Information Builders

Top Five Worst Practices in Data and Analytics

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Information Builders provides the industry's most scalable software solutions for data management and analytics. With one smart platform for integration, data quality, and analytics, we help companies manage their data, generate insights, take action, and deliver impact.

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Introduction

These are boom times for business intelligence (BI) and analytics. Never before have so many variables aligned to enable the opportunity for data- and insight-driven business. There are more data sources, greater computing power, cheaper storage, better information management, and more intuitive analytical technologies.

Still, many BI and analytics implementations don't deliver the desired or anticipated results. Companies of all sizes suffer from countless oversights and poor judgment calls during planning, technology selection, and rollout – mistakes that can be detrimental to ultimate success. Even the smartest, best-run businesses in the world commit common missteps that doom BI and analytics projects to shelfware and relative-to-complete failure.

This white paper discusses five of the worst practices we see in the world of BI and analytics, outlines their negative impact from a technology and a business perspective, and serves as a guide for avoiding them.

We hope that you'll learn from the mistakes of others to ensure successful BI and analytics implementations in your own organization.

Worst Practice #1: Creating Analytical Silos and Multiple Versions of the Truth

A few years ago, data discovery tools caught the eye of businesspeople who believed that self-service was their new information utopia. They were able to employ user-friendly tools that enabled the uploading and manipulation of personal data, followed by the visual exploration of their custom data models. To some degree they have been successful, as businesspeople have been able to extract insight and value from data that was not previously possible (or it was taking far too long for IT or specialists to create for them).

Several challenges have emerged over time, and it usually takes two to three years of actual usage to realize and identify them:

- **Data errors.** These lead to bad decisions. Self-service data preparation and content creation can often lead to human error in the data manipulation and analytics creation process, and decisions can very easily be made from erroneous insights. Even worse, analytics and insights are often shared and the errors compound upon themselves

- **Silos.** Analytics silos are typically formed by self-service users who prepare their own data, create reports and charts, and share them within their work group. They tend to exist in a bubble, creating their own library of analytical content, with their own calculations and preferences. These silos can emerge in other parts of the organization that employ self-service tools, resulting in multiple analytical groups and multiple versions of the truth

- **Scaling.** Self-service and data discovery often starts life in a department or smallish work group, where a business leader has elected to invest in a subscription for his/her team. If, in their view, they have been successful, they would like to expand usage and recommend it be rolled out across more of the organization. Adding more users, who need resources, security, and more data sources, can easily create a scalability problem. Self-service and data discovery tools do not inherently possess all the underlying data, content, administration, performance, user, or security management that is critical to support larger user audiences and more complex needs. Enterprise-grade BI and analytics platforms do, so be sure to understand the limitations of any tools and technologies under evaluation.

For businesses and users to discover effective analytics and actionable insights, they need data they can trust, and an environment that can grow with them as needed. Data discovery and self-service need to be an extension of a well organized, governed, and trusted data strategy and platform.

With more data sources available for exploration and opportunity, data quality and data governance become critical best practices. Ensure your organization has a comprehensive strategy, scalable platform, and unified mechanism for providing trusted data to both traditional BI users (reports, dashboards, info applications) and more agile business users (data discovery, self-service, citizen scientists).

Worst Practice #2: Ignoring Data Storytelling as an Effective Way to Communicate and Drive Insights

Many people in business are not skilled at data storytelling, which really is a lost opportunity for your data and analytics investment. Many are not really sure what it actually means, involves, or impacts.

- Stories have always been highly effective ways to communicate information, and the same is true for analytics and insights
- Stories contain narratives, flow, context, beginnings, conclusions – and ultimately understanding
- Data storytelling not only influences the analytical part of the brain, but also uses emotion, a key driver of decision-making

It's fair to assume that the purpose of BI and analytics is to drive decision-making to help a businessperson develop greater insight and make smarter decisions. With many users making smarter choices over time, one would expect a business to generate positive change and thrive.

If you need to inspire or influence those around you, there is a need to convey the understanding of a data-driven insight. Rather than just state that customer ABC is about to churn, explain why and how you reached that conclusion. Data storytelling is absolutely critical here.

It may take a while to reach a data-driven conclusion. It may take the identification and access of multiple data sources, data preparation effort, exploration of a data model with various visualizations, and even the creation of an interactive dashboard with multiple interconnected views. A data story can summarize that process, including an objective, sources of information, metrics selected, and conclusions reached.

If a business user or analyst can communicate a credible story of his/her objective, the process, and the reaching of an outcome, then the chances of buy-in from fellow stakeholders is likely increased. Many quantitative analysts are not used to creating and telling stories, which is a shame because much effort may go to waste. Without buy-in, there will be little to no impact on the business.

Many analytical people are just not that suited to literary storytelling. They are usually not skilled or trained in communication skills. They are good at analytical thinking and process, but don't care for allocating time to telling stories, expecting that to be a role for others.

Times have changed. If your adoption of BI and analytics is increasing, more people will be hands on with insight generating tools and content. Consider these two actions as a way to promote and improve data storytelling:

1 Offer some form of elemental communications training to everyone involved in insight generation, including an introduction to data storytelling practices

2 Consider using analytics tools with pre-branded templates and workflow, that guides business users and analysts in the generation of digital stories (e.g., PowerPoints, Infographics)

Worst Practice #3: Inability to Increase Adoption of BI and Analytics Across and Beyond Your Organization

Adoption rates for BI and analytics remain alarmingly low, hovering at around 30 percent according to Gartner's Cindi Howson[1]. Many organizations have yet to reap the benefits of their investments because they just can't get their users on board.

A high level of user adoption among all stakeholders is vital to achieving maximum return on your BI and analytics investment. This means fulfilling the needs of a wide range of employees, whether executives, analysts and power users, frontline and operational workers, and even your customers and business partners. One of the keys is being able to deliver the right type of analytics to the right user at the right time. This is where a versatile BI and analytics technology can be a critical asset to your business, by being able to deliver a variety of analytical experiences and insights to suit all user types and requirements.

Right Time – Embedded BI and Analytics

Does your organization embed BI and analytics into everyday systems like Salesforce, or do they use standalone apps/tools? Embedded BI and analytics is all about integrating actionable insights into the everyday applications and systems used by business workers and within their usual workflow.

There are multiple benefits of properly designed and implemented embedded BI:

- A simpler and more convenient user experience – no need to jump across to a separate application
- Increased productivity – more usage as the insights are right there when needed
- A higher adoption of data-driven business – which should be a prime goal of your organization

Right User – Flexible BI and Analytics Technology

Some organizations try to support varying needs by force-fitting a tool (e.g., data discovery) to users who are not able or interested in that type of solution, as it is inappropriate for their skills and/or needs. It will not get used, and adoption stays low.

Other organizations try to address varied demands by deploying a range of disparate solutions. Each type of user gets a different tool geared towards their unique needs. While this may seem like the quickest and easiest way to increase your overall BI and analytics usage, it creates a host of headaches. (See Worst Practice #1 and the problems caused by departmental silos.)

Create a matrix of all your possible BI and analytics user categories, including objectives, needs, skills, current systems, motivations, and the business opportunities if they delivered relevant insights at the right time, on their terms. Ensure your BI and analytics technology caters to all classifications of users, whether delivering reports, dashboards and documents, or custom applications, or more agile insights, such as visualizations and infographics created by business users. Remember to ensure that embedded use is always an option.

[1] Howson, Cindi. "Pervasive BI and Analytics: Are We There Yet," Gartner, August 2017.

Worst Practice #4: Not Maximizing the Value and Revenue Possible From Your Data

Whether you realize it or not, there is significant financial value locked within your enterprise systems and data repositories. The most obvious way to make more money from your data is to sell it. There are 2,500 to 4,000 data brokers in the U.S. whose business is buying and selling our personal data. Companies like Facebook, Google, and Amazon have built their business model on data. MarketsandMarkets expects the global data monetization market to grow from $1.26 billion in 2017 to $3.12 billion by 2023 across all industries."[2]

Data Monetization

Data monetization is the act of generating measurable economic benefit from data sources. These benefits are realized as either revenue gains or productivity/expense savings.

In a time of diminishing customer loyalty and shrinking profit margins, your organization is under tremendous pressure to find new ways to make it or save it. There is something you may be overlooking that can help you to achieve these goals – your data.

New Revenue From Existing Data

There are several obvious models where data is the key value driver. Experian sells consumer data to financial services providers to either manage risk or attract customers (e.g., via free credit scores); Nielson sells audience research data to a wide variety of B2Cs, usually with a marketing intent; and Intelius focuses on selling information about people and security for verification and employment purposes. An Information Builders customer sells an online expense solution with customer data.

Enhancing Existing Customer Interaction

Organizations that already support digital customer interaction (e.g., online statements, partner portals, customer support sites) can add layers of interaction and intelligence, which adds further contextualization and value to their relationship.

This can help to cement/expand relationships, or enable the charging of a premium for additional service levels. Examples might include investment benchmarking vs. consumer demographics, adding a predictive layer for resellers, or behavior recommendations for utility energy savings.

Data monetization is a significant practice that needs real consideration. Is it possible for your organization to apply a data monetization model and generate incremental or new revenue streams? Is there additional value to be identified and gleaned from internal cost-savings and performance improvements?

While the potential to monetize data has always existed, the proliferation of big data from new sources, such as mobile, social media, Internet of Things (IoT), and the cloud, present new opportunities for monetization. Perform a data source inventory and value assessment.

[2] "Data Monetization Market by Component (Tools and Services), Data Type, Business Function, Deployment Type (On-Premises and Cloud), Organization Size, Industry Vertical (BFSI, Consumer Goods and Retail, and Telecom), and Region - Global Forecast to 2023," MarketsAndMarkets, May 2018.

Worst Practice #5: Inability to Blend Augmented, Automated, and AI Capabilities Into Your BI and Analytics Environment

There are several terms that have hit the BI and analytics mainstream of late, including data science, machine learning (ML), artificial intelligence (AI), and augmented analytics. Perhaps the biggest impact of these capabilities is the tectonic shift from an all-human analytics world to a semi- or fully automated world.

The fact that there are profits to be made means organizations will experiment with and adopt these capabilities. Augmented analytics relates to how humans can be assisted in their quest for data insight and the opportunity for smarter business. Many industry analysts consider the use of machine learning and natural-language generation as primary mechanisms to leverage computers doing what they do best – namely crunching huge volumes of data, identifying patterns, learning from them, and generating recommendations to assist the human user.

It's conceivable that humans may eventually be removed from many business equations where analysis and decisions are needed. Howerever, it should be mentioned that human creativity, instinct, and intuition are difficult to displace with rules and code. Also, if an organization has either known or unknown issues with data quality the garbage rules still apply, all the way through to an automated decision.

There is certainly a place for AI and machine learning, so be sure to research, experiment, and implement where there is value and consider how best to blend it into your existing BI and analytics strategy. Augmented analytics is now a credible space, with an increasing number of use cases delivering real business value – but don't forget that humans still have a major role to play.

Where Data Science Exists in BI and Analytics

AI, augmented, and ML algorithms exist in two spaces within a BI and analytics environment:

1 Within the BI tool/platform itself, where data analysts and citizen data scientists receive recommendations or assistance relating to data origination, preparation, and insight generation. Examples might be advanced statistical functions delivered to analytics authoring, or the automatic creation of an optimized custom data model from several sources.

2 Within the output generated and delivered to non-technical users (e.g., applications and analytical content). This type of deployment has been occurring for many years, in the form of predictive or prescriptive insights delivered through charts, reports, alerts, dashboards, and other BI formats. An example might be an R or Python-based model generating the churn prediction numbers in a report delivered to sales managers around the country.

In our industry, blending these data science capabilities with a platform that can easily deploy the results securely to hundreds or thousands of users, and in a variety of formats, is the key to generating impact on the business.

The data science might provide the fuel, but the platform delivers the engine to generate the value. Organizations should also be wary of the shiny object effect, getting caught up in the market hype, and failing because they just aren't ready for the culture changes and ethical concerns that AI and advanced/augmented analytics brings.

Conclusion

Information Builders has more than 40 years of experience delivering BI and analytics and understands what is realistically needed for this technology to succeed. While there is plenty of focus at the moment on AI, machine learning, and shiny new analytics tools, the fundamentals of successful enterprise deployments are often overlooked.

This is dangerous, as organizations need more than just analytical tools in order to leverage data and insights strategically across and beyond the enterprise. They need an enterprise-grade, unified technology platform as a foundation to support a wide variety of analytical capabilities, user types, data from any source, and the horsepower to deliver and scale.

We have highlighted five worst practices in this paper and presented several recommendations that we hope are beneficial. It may also be useful to present several high-level evaluation drivers when looking at formulating a BI and analytics strategy:

- **Empower Users:** Everyone within and associated with your business can benefit from contextually related data and insights. The higher the adoption of insight-driven business, the better the business

- **Real Usability:** Give users intelligence and insights on their terms, in a usable and actionable way. Don't force-fit a data discovery tool on an operational user, or a valued customer

- **Supply Trusted Data:** For businesses and users to produce effective analytics and actionable insights, they need data they can trust. With more data sources available for exploration and opportunity, data quality and data governance become critical best practices

- **Enable Employees With Storytelling Skills:** Don't underestimate the power of data storytelling, as it is a highly effective way to help businesspeople understand data and insights. Hire an expert, train employees, and provide high-quality templates

- **Complete Platform Management:** The underlying BI and analytics platform is essential for success, enabling the management of provisioning, security, metadata administration, governance, deployment, and overall performance. IT still manages the technical aspects of analytics, and they must have a comprehensive, friendly, and robust platform

- **Scalability and Agility:** As businesses grow and adoption of BI and analytics expands, the need to scale, with agility, is key. Analytics deployments fail because they cannot scale. Whether on premises or in the cloud, know that your platform will quickly and easily grow with you over time

Learn More

Visit our **website** to learn how Information Builders can ensure successful BI and analytics implementations within your own organization.

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