Data-driven Decision Making: 5 Best Practices for Leveraging Quantitative Insights

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Introduction

According to an article from the Harvard Business School, well-informed decisions incorporate both intuition *and* data.[1] Research suggests that intuition is particularly valuable when a set of circumstances is quite uncertain—even risky, at times—and when additional data collection may not make decision-making any earlier. Intuition may, in fact, be the human brain's way of detecting patterns but unchecked intuition can lead to reductionistic thinking and, therefore, flawed decisions. As stated in the aforementioned Harvard Business School article, "better results happen when decision makers combine the best of [both intuition and data]"; ideally professionals use their instinct to quickly make decisions informed by data. Put differently, "while intuition can provide a hunch or spark that starts you down a particular path, it's through data that you verify, understand, and quantify."[2]

Although it may feel intimidating to some, quantitative data does not have to be. Data, at its core, is simply information collected and analyzed in order to facilitate informed decision and policy.[3] Data-driven decisions can also improve people's quality of life, efficiently identify and solve problems, measure performance, bolster arguments, foster strategizing, facilitate goal-setting, promote cost effectiveness, and increase awareness of available resources. These benefits are relevant to most—if not all—industries: from business to healthcare to manufacturing, professionals across the board will forfeit from the wide range of benefits that data offers.[4]

Data generally takes two formats: qualitative and quantitative. Qualitative data consist of data made up of concepts and information, rather than being numeric in nature;[5] this type of data is best suited to understand a concept, as it capitalizes on rich, non-numerical interpretations of human expression, communication, and experience.[6] Quantitative data, on the other hand, relies on the analysis of numerical data (often through the use of statistics), helps to test hypotheses and research questions, and assesses for potential relationships between variables of interest.

5 Best Practices for Data-Driven Decisions

While both types of data have their respective rigor and merits,[7] [8] [9] we will focus now on the benefits of using quantitative data to make data-driven decisions; this process includes "using facts, metrics, and

[1] Farrell, M. Data and Intuition: Good Decisions Need Both. Harvard Business Publication Corporate Learning. https://www.harvardbusiness.org/data-and-intuition-good-decisions-need-both/
[2] Stobierski, T. The Advantages of Data-Driven Decision-Making. Harvard Business School Online. https://online.hbs.edu/blog/post/data-driven-decision-making
[3] The Council on Quality and Leadership. 12 Reasons Why Data Is Important. https://www.c-q-l.org/resources/guides/12-reasons-why-data-is-important/#:~:text=Data%20allows%20organizations%20to%20more,locations%2C%20departments%2C%20and%20systems.
[4] Teradata. Why Data Matters. Forbes. https://www.forbes.com/sites/teradata/2020/10/15/why-data-matters/
[5] National Library of Medicine. Qualitative Data. https://www.nnlm.gov/guides/data-glossary/qualitative-data#:~:text=Definition,other%20printed%20materials%20or%20observations.
[6] Qualtrics. Qualitative vs. quantitative research. https://www.qualtrics.com/experience-management/research/qualitative-vs-quantitative-research/
[7] National Library of Medicine. Qualitative Data. https://www.nnlm.gov/guides/data-glossary/qualitative-data#:~:text=Definition,other%20printed%20materials%20or%20observations.
[8] Department of Foreign Affairs and Trade. A Guide to Qualitative Research – Why, When, and How? Australian Government. https://www.dfat.gov.au/sites/default/files/a-guide-to-qualitative-research-why-when-and-how.pdf
[9] Aguis, S. Qualitative research: its value and applicability. Cambridge University Press. https://www.cambridge.org/core/journals/the-psychiatrist/article/qualitative-research-its-value-and-applicability/51B8A4C008278BA4BA8F518060ED643C

data to guide strategic…decisions that align with your goals, objectives, and initiatives".[10] Specifically, we provide below 5 best practices for using insights from quantitative data to drive decision-making processes.

1. Identify organization objectives

   First, and perhaps most importantly, a team and/or organization must identify the objectives that have been identified as most imperative.[11] Taking the time to identify or revisit objectives is worth the effort, as it can help clarify which decisions deserve prioritization. Ideally, these organizational or business objectives will drive subsequent decision making and even form a symbiotic relationship between objectives and decisions (i.e., objectives inform decisions and decision inform objectives). If not already identified, the following questions may assist with objective identification:

   - What is the organization's mission?
   - What are the organization's overarching goals?
   - How does data collection play into the mission and goals of the organization?

   Team members will likely already be familiar with their organization's mission. However, we recommend revisiting organizational priorities and objectives in order to get a fresh take on the purpose of each action of the team.

2. Define the problem

   Decision makers also need to both identify and define the problem they about which they are deciding.[12] [13] In other words, what question(s) does the organization or team want to answer and/or what problems need to be solved? Some prompts to facilitate the identifying and defining of the problem include the following:[14]

   - What is the team or organization trying to achieve?
   - Does the team or organization need to identify a problem or assess an opportunity?
   - Which areas are most imperative to achieving the overarching goals and mission of the team/organization?

   Once these prompts are thoroughly discussed, team members will likely need to narrow down the results of the discussion to focus on one or two central challenges on which to focus and make decisions about. Furthermore, the identified challenge(s) should be informed by the business objectives

[10] Tableau. What is data-driven decision-making? https://www.tableau.com/learn/articles/data-driven-decision-making#:~:text=What%20is%20data%2Ddriven%20decision,goals%2C%20objectives%2C%20and%20initiatives.
[11] Tableau. What is data-driven decision-making? https://www.tableau.com/learn/articles/data-driven-decision-making#:~:text=What%20is%20data%2Ddriven%20decision,goals%2C%20objectives%2C%20and%20initiatives.
[12] Ohio University College of Business. Essentials for Implementing Data-Driven Decision-Making. https://www.ohio.edu/business/academics/graduate/online-masters-business-analytics/resources/data-driven-decision-making
[13] Atlan. What is Data Driven Decision Making & Why Does It Matter? https://atlan.com/data-driven-decision-making/#6-step-framework-for-data-driven-decision-making
[14] Ohio University College of Business. Essentials for Implementing Data-Driven Decision-Making. https://www.ohio.edu/business/academics/graduate/online-masters-business-analytics/resources/data-driven-decision-making

identified in the previous step.

3. Collect data or choose existing data to use

   After defining the problem, the best practice and next step to take is deciding whether to collect new data or utilize existing data available for analysis.[15] [16] Whether you decide to collect your own data or use a public dataset (or a dataset made available to you by a colleague), we recommend that the selected data source is both low in complexity and high in impact. Below is a list of considerations when deciding which data to use:[17]

   - Could online and social media monitoring provide the data you are seeking?
   - Which data would be most helpful in achieving your goal(s)?
   - Does the organization already have relevant in-house data that can be used?
   - Will the organization need to buy access to existing data?
   - How will you collect the needed data, if that is what needs to happen (survey data, etc.)
   - Do you have any colleagues that would allow you to access to their relevant dataset(s)?

   These questions are ideally discussed between team members; the team will need to decide which question(s) are most important in the quest for locating the best data fit.

4. Design and implement a data analysis plan

   Once data has been obtained, the next step and best practice is to design and implement a plan for cleaning and analyzing the data.[18] [19] First considerations for this step include:[20]

   - What software will you use to clean and analyze your data?
   - What are your research questions and/or hypotheses?
   - What statistical tests will you use to analyze the data?
   - What will determine whether the tests have been performed correctly?

   These considerations should be taken into account before data cleaning commences and before analysis is implemented. By doing so, the data used to make

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[16] Atlan. What is Data Driven Decision Making & Why Does It Matter? https://atlan.com/data-driven-decision-making/#6-step-framework-for-data-driven-decision-making
[17] Ohio University College of Business. Essentials for Implementing Data-Driven Decision-Making. https://www.ohio.edu/business/academics/graduate/online-masters-business-analytics/resources/data-driven-decision-making
[18] Ohio University College of Business. Essentials for Implementing Data-Driven Decision-Making. https://www.ohio.edu/business/academics/graduate/online-masters-business-analytics/resources/data-driven-decision-making
[19] Atlan. What is Data Driven Decision Making & Why Does It Matter? https://atlan.com/data-driven-decision-making/#6-step-framework-for-data-driven-decision-making
[20] Ohio University College of Business. Essentials for Implementing Data-Driven Decision-Making. https://www.ohio.edu/business/academics/graduate/online-masters-business-analytics/resources/data-driven-decision-making

important decisions is more likely to be higher quality.

5. Interpret and apply data

   After data have been cleaned and analyzed, consider the following:[21]

   - Are your hypotheses/research questions confirmed or negated?
   - What insights are offered by your analysis?
   - What might your results mean? How might they inform the decision(s) to be made?

   After findings have been finalized, data can then be channeled into actionable steps such as a project, a proposal, a presentation, or a policy. One example of a data-driven decision is sports apparel giant Nike, which made data-driven decisions that ultimately cut costs and delivery times; this, in turn, increased the loyalty and satisfaction of their customer base.[22] Organizational data specialists such as data analysts, data engineers and database administrators can draw on their expertise to facilitate a real-world impact of data findings. Indeed, "at its very core, data tells us what we need to do next".[23]

Conclusion

Put simply, "in the world today, data is probably the thing that matters most".[24] Data-driven decision-making is, as such, an essential practice that combines both intuition and data to yield optimal results. By following the best practices outlined—identifying organizational objectives, defining the problem, collecting or choosing existing data, designing and implementing a data analysis plan, and interpreting and applying data—organizations can make informed and strategic decisions. These practices not only enhance the decision-making process but also drive organizational success by enabling efficient problem-solving, improving performance measurement, and fostering strategic planning.

To engage in ethical scholarship, however, we must consider both the pros and cons of using data to make decisions. On the positive side, data-driven decisions are more likely to be objective, accurate, and consistent;[25] they also help uncover innovative insights that might not be apparent through intuition. Additionally, data can enhance organizational transparency and accountability. We must remember that relying heavily on data is inherently imbued with risk: data analysis carries with it the chance of misinterpreting data or drawing incorrect conclusions if the data is of poor quality or not properly analyzed[26].

[21] Ohio University College of Business. Essentials for Implementing Data-Driven Decision-Making. https://www.ohio.edu/business/academics/graduate/online-masters-business-analytics/resources/data-driven-decision-making
[22] Ohio University College of Business. Essentials for Implementing Data-Driven Decision-Making. https://www.ohio.edu/business/academics/graduate/online-masters-business-analytics/resources/data-driven-decision-making
[23] Teradata. Why Data Matters. Forbes. https://www.forbes.com/sites/teradata/2020/10/15/why-data-matters/
[24] Teradata. Why Data Matters. Forbes. https://www.forbes.com/sites/teradata/2020/10/15/why-data-matters/
[25] Atlan. What is Data Driven Decision Making & Why Does It Matter? https://atlan.com/data-driven-decision-making/#6-step-framework-for-data-driven-decision-making
[26] Dykes, B. 8 Pitfalls In The Data-Driven Decision-Making (DDDM) Process. Forbes. https://www.forbes.com/sites/brentdykes/2022/08/31/8-pitfalls-in-the-data-driven-decision-making-dddm-process/

Embracing both data-driven decision-making and its limitations ultimately leads to more effective and impactful outcomes across various industries. Furthermore, complementing data with intuition can provide a comprehensive approach to making well-informed decisions. This balanced approach ensures that decisions are not only grounded in factual evidence but also enriched by human experience and insights, resulting in more robust and adaptive strategies for organizational growth and success.

Take Away

Combining intuition and data is crucial for making smart decisions in uncertain situations. Five best practices for leveraging quantitative data to drive strategic choices are outlined, weighing the pros and cons of data-driven approaches, and highlighting the need to balance data with human intuition for the best results. As a key takeaway, "while intuition can provide a hunch or spark that starts you down a particular path, it's through data that you verify, understand, and quantify" (Harvard Business School). This blend of data and intuition leads to truly insightful and effective outcomes.

About the Author

Jenae Bluhm, MS, Quantitative Research Analyst for Elite Research, is a provisional Certified Family Life Educator (CFLE-P) and has widespread experience in statistics, data analysis, and research. Beyond her analytical capabilities, Jenae is a seasoned writer and has background in project coordination, project management, and grant-writing. She is also an experienced content creator and social media educator, an endeavor she pursues in her spare time. With a Master's of Science degree in Child and Family Studies from the University of Tennessee, Knoxville, Jenae's diverse skillset has allowed her to support researchers in a variety of capacities by providing high-quality research services to a global clientele.

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