SOLVING PROBLEMS WITH DATA

USING EVIDENCE IN PRACTICE

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Why Should We Use Data to Solve Problems?

When analysts call for leaders to *use* data to help them make business decisions, it simply means that analysts are asking leaders to support their decision-making with evidence, rather than personal biases, opinions, or anecdotes. Leaders should use data because data-informed decisions are more likely to be "the right" decisions than those made without data. When we "solve problems" without data, we can never truly know if the solution was the best fit, or if there were better, more efficient options that could have been used instead. Insights drawn from data analysis provide leaders with information they can put into action to solve organizational, operational, and personnel problems.

Using Data to Solve Problems

But how can one begin to use data to solve problems? In Forbes, Marr argues there are 10 steps businesses can take to start making data-driven decisions, starting with understanding the strategy and business area, identifying questions, and then moving to answer the questions with data.[1] At CHCI, our process has fewer "steps" but is just as rigorous. We use the acronym PODAMIA to describe the scientific, human capital problem-solving process.

Figure 1: PODAMIA Process

PODAMIA is a six-step process to solving problems with data. First, the organization has to know which things are problems. Identifying and prioritizing the ***problems*** an organization needs to solve to can be challenging for the uninitiated. Thinking critically about the business process, operations, and their alignment, will help the organization to see where they could improve. For example, do we know if are employees performing to their full potential? Can we identify any snags in the business process leading to delays and other inefficiencies? Questions such as these can be refined and answered using data.

[1] https://www.forbes.com/sites/bernardmarr/2016/06/14/data-driven-decision-making-10-simple-steps-for-any-business/#465dc6285e1e

Once a *problem* has been posed. We can begin to solicit *opinions* on the matter. This does not mean we are collecting data (that comes up next), but rather, starting to think through the logic of what may be happening, and most importantly, how we can solve the problem. For example, if the organization believes that efficiency could be improved in a particular process, are there particular areas they think it would be most cost-effective to do so?

After a *problem* has been identified and stakeholders have thought through their *opinions* on the matter, it is time to consider the type of data the organization needs to answer it. The kind of *problem* one has determines the *type of data* necessary to answer it. Problems that are very specific and questions that ask for detailed information on topics like "how much," "how many," and "to what extent," tend to be answered with quantitative data. For example, a question asking *how much of our workforce is engaged* would require a survey and corresponding quantitative data to answer. Problems that are more general and have questions that pertain to "what" and "how" tend to be answered using qualitative data. For example, *what barriers do employees face trying to get their jobs done* would require qualitative data, likely through focus groups or in-depth interviews with employees, to answer. Once we determine the type of data we need, we can begin data collection. Depending on the problem and available data, the necessary data may already exist. In cases where the necessary data are not readily available, the team will need to go through a formal data collection protocol.

After data collection, the data can be *analyzed* (and if relevant, *metrics* can be calculated) to answer the original question. Data analysis often requires software, such as SPSS, SAS, Stata, or R for quantitative data, or NVivo, Atlas.TI, or Dedoose for qualitative data. Analysts typically enter the data into a software program and interpret the results. After initial interpretation, skilled analysts look at the entire picture and draw *insights* from the data. Then, communicate the findings (and the answer to the question!) in plain-language to leadership. After insights have been reported, leadership can pose solutions and give *advice* informed by the data analytic effort. Using data and the PODAMIA process improves the likelihood that the problem, insights, and advice, were all the right ones, at the right time, for the organization.

About CHCI

CHCI provides business solutions through "best and next" practices in strategic human capital management. CHCI provides measurable, real-world strategies that support your organization to attract and retain high-performing people, build a diverse and inclusive workplace, and leverage individual and team performance throughout the enterprise. For more information, or if you have any questions, please contact Anne Loehr, Executive Vice President: anneloehr@centerforhci.org or (571) 970-4250, Ext. 113.