

5 PILLARS OF A DATA-DRIVEN BUSINESS

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Data has quickly become one of the most important aspects of achieving a competitive advantage in business. Creating a business where data are leveraged to create real value is the ultimate goal. A “data-driven business” is one where data is a basic requirement for business, a value-generator rather than a cost line item of the balance sheet. This is more challenging than it seems, but it can be done. We’ve identified “5 Pillars of a Data-driven Business” that serve as a framework for creating real value from business data.

PILLAR 1: ARTICULATE A DATA STRATEGY WHICH SERVES THE STRATEGIC IMPERATIVES OF THE BUSINESS.

The future vision for a business should be forefront in defining how data are leveraged to create value. Simply put, a well-defined data strategy needs to start with business strategy. Today’s advanced analytics methods and solutions create near infinite possibilities for deriving value from data. Tying a data strategy to the most important company initiatives allows the business to focus its advanced analytics efforts and technology choices on the areas that will provide the most value for the firm. A data strategy enables data-driven decision making using technology and applications that help a business achieve its strategic imperatives.

- ❑ Data strategy must be driven by the business, not by the technology that services the business. Focus first on what is driving your business, then move to defining the tactical elements of the data strategy.
- ❑ Data strategy must be clearly articulated and communicated to employees at all levels of the organization so that your business as a whole can understand the importance of your data to creating value.
- ❑ Data strategy should be based on measurable outcomes and milestones. Clear steps with timeframes to get from the current state to desired outcomes are laid out and communicated across the organization. If you cannot define a clear path to executing the strategy, then you don’t have the right one.

PILLAR 2: PROMOTE, TRAIN, AND ENFORCE A CULTURE OF “DATA-DRIVENNESS.”

The most successful businesses create a culture of data, one in which data drives decision-making. They create a

culture of measurement and adjustment based on data and analytics.

- ❑ The culture is focused on educating the entire organization to appreciate the value which can be generated through data. Businesses teach employees how to ask the right questions of data in order to understand how data will relate to unique jobs and goals. A shared understanding of data and its value helps create consensus, consistency, and avoids analytical output being viewed skeptically by the business.
- ❑ The culture of decision making leverages advanced analytics as its foundation. Businesses should create a continuous cycle throughout the organization of evaluating impact and changing based on the data and outcomes.
- ❑ The culture of predicting outcomes and results through predictive analytics becomes the norm. Continuous improvement includes feeding prediction errors back into predictive models to for continuous refinement.
- ❑ The culture becomes a mindset that consists of:
 - Continuous testing
 - Continuous improvement
 - Weighing and prioritizing decisions
 - Sharing data with others in the organization
 - Using analytics to inform and influence others

PILLAR 3: ADDRESS THE REALITIES OF HUMAN- AND TECHNICAL-CAPITAL REQUIREMENTS.

An honest recognition of a business’s capabilities for generating real value from data is imperative to becoming a data-driven business. A business must leverage strengths, adapt skill-sets and shore up gaps. This includes both human capital—skills and expertise—and technical capital—technology, systems, and infrastructure.

HUMAN CAPITAL CAPABILITIES

Ensuring the right human capital capabilities is paramount. It makes little sense to spend money on expensive systems without having the talent to derive substantial value from those systems.

- ❑ While businesses often recognize the need to bring on more expertise, they struggle with identifying which skillsets are most critical when hiring and training. A business should base skillset requirements on the data strategy roadmap, identifying the skillsets which are critical to execution. Talent management processes should include a strategy around sourcing, developing, rewarding, and nurturing technical and analytical talent.
- ❑ A primary goal for the business should be to build a deep bench of analytical professionals throughout the organization. Professionals should not only know how to run analysis and use the analytical tools at their disposal, but have the capability to think critically about business issues, applying tools and methods to sophisticated and sometimes abstract questions.
- ❑ Human capabilities and skillsets need to be backed up by continuous training and development. Professionals should desire to continuously learn new skills and stay ahead of the curve, and the business should be prepared to provide those opportunities.

TECHNICAL CAPABILITIES

New technology solutions may be needed to enhance current IT and communications capabilities. Businesses should be open to investment if it is determined that new technology is aligned with the data strategy and will generate value. New “big data” ecosystems (e.g., Hadoop and its associated applications) are creating enormous value-generating opportunities for businesses when aligned with the right data strategy and human capital.

- ❑ Businesses should avoid implementing sophisticated IT systems until the business is prepared to leverage the features provide by the system. This includes having the required data strategy, analytics talent, institutional will, and data sourcing to allow the business to realize the value that the technology can provide.
- ❑ Attention should be paid not only to backend infrastructure, but also to data reporting, communication, and visualization tools. Effective reporting tools should streamline data collection while simplifying “query” functionality, allowing employees to more easily access and refer to particular data.

Additionally, tools should make it simpler for non-data savvy employees and c-level executives to track performance and incorporate data into the decision-making process.

- ❑ Significant consideration should be given to eliminating data silos and centralizing data. Data is increasingly powerful as it is brought together with other data, opening the doors to today’s advanced analytics methods. Systems and other technical changes can effectively combine data, eliminating data silos.

PILLAR 4: MAINTAIN CREATIVITY IN SOURCING, SELECTING, AND PRIORITIZING DATA TYPES.

To best achieve powerful results from data, businesses need to source and select powerful combinations of data. Sourcing external data to combine with internal data can yield impactful analytics. It is especially important to not overlook sources of internal data that can give new and proprietary insights.

- ❑ A process for determining and ensuring data are accurate, timely, and secure is critical. Without certainty that data is accurate, it will throw into question any insights generated.
- ❑ Effort should be made to collect the right data to meet the needs of the business’s data initiatives. Choosing data based on the data needs generated by initiatives provides several benefits:
 - Interesting data is not always the most useful. Grounding data sourcing in the initiatives makes it easier to discern between the two.
 - There are near unlimited sources of data, so focusing on just the data that will meet the needs of specific initiatives allows the business to hone in on value-generating activities.
 - The data currently being collected might not be the best data for the business needs. Understanding how the current data reconciles with the data needs allows the business to adjust which data are being collecting and how it is being collected.
 - The potential value of unstructured data such as text, voice, and other under-utilized data types should not

go overlooked. Advanced data mining techniques, natural language processing, and text analytics allow for this information to be used in powerful ways.

- Consider the power of data from unconventional sources when combined with the firm's own data. For instance, sensor data from the internet of things or data from web and social media are examples of potential useful data that could be powerful additions to a business's data strategy and associated analytics initiatives.

PILLAR 5: MAXIMIZE THE VALUE OF DATA WHILE MAINTAINING HIGH LEVELS OF DATA SECURITY, QUALITY, AND AGILITY.

Businesses often recognize the need to use data, but struggle when it comes to implementing a company-wide data strategy. This often results from a poorly defined data governance structure. It is easy for a business to fall into one of two camps: 1) data and analytics initiatives are kept structurally separate from the firm's ongoing operation, often in their own division or department, hindering the ability for the business to create a culture of "data-drivenness;" or 2) all data and systems are open company-wide, which leads to data quality and security issues.

- ❑ Businesses should define appropriate organizational data requirements and rules based on needs and structure. Data and analytics should not be left entirely to data scientists and IT departments – they require technical savvy and organizational coordination. To succeed, businesses need to embed data and analytics deep into their organizations to ensure that information and insights are shared across business units and functions.
- ❑ Businesses should identify how analytical decisions are currently being made. Attention needs to be given to how that decision-making process can be reinforced and altered with data and feedback.
- ❑ There should be clear understanding of who is accountable for facilitating any given analysis and leveraging its insights. From executive level

to analyst, there should be no questions of ownership.

- ❑ Firms need to effectively manage the supply and demand for analytics services across the business. This can involve tracking departments or units that are consistently under-utilizing analytic capabilities, which will reveal divisions that may be lagging behind in becoming data-driven.
- ❑ Breaking down organizational walls between initiatives, workflows, and employees can be key to combining data in powerful ways. Data silos are often created by departments or units not just keeping their data technologically separate, but also structurally.
- ❑ Attention must be given to regulatory and compliance requirements, both to meet industry-specific requirements and to ensure individual level data meet the requirements defined by the business – client/customer expectations.

Creating a data-driven business requires significant upfront and continuous effort. This effort has proven, time and again, to bring about benefits that far outweigh the costs. The five pillars described here are the framework for achieving that type of success, but specific application will depend on industry, vertical, and context.

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Cicero Group is a premier data-driven strategy consulting firm. Cicero integrates inductive problem solving with insightful data analytics to guide business strategy.

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