**Data Scientists: Problem Solvers First, Algorithm Wizards Second**

Having a hammer and seeing everything as a nail

Recently, I had an opportunity to meet with a data science team from a large government agency in Australia. From what I could tell, the team consisted of highly skilled individuals in data science and machine learning. However, during our conversation, I couldn’t help but notice a common theme among the data scientists. They seemed more interested in discussing the latest algorithms to predict human behavior rather than discussing and defining the core problems they were trying to solve.

This experience highlights a common issue I see in the world of data science: the tendency to see everything as a data science problem. It’s like having a hammer and seeing everything as a nail. While algorithms and advanced techniques can be powerful tools, it’s essential to remember that data scientists should be problem solvers first and foremost.

In this article, I intend to shed some light on the importance of problem-solving skills in data science and why they should be prioritized over algorithmic techniques. I will also discuss why it’s critical to understand organizational readiness when proposing data science solutions and how data scientists can lead their organizations toward becoming more data-driven.

**1. The Importance of Being a Problem Solver First**

Data science has the potential to provide valuable insights and solve complex problems. However, when data scientists see everything as a data science problem, they can become too focused on the data and the algorithms, losing sight of the real-world problem they are trying to solve. This can lead to incomplete or ineffective solutions.

To avoid this pitfall, data scientists should prioritize problem-solving. They should start by understanding the problem they are trying to solve, the stakeholders involved, and the business context. Only then can they determine the best way to use data science to address the problem effectively.

For example, suppose a company is experiencing high customer churn rates. Rather than immediately applying machine learning algorithms to identify the most likely customers to churn, a data scientist should first investigate the root causes of churn. They might conduct customer interviews, analyze feedback surveys, and examine social media data to identify common themes. Armed with this information, they can propose a solution that addresses the underlying causes of churn while leveraging data science to predict which customers are most likely to churn and which retention strategies are most effective.

By being problem solvers first, data scientists can create solutions that provide real value to their organizations. They can address the root causes of problems, provide actionable insights, and make a meaningful impact on their company’s success.

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**2. Understanding Organizational Readiness for Advanced Data Science Solutions**

While data science has enormous potential, it’s important to understand that not all organizations are ready to adopt the most advanced data science algorithms or solutions. In some cases, simpler solutions like pivot tables might be more appropriate.

It’s essential to consider organizational readiness when proposing data science solutions. This involves understanding the organization’s culture, infrastructure, and resources. For example, suppose the organization lacks the necessary infrastructure to support advanced algorithms or doesn’t have a data-driven culture. In that case, it might not be ready to adopt the most advanced data science solutions.

In these cases, it’s important to start with simpler solutions and gradually build towards more advanced ones. For example, a data scientist might propose a simple data visualization or reporting tool to help the organization better understand its data before moving on to more advanced machine learning algorithms.

By taking a gradual approach, we can build trust with stakeholders and demonstrate the value of data science in a way that aligns with the organization’s needs and capabilities. This can help create a more receptive environment for advanced data science solutions in the future.

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**3. Leading the Journey to a Data-Driven Organization**

When we join an organization and especially if the organization is at an early stage of the data transformational journey, we have an opportunity to lead our organization toward becoming more data-driven. This involves understanding the barriers to adopting data science solutions and working to overcome them.

One of the most significant barriers to data-driven decision-making is a lack of understanding of the potential of data science. Many stakeholders may not be aware of how data science can help them solve problems and make better decisions. It’s our job to educate stakeholders on the potential of data science and how it can help them achieve their goals.

Another barrier is a lack of data literacy within the organization. This can be addressed through training programs and educational initiatives that help stakeholders understand how to use data to make decisions.

Finally, there may be cultural barriers to data-driven decision-making, such as a lack of trust in data or a preference for intuition-based decision-making. These barriers can be addressed through data storytelling and other techniques that help stakeholders see the value of data-driven decision-making in action.

By taking a leadership role in addressing these barriers, data scientists can help their organizations become more data-driven and more successful. As we discussed earlier, this may involve starting with simpler solutions and gradually building towards more advanced data science solutions. Ultimately, the goal is to create a culture where data is seen as a valuable asset and data-driven decision-making is the norm.

While data science is a powerful tool, it’s important to approach it with a problem-solving mindset and be mindful of organizational readiness when proposing solutions. As data scientists, we have a responsibility to educate stakeholders and lead our organizations toward becoming more data-driven. This involves addressing cultural and organizational barriers to data-driven decision-making, starting with simple solutions and gradually building towards more advanced data science solutions. By doing so, we can create solutions that provide real value to our organizations and make a meaningful impact on their success.