical, scientific thinking to make substantive decisions. This can be contrasted with making decisions based on anecdotal (story-based) evidence, personal experience, popular trends, or informal theories that have not been adequately tested (Pfeffer & Sutton, 2006). Evidence-based managers conduct reviews of the empirical literature prior to selecting strategies, and root their choices in what the data generally shows, rather than what their gut instincts or personal biases tell them (Bazerman, 2009).

The benefits of taking an evidence-based approach are numerous. Evidence-based management tends to be rooted in the documented, carefully analyzed experiences of many managers, as well as social scientists. In empirical studies, participants groups are large, and include employees at a variety of organizations. This large and diverse sampling increases the accuracy of findings. Conclusions arrived at via evidence-based approaches are less likely to be random, and are more likely to be reproducible and applicable to a wide variety of settings, compared to conclusions arrived at via less scientific means (Sanders, van Riemsdijk, & Groen, 2008).

Evidence-based management also tends to rely on more objective and systematic analyses of data. Human bias can lead to inaccurate conclusions and biased interpretations of events. Managers may, for example, misremember their attempts at introducing a new strategy, recalling only the instances where that strategy worked, and

conveniently forgetting or discounting experiences when it did not (Tschan et al, 2009). This can lead to inaccurate conclusions about a strategy's efficacy. By using the scientific method to more objectively test predictions and analyze data, evidence-based conclusions are higher in accuracy and less likely to be biased.

## Defining and locating evidence-based data and information

Individuals without formal scientific training are often unaware of how to seek out trustworthy, high-quality evidence-based information. Outside of social science graduate programs, very few people are trained in how to seek out research and evaluate it. The core principles of finding good evidence, however, are relatively straightforward: information should come from a peer-reviewed or otherwise appropriately vetted source, methods and data should be fully and clearly documented within that source, and conclusions should be rooted in a grounded, accurate interpretation of results. These requirements, and how to search for quality evidence-based information, are described in further detail below.

**Peer review.** High-quality research must have undergone peer review, a lengthy, formalized process wherein at least three experts in the field provide detailed feedback on a report (Spier, 2002). For academic journals, the peer review process is highly selective, with only a small minority of articles ultimately earning publication, following rounds of revisions. The selectivity and expert vetting inherent to this process helps ensure that published work is credible and properly conducted (Jefferson, Wager, & Davidoff, 2002). Peer-reviewed research is most commonly found in academic journals or periodicals, but peer-review is sometimes also performed on chapters of academic texts or on presentations for professional conferences.

**Documentation of data and methods.** In addition to being peer-reviewed, quality evidence is well documented. Researchers should be willing and able to share their original data with colleagues when requested, along with the results of statistical analyses. This establishes credibility and allows for double-checking of results. In some instances, the full data that an organization or research team has collected may be freely available online. This is particularly the case for national datasets collected by governmental and public agencies.

High-quality research should also clearly document its methodology. In a well-written and trustworthy research report, the specifics of how the study was conducted, who participated in the study, and when and where the study took place will be evident to the reader. The instruments that used to measure variables should also be explained, as well as how data was stored. Clarity about methods allows other researchers to reproduce results, which provides additional verification.

**Appropriately grounded conclusions.** Evidence-based information and conclusions must be firmly grounded in reality, with clear acknowledgement of limitations (Bem, 2004). No study can provide conclusive evidence that a management strategy always works, or that certain trends will always be evident. All research conclusions are specific to the time and place in which the study was conducted, and may be influenced by particular details of the sample demographics, study site, or sample size. Furthermore, all scientific conclusions are tentative, and open to further revision as additional evidence is collected over time. A responsible researcher will acknowledge these and other limitations, and not overstate confidence in their results.

**Locating evidence-based data and information.** To find evidence-based management information, seek out research databases such as PsychInfo and JSTOR. These sites compile all the published research from peer-reviewed academic journals, dissertations, and book chapters, and provide digital copies that go back decades. Useful, management-related research can be found in a variety of types of social science, communications, and management journals. Google Scholar is also a popular resource for scouring multiple research databases at a time, and allows for more flexible and dynamic search options. Restricting your search to specific locations or dates (using a database's advanced search options) can help a manager locate findings relevant to their situation and purpose.

## Reading and making use of evidence-based information

When looking at peer-reviewed research articles, begin by closely reading the abstract. This brief summary of the study should outline the methodology and the results in fairly understandable language. If the abstract suggests that the article may be relevant to the manager's questions and goals, the full article should be read (Bem, 2004). The

introduction section provides a background to the topic at hand, with numerous citations to existing research. These citations can be located and read as well, for additional information on the topic. The methods section should describe exactly how the study was conducted, and should further help the reader to determine if the research is relevant to their goals.

The results section of a journal article typically features statistical results, which may be daunting to read for managers who lack statistical expertise. However, this section shouldn't be skipped. Focus on the conceptual points: what questions are being tested? Do the results support the researcher's predictions? This information should be available in the results, and should not require statistical acumen to follow. Finally, the conclusion and discussion section of the paper should provide a more thorough interpretation of the results, as well as recommendations for future researchers and practitioners.

As you consume evidence-based research, look at the overall trends found across multiple studies, rather than focusing on the isolated findings of a single person. Work to also understand the theories that guide the scientific work. Why, according to the author, does an observed phenomenon occur? If a particular intervention works, how or why does it work? The larger, theoretical picture is just as vital to understanding the literature as the individual findings are. An awareness of study limitations and flaws is also essential.

## Key take-aways

- Evidence-based management involves using scientific evidence to make decisions.
- Relying on scientific evidence can lead to managerial decisions that are less biased and more likely to succeed.
- Evidence-based research is defined by peer review, documentation of data & methods, and a grounded interpretations of results.
- Research databases such as PsychInfo, JSTOR, and Google Scholar can help a manager locate useful evidence.
- Carefully read individual articles, but look at the overall trends in the scientific literature to determine which strategies are best.

## References

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