Asking and Answering the Right Questions

Collecting Useful and Relevant Data

by Ingrid Guerra, PhD

Whatever decision you are currently faced with making in your organization, it's worth making it right. That is, unless you have an endless supply of time, money, and other resources to risk by making decisions based on hunches, crystal balls, or however else decisions might get made.

Sound decisions are made on the basis of relevant, reliable, and valid data related to important questions. These data should come from measurable indicators of the results we want to accomplish. Useful data allow us to prove the value of our efforts, without relying on opinions about what we should be accomplishing. Whether working on a formal project that requires the collection and interpretation of data (for example, needs assessment and evaluation) or on a less-formal fact-gathering mission, we're trying to find the answers to pressing organizational questions: What solution would solve our problem? Should we continue to invest in this program? How well are we meeting our clients' requirements? In each case, data collection should be systematic and designed to answer specific questions that can be used to improve performance (Watkins & Guerra, 2003).

Where Do Useful Questions Come From?

The questions we ask should be driven primarily by the results we want to achieve. All organizations are after results, whether those results are clear to everyone in the organization or not. Further, not all results are created equal. That is, all organizations have overarching results that they want to achieve, as well as en route there are numerous results that have to be accomplished. Everything else we do or use within the organization should contribute to these, lest we are wasting valuable and limited resources without any measurable benefit.

First Level of Results—The Vision

There are three *main* levels of results for any organization (Kaufman, 2000). First, the ultimate goal we want our organization to reach is about its *ideal* impact on the community and society. This objective is stated through an ideal vision. For instance, a financial institution's vision may strive to—

> Ensure the continued success of our organization while improving the quality of life of the community by providing equal opportunity and access to both financial solutions and a working environment, without regard to irrelevant variables such as race, color, religion, ethnic background, gender, sexual orientation, etc.

A supermarket chain could have a vision along the lines of—

> Ensure that our customers, and potential customers, enjoy good health by providing safe, high-quality food at a low price, in a clean and safe shopping environment.

A vision from an organization such as a police department may look something like this:

> Our community residents and visitors will enjoy a safe environment, where there is no untimely loss of life, bodily harm, or property damage.

Remember, visions are about the ideal and ultimate destination, not about what we commit to deliver by the end of next year. As such, their primary purpose is to guide the organization and its members in a common, long-term, strategic direction. Thus, the first general question we want to ask and answer is: "What results does, or should, our vision target?"

Second Level of Results—The Mission

The next level of organizational results is expressed through organizational missions. Missions indicate the primary, organizational-level result(s) an organization seeks to accomplish, ultimately in support of its vision. Hence, the mission is best derived from the vision itself. The sample missions below continue with our previous examples. As this is what the organization will use as its standard of success, why not strive for perfection by using ideal targets (Kaufman, 2000)? After all, why would we want to encourage organizational members toward mediocrity rather than perfection? Remember, objectives indicate the preferred destination of an organization and serve to provide direction regardless of whether the organization ever fully realizes those destinations. Some sample missions might include:

- **Financial institution:** We will ensure 100% customer and employee satisfaction, free of any discrimination lawsuits, grievances, or complaints, while striving to reach full market share.
- **Supermarket chain:** Our customer base and profits will continuously increase every quarter, while no customer ever becomes ill or is harmed as a result of the consumption of our products or a visit to our stores.
- **Police department:** Our community will experience a continuous reduction in all crime statistics, as tracked by official quality of life and/or other official reports.

Notice how each statement is directly linked to its corresponding vision, while it targets more specific results. Thus, the second general question to ask and answer is, "What results does, or should, our organizational mission target?"

Third Level of Results—The Building Blocks

There are a number of internal building block results that, when properly linked, deliver the mission. These internal results are sometimes delivered by individual business units, special cross-divisional teams, or individual performers.

Focusing on the financial institution case, here are some examples of building-block results.

Increase Market Share, As Indicated By

- Increased customer retention, from a to b, by end of next fiscal year
- Increased customer referrals, from x to y, by end of next fiscal year
- Increase in profitable service areas, from y to z, by end of next fiscal year

Increase Customer Satisfaction, As Indicated By

- Increased annual customer satisfaction survey ratings, from a to b
- Decreased customer complaints/grievances, from x to y
- Decrease in filed discrimination lawsuits by customers/ potential customers against the institution, from y to z

Note: Customer retention and referral may also serve as an indicator of customer satisfaction.

Increase Employee Satisfaction, As Indicated By

- Decreased turnover rate, from a to b
- Decreased absenteeism rate, from x to y
- Results of employee satisfaction surveys
- Decrease of filed discrimination lawsuits by employees against the institution, from y to z

Building-block results can themselves be further broken into smaller building-block results. The specific results to be accomplished should be derived from a needs assessment process, while the means used to achieve them should be determined on the basis of the causal factors that contribute to these indicators being at less-than-desirable levels. Given this, the third question to ask and answer is, "What internal results are we, or should we be, targeting?"

Linking Useful Questions to Organizational Results

As noted earlier, the primary drivers for deriving useful questions are the results we want to accomplish. Another driver is the types of decisions that must be made (Watkins & Guerra, 2003; Watkins & Kaufman, 2002). This driver will, in great part, determine what data have to be gathered. For instance, if decisions are pending about what programs, interventions, and solutions should be continued, revised, or discontinued, then our data-collection approach may take more of an evaluative perspective. That is, the data we collect will be used to compare predetermined objectives with what we actually achieved. If, on the other hand, we want to make decisions about the identification of problems—that is, what results should we be targeting, and in turn, what types of programs, interventions, and solutions will help us get there—then our data-collection approach will take on a needs assessment perspective. Notice that in both cases, results remain the primary driver.

Below are some generic questions, from both assessment and evaluative perspectives, that could apply to any organization, in any sector.

Needs Assessment Questions

- What results should we be targeting?
- What en route results must be accomplished and when?
- What are our options for closing gaps in results?
- What are the most effective and efficient ways to reach our desired/required results?
- What will it cost us to reach those results?
- What will it cost us to ignore those results?
- Which results take priority over others?
- Where do we have the most—and least—potential leverage?

Evaluative Questions

- How close did we come to reaching our vision?
- What value did we provide for internal and external stakeholders?
- Which objectives in our mission did we achieve?
- How are we doing compared to last quarter? Last year?
- Which internal results targets did we reach? Not reach?
- What implemented projects, interventions, and solutions were effective?
- How efficient are these implemented projects, interventions, and/or solutions?
- In which of these solutions should we continue to invest?
- What results do we have to justify our continued projects?
- What should we discontinue?
- Which projects, interventions, and/or solutions could be successful with some modifications? Is it worth it?
- What should we start doing that we're not yet doing?

Identifying Measurable Indicators

How do we answer these questions? To start, these questions already make clear what type of data are required to answer them. The next step is to identify measurable indicators for each of those types of data. When measuring results, there are a number of indicators—or to borrow Gilbert's (1978) term, performance requirements—that could be relevant. Figure 1 offers some examples of results and related measurable indicators.

Once measurable indicators are identified, the next step is to actually collect the data. Here again, the distinction between needs assessment and evaluation makes a difference. In the case of needs assessment, an intermediate step

RESULT	MEASURABLE INDICATORS
Profit	• Money collected • Money paid out • Assets
Sales	• Items sold (service or product) • New accounts generated • Inventory turnover • Sales volume
Production	• Production rate • Error rate • Efficiency • Rework • Rejects • Equipment downtime • Repair time • Work backlog
Customer Satisfaction	• Repeat business • Referrals • Length of existing accounts • On-time shipments • Completed shipments • Processing time • Processing accurateness • Satisfaction survey scores
Employee Satisfaction	• Turnover rate • Absenteeism rate • Average length of employment • Satisfaction survey scores • Reported conflicts • Grievances filed • Promotions • Pay increases

Figure 1. Results and Relevant Indicators.

is first required. That is, first you and representative stakeholders would want to establish what the target levels for each of these indicators *should be*. Then you would proceed to collect the data about the current levels of each of these indicators. The comparison between the two sides would give you your gaps in results, or needs (Kaufman, 2000).

If, on the other hand, you are conducting an evaluation, then the "should-be" component should already exist and your task would then be to collect the data regarding the current levels of those indicators so that the two may be compared. This allows you to determine how successful your organization was in meeting its expectations.

Collecting Data

Sources

Of course, before you can collect data, you must first determine where it can be found. Data can be found from a variety of financial, social, political, and technological sources. Today, access to data is unprecedented. The Internet and advances in telecommunications and other technologies allow us to link to reports, documents, databases, experts, and other sources like never before.

For example, social indicators such as those related to quality of life (average income levels, divorce rates, crime levels, etc.) can often be found in Chambers of Commerce archives, census reports, police records, and community quality-of-life reports, many of which are available electronically. Other indicators, such as those related to the environment (pollution, corporate toxic waste, etc.), can be obtained from the Environmental Protection Agency, as well as from studies published in scientific journals. A number of other government agencies and research institutions, nationally and internationally, also publish a series of official studies and reports that could be valuable sources of data.

In many cases, you can find the data that you are looking for in your own organization. Existing records about past and current performance may already be available, but collected by different parties in your organization and for different reasons. Be sure to thoroughly search for these potential sources, as it could save time and valuable resources.

Other sources of data may include "soft data"—the opinions and perceptions of internal and external experts, as well as employees themselves, including managers and executives.

Tools

One of the first considerations when weighing the type of data-collection tools to use is the type of data you seek. For instance, if you seek financial figures, then it would be reasonable to review relevant records and reports that include such figures. You would *not* be likely to survey people with a questionnaire about what they think or feel last quarter's figures were.

By the same token, if it is people's perceptions about a given issue that you want, then ask them. You can do so through variations of interviews, focus groups, surveys, and other tools. Your selection will be influenced by factors such as the number of people you are trying to reach, the level of specificity you want, and the resources available. Surveys, for instance, allow the opportunity to reach a greater number of people across different geographic locations. However, they do not allow you to pick up on interpersonal cues that can lead to other important data by asking follow-up questions, such as you would with interviews or focus groups. On the other hand, while you would have the opportunity to ask follow-up questions in an interview or focus groups, such approaches can be very expensive, especially when you are working with many participants.

The questions we ask should be driven primarily by the results we want to achieve.

Other factors to consider include time, characteristics of participants, comprehensiveness of the tool, previous experience with the tools being considered, and feasibility (Witkin & Altschuld, 1995). Selecting the right data-collection tool ultimately boils down to properly balancing and prioritizing the factors involved. Since literature about the design and development of data-collection tools abounds, these will not be covered here.

A Word About Data Analysis

Though also beyond the scope of this article, it should be mentioned that another important element of asking and answering the right questions is the statistical techniques used to interpret the data. Just as the right data-collection tool should be properly matched to the type of data at hand, statistical methods should also be properly matched to the type of data. One of the primary determinants of the type of data analysis techniques should be their level of measurement—are the data categorical (nominal), rank ordered (ordinal), or continuous (interval and ratio)? Be sure to consult credible statistical resources before undertaking such analyses.

Questions	Related Results	Organizational Level (that is external impact; organizational; internal building block)	Required Data/ Measurable Indicators	Data Collection Tools/ Procedures	Data Sources	Data Collected by (date)	Primary Responsibility

Figure 2. Data-Collection Organization Matrix.

Conclusion

We are all after results—to successfully accomplish them they must be properly defined and measured. Doing so allows us to make sound decisions about what direction we want to head and how to stay on track. Thus, the questions that we ask and the data that we collect to answer them should be aligned. To help you systematically organize the process, Figure 2 offers a simple data-collection job aid which is not that all different from most project management spreadsheets. What is most valuable here is that the specific categories allow you to establish a logical and useful relationship between important questions, related results and their corresponding level, specific measurable indicators, data sources, and appropriate data tools. If these elements are not aligned, you may very well collect data, but it may not be useful data.

References

Gilbert, T. (1978). *Human competence: Engineering worthy performance*. New York: McGraw-Hill Book Company.

Kaufman, R. (2000). *Mega planning*. Thousand Oaks, CA: Sage Publishing.

Watkins, R., & Guerra, I. (2003). Assessing or evaluating: Determining which approach is required. In M. Silberman & P. Phillips (eds.), *The 2003 team and organizational development sourcebook*. New York: McGraw-Hill.

Watkins, R., & Kaufman, R. (2002). Assessing and evaluating: Differentiating perspectives. *Performance Improvement, 41*(2).

Witkin, B., & Altschuld, J. (1995). *Planning and conducting needs assessments*. Thousand Oaks, CA: Sage Publishing.

Related Readings

Binder, C. (2003, March). Using surveys and questionnaires. *Performance Express*.

Kaufman, R., Watkins, R., & Guerra, I. (2001). Getting valid and useful educational results and payoffs: We are we what do, say, and deliver. *International Journal of Educational Reform, 10*(4), 77–92

Phillips, J. (1997). *Handbook of training evaluation and measurement methods*. Houston, TX: Gulf Publishing Company.

Ingrid Guerra, PhD, is an assistant professor at the University of Michigan-Dearborn, where she teaches in two graduate programs, Performance Improvement & Instructional Design, and Public Administration. Her specialized areas of teaching, research, and consulting include needs assessment, evaluation, strategic planning, and learning theories. She has published articles in journals such as *Performance Improvement, Performance Improvement Quarterly, Human Resource Development Quarterly, Educational Technology, Quarterly Review of Distance Education, International Public Management Review,* and *International Journal for Educational Reform,* among others. Ingrid received her PhD and MA in Instructional Systems and her bachelor's in Psychology from the Florida State University. She may be reached at iguerra@umd.umich.edu.