Greenfield vs. Brownfield: It's Not About the Field, It's About the Strategy

By Patrick Hanck

Mergers, acquisitions, carve-outs, and spin-offs drive significant change. For the team charged with implementing changes to the technical landscape, an important question is raised: Should we take a greenfield approach—starting fresh with no ties to previous systems, technical debt, or legacy issues? Or should we choose a brownfield approach—build on what we already have, use existing systems and processes that may need to integrate with older technologies?

Many believe that greenfield is ideal, offering a new start and an opportunity to implement the latest technologies and best practices. But many human factors influence the decision, making what appears to be a fairly simple decision, very complicated.

Deciding between greenfield and brownfield approaches is a complex one, with advantages and drawbacks on both sides. While a greenfield approach offers a fresh start with the latest technologies, it can also be challenging to implement due to potential talent gaps, workforce resistance, and significant financial investments. On the other hand, brownfield transformations can be more cost-effective and less risky by leveraging existing infrastructure. However, they may involve working with outdated technology and can be constrained by technical debt. The phased nature of brownfield approaches allows for gradual adoption, but it can also limit the extent of modernization possible.

Unveiling the Human Element

Why is this decision so hard? While the specifics of a digital transformation are always different, why isn’t it as simple as weighing the pros and cons and making an informed decision? Feels like it should be that easy, but it is not.

We are already at a disadvantage when we set out to make a pros and cons list. The human element gets in the way. Inherent in making that list, you allow subtle biases to influence your decision-making, even when you are actively trying to be objective [1].

Both options can be susceptible to biased decision-making, but there are different types of biases to be aware of depending on which implementation approach you are considering.

Think about the greenfield approach - it may not be the right choice for your implementation, but you feel strongly inclined to choose it anyway. Why? Do any of these resonate with you?

Greenfield: The Allure of the New

- **Optimism Bias:** Overestimation of positive outcomes. This bias can lead individuals to favor greenfield projects, believing these new ventures will be highly successful and bring significant benefits.
- **Innovation Bias:** Preference for new and innovative approaches. People influenced by this bias might lean towards greenfield projects as they offer opportunities to implement novel ideas and cutting-edge technologies.
- **Novelty Bias:** Favoring new and novel options over the familiar. This can make greenfield projects more attractive as they represent new challenges and exciting opportunities.
- **Overconfidence Bias:** Overestimation of one's ability to manage new projects successfully. This bias can lead to a preference for greenfield projects due to a strong belief in one's capability to handle them effectively.
- **Planning Fallacy:** Underestimation of the time, costs, and risks involved. Individuals might favor greenfield projects because they underestimate the complexities and challenges compared to modifying existing systems.
- **Survivorship Bias:** Focusing on successful examples and ignoring failures. This can cause a preference for greenfield projects based on the visible success stories of new ventures while overlooking potential risks and past failures.

Similarly with the brownfield approach - you have adequate evidence that suggests a brownfield approach is the wrong choice, but you recommend it anyway. Why? Do any of these resonate with you?

Brownfield: The Comfort of the Familiar

- **Status Quo Bias:** Preference for maintaining current rather than changing. This bias can lead individuals to favor brownfield projects as they involve enhancing or modifying existing systems rather than starting anew.
- **Endowment Effect:** Overvaluing what one already owns or is familiar with. This can cause a preference for brownfield projects because of a perceived higher value of the existing systems or infrastructure.
- **Loss Aversion:** Tendency to prefer avoiding losses over acquiring equivalent gains. This bias might make individuals favor brownfield projects to avoid the perceived risks and potential losses associated with greenfield projects.
- **Sunk Cost Fallacy:** Continuing a project due to previously invested resources. This can lead to favoring brownfield projects to justify previous investments in existing infrastructure rather than abandoning them for new projects.
- **Availability Heuristic:** Decisions based on readily available information. If information about existing projects is more accessible, individuals might lean towards brownfield options as they seem more familiar and easier to evaluate.

Unmasking the Biases

How do we avoid the pitfalls of biases and make more objective decisions? As Kahneman [2] emphasizes, overcoming biases requires a deliberate effort to counteract our intuitive thinking and rely on evidence-based reasoning. By acknowledging that our thinking can be influenced by factors beyond logic and reason, we can take steps to mitigate their impact:

- **Seek Diverse Perspectives:** Involve individuals with different backgrounds and expertise in the decision-making process.
- **Challenge Assumptions:** Question the underlying assumptions behind each approach and test them against reality.
- **Focus on Data:** Gather objective data about both greenfield and brownfield options to inform your decision.
- **Consider the Long-Term:** Don't just focus on short-term gains. Consider the long-term implications of each approach for your organization's goals and capabilities.

Beyond the Biases: Understanding Your Objectives and Processes

You must understand your objectives and processes to choose between greenfield and brownfield. Grounding this understanding in data-driven decision making, specific goals and practical steps will not only minimize bias effects, but will act as a compass, guiding your technology decisions and ensuring alignment between your implementation strategy and your ultimate goals. It transcends the greenfield vs. brownfield debate, focusing instead on what truly matters: achieving the desired business outcomes.

Define Success: What specific goals do you want to achieve?

- **Communicate Your Vision:** Clearly articulate the desired outcomes of your project. What will the end state look like? What does success look like?
- **Identify Key Performance Indicators (KPIs):** Establish measurable metrics to track progress and assess success. This will help you stay focused and make data-driven decisions throughout the project.

Map Your Processes: Document the processes needed to reach your goals.

- **Document Current State:** If you have existing systems, thoroughly map your current processes and identify pain points, inefficiencies, and areas for improvement.
- **Design Future State:** Create a blueprint for the ideal processes that will support your desired outcomes. This should be a collaborative effort involving key stakeholders.

Fit-Gap Analysis: Assess how existing technology aligns with your needs.

- **Evaluate Existing Technology:** Conduct a comprehensive assessment of your current technology stack and its ability to support the future state processes. Identify any gaps or limitations.
- **Explore New Solutions:** Research potential new technologies that could better address your requirements. Consider factors like scalability, cost, integration capabilities, and vendor support.

Informed Decision: Choose the approach (greenfield, brownfield, or hybrid) that best supports your goals and processes.

- **Weigh the Pros and Cons:** Carefully consider the advantages and disadvantages of each approach in light of your specific goals, processes, and available resources.
- **Factor in Organizational Culture and Readiness:** Assess your organization's appetite for change and its ability to adapt to new technologies and processes.
- **Make a Data-Driven Choice:** Use the insights gained from your analysis to make an informed decision that best supports your desired outcomes.

Key Success Factors

To ensure success of whichever approach you chose, it's important to guide your organization through the change process, recognize and challenge any biases that may cloud decision-making, and keep your focus on the ultimate goals.

- **Change Management is Crucial:** Whether it's a greenfield or brownfield project, preparing and supporting your stakeholders through the change is essential for successful adoption.
- **Know Your Biases:** Be aware of your own biases and seek unbiased perspectives.
- **Focus on Outcomes:** The right choice depends on your specific goals and requirements, not on a catchy label.

Establish And Maintain Strategic Alignment

In the end, the greenfield vs. brownfield debate is not about choosing between starting fresh or building on what you have—it's about making a strategic decision that aligns with your organization's long-term objectives. Successful digital transformations depend on more than just the technical approach; they require a clear understanding of your goals, the processes needed to achieve them, and the human factors that influence every decision. By recognizing and addressing biases, focusing on data-driven analysis, and ensuring effective change management, you can navigate the complexities of both greenfield and brownfield projects. Ultimately, the right choice is the one that supports your vision and drives meaningful outcomes for your organization.

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Interested in learning more about our capabilities or discussing your M&A or story? We're here to help.

Sources:

[1] Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk.
[2] Kahneman, D. (2011). Thinking, Fast and Slow, Farrar, Straus and Giroux