

Shadow Analytics: What It Is and Why You Can't Afford to Leave It Unchecked

WHITEPAPER

Executive Summary

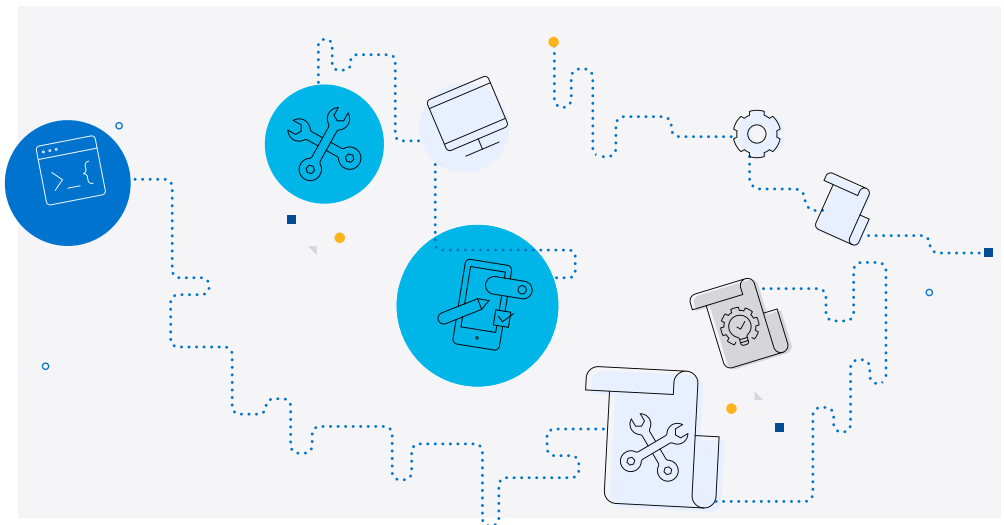
“Martech” is the intersection of marketing and technology. It refers directly to the software that marketing teams use to do their jobs and, more broadly, to the corporate initiatives around marketing data, programs and goals. Martech, then, is the blending of tools and technology that help marketing teams achieve their goals and objectives.

Done well, martech tools improve collaboration between the marketing team and disparate corporate departments like sales and customer support. Marketing workflows run smoothly, and teams collaborate for more effective campaigns, generating better quality leads and new opportunities for sales.

Unfortunately, when done poorly, martech implementations can create bottlenecks, repetitive manual processes and incomplete market analyses. The worst case scenario is even more bleak. Data silos and internal barriers force marketing teams to come up with their own workarounds and solutions, exporting sensitive data to spreadsheets or creating other “shadow analytics” processes outside the scope of corporate security.

Beyond the manual inefficiencies associated with shadow analytics, the risks of this practice can be devastating. GDPR, HIPAA, and other security regulations require companies to be accountable for monitoring and auditing the access, use and storage of personal data from their customers and prospects. Corporate tracking and compliance fall apart when teams take data out of approved systems and unintentionally circumvent data protection policies. Data privacy and integrity is a major concern for customers and industry regulators, and shadow analytics can completely undermine a company’s compliance efforts.

One way to eliminate shadow analytics and the risks associated with it is to choose a data connectivity solution for your martech stack. Open up data silos to new and existing data sources and reporting tools all within the safety of the corporate security standards.

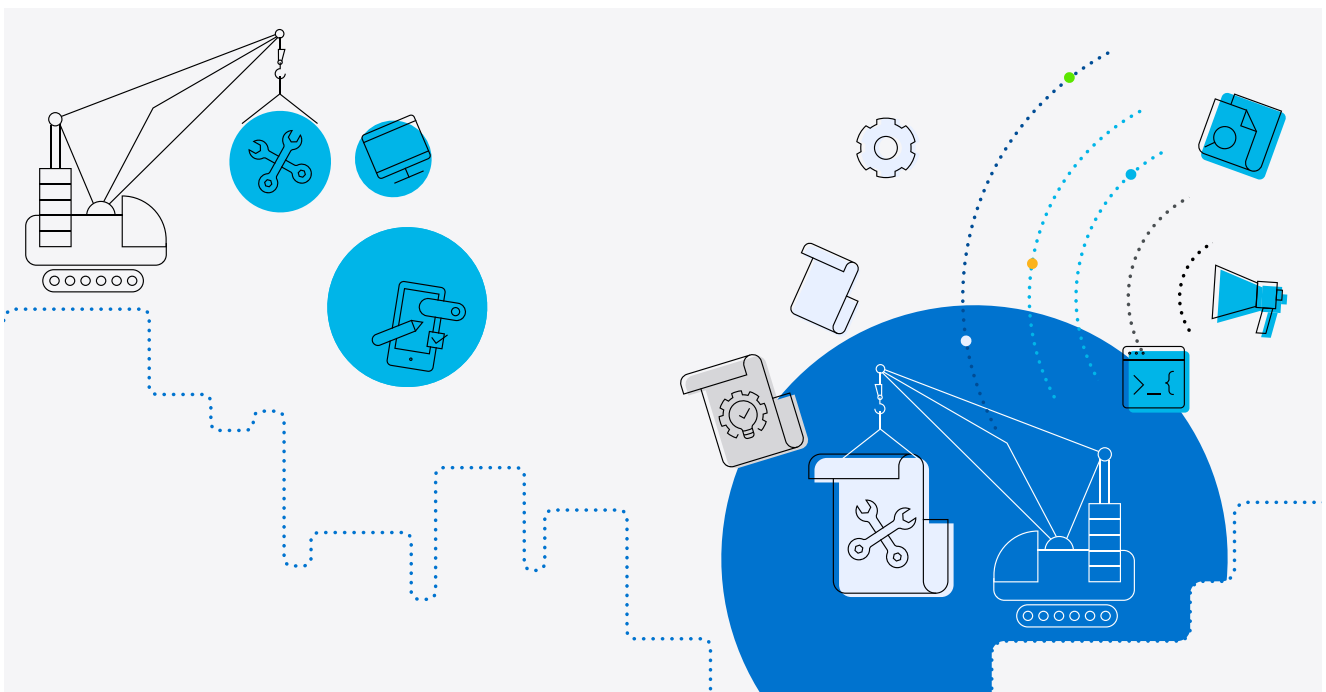


The Martech Landscape

There are thousands of software packages and tools that can be classified under the large umbrella of martech. With so many options available, each company is truly unique in its martech needs and implementation. Individual corporate software stacks typically contain a variety of software packages to encompass the full range of marketing activities, from prospecting and nurturing to internal routing and sales attribution to gathering and analyzing data on the full scope of the customer journey.

With such a broad scope of operational areas, tasks and goals, it's no surprise that the marketing software landscape has experienced explosive growth over the last decade. In fact, [according to Forrester](#), the martech ecosystem has grown 50% faster than the United States Gross Domestic Product. Furthermore, this large increase in martech spending is expected to continue through 2021.

While the wide range of martech offerings mean that every stack is unique, the benefits of a corporate martech strategy are clear. Increased automation means more efficiency and fewer manual processes, so companies can do more with less. Robust analytics means companies know which campaigns produce results, and which do not. Being able to quantify the impact of marketing programs using analytics is one of the key components of successful martech, and one of the leading reasons to eliminate data silos by opening data to existing internal reporting tools.





Key Components of Martech Software

Major players in the marketing software stack can typically be grouped into three large buckets. While other categories certainly exist within the marketing software landscape, corporations will typically focus their tooling investments around marketing automation, customer relationship management (CRM) and web analytics. These three types of solutions generate the bulk of the data analyzed for martech initiatives.

Marketing Automation

Automated digital marketing has been around for as long as email itself has existed. Companies were quick to adopt email as an effective and cost-efficient supplement to, and eventually replacement for, business-to-business (B2B) and business-to-consumer (B2C) phone calls and snail mail.

In that time, marketing automation has grown into a billion-dollar industry that encompasses much more than just email automation. Much of the prospecting work that used to be conducted manually by marketing, business development and sales staff can now be automated. This includes finding corporate domains relevant to your market segment, verifying prospect contact information and even data entry. Automating these time-consuming processes free employees to spend their time on higher-value tasks that utilize their professional skillsets, including creating and planning marketing programs and campaigns.

Customer Relationship Management

CRM software packages used to be solely the domain of very large corporations. Traditionally, implementing a comprehensive CRM system was a years-long process, with much planning, customization, consulting and training. However, the growth of cloud-based software has made the CRM accessible to businesses of all sizes.

Now, companies can choose a CRM to do as much or as little as they require. Many CRMs incorporate marketing tasks like creating and routing leads, managing sales opportunities and tracking the attribution of sales' wins and losses. While tools in the cloud have made CRM functionality broadly available and user-friendly, they haven't solved the problem of data silos. Many cloud-based applications have capabilities limited by proprietary APIs or can integrate with only a small set of predefined tools.

Web Analytics

Now that most businesses have some sort of online presence, web analytics has become an invaluable tool in the martech toolbox. By giving marketers the ability to analyze the actions of website visitors, web analytics offers valuable insights that can help shape a successful business strategy.

The web analytics process is two-fold, encompassing both the tracking and gathering of website data as well as the presentation and manipulation of that data. For web analytics to be effective, accurate data is required to track the effectiveness of multiple marketing channels. New tools must be integrated with the existing corporate reporting and analytics stack, and marketing-specific application choices may be limited by IT because of integration problems or conflicts with existing tools.



Challenges of Martech

Marketing technology has expanded its scope beyond anything that was envisioned even 10 years ago. With the data gathering and targeting offered through digital channels, campaigns can be personalized down to the minute detail. However, marketers must consider how much of a good thing is too much. When does the use of personalization become too all-knowing and perhaps a bit off-putting?

Likewise, data collection capabilities have led to a very real data overload within many companies. [According to chiefmartec.com](https://www.chiefmartec.com), the average enterprise marketing team uses 120 cloud services. Many of these services do not integrate with each other or with all the other software packages already existing within your corporate technology stack.

In order to combine and use the unique components of different martech offerings, much of the overlapping data generated by each individual tool will need to be scrubbed and blended to remove errors and duplication.

In addition to data management challenges, martech also presents problems in unifying messages across channels. With so many tools and sources in use, marketing teams must look at the big picture and present a consistent message across channels without becoming repetitive. By repeatedly serving identical content across multiple channels, your company risks looking like a bot rather than a market leader.



The Dangers of Shadow Analytics

The typical end users of martech data, like data analysts, likely have direct access to internal enterprise data but that's only a small part of the information needed to get a full picture of marketing performance. Analysts also need to report on data from Salesforce, Eloqua, Google Analytics, or any of the thousands of other martech applications currently available. Maybe some of the data is easily pulled into BI and analytics tools like Tableau or Power BI, but other sources are inaccessible to those applications.

Much of this data is only accessible via API, while BI and analytics tools generally rely on SQL. This impasse isn't new, but as the volume and popularity of SaaS applications grows, barriers between accessible and inaccessible data will be exacerbated.

On top of that, many marketing departments are hard-pressed to get the data they need, when they need it. Timelines are tight, and the next campaign launch is always just around the corner.

What happens next is likely familiar to every marketing director. When pushed to just "get it done," staff will find a backdoor to get what they need. This leads to the rise of shadow analytics.

Like the concept of shadow IT, shadow analytics is the practice of reporting on data through means that haven't been vetted by the IT team. For end users and data analysts, shadow analytics winds up being the path of least resistance—it gets them access to the data they need in a quick and mostly reliable fashion.

However, this path can become very problematic to the company in other ways... especially if left unchecked.

Security

Obstacles to data access and reporting persist in the form of corporate data access standards, security requirements and IT support backlogs. To work around these obstacles, data is exported from a secure database, put into an Excel spreadsheet and then emailed throughout the business. Purposely or not, legal requirements like HIPAA and GDPR may be violated.

Staffers who can't get what they need through IT or analytics teams sign up for a free trial of the latest and greatest martech tool. Upload an export file from an internal database, and they're off and running to create slick new reports and visualizations. No matter that the tool hasn't been vetted by the IT or security team, or even approved by the purchasing

team. The company now has yet another shadow app running in the tech stack, and most people probably don't even know about it.

The challenges of working from home have added yet another layer to data security concerns. Impediments to in-office collaboration can result in individual employees seeking out and using untested tools to address productivity barriers. Additionally, staffers are on home or unsecured public networks, adding more security risks.

Data residency concerns likely aren't on the radar of marketing staffers pressed for time and results. But IT teams know that strict data collection and data residency standards must be maintained in order to comply with data tracking laws. Uploading a data export to a new cloud system for a software trial may seem minor, but it can quickly turn into a major legal headache.

Whether working from home or the office, marketing teams are doing their best to meet their goals and solve problems with whatever tools are necessary. Rather than waiting for a security breach to come to light, marketing and IT directors are responsible for proactively identifying problems and solutions to enable their teams to do their jobs effectively and securely. Don't wait until it's too late.

Data Quality

Beyond concerns about data security, shadow analytics processes also present a danger to data quality.

With data being exported from multiple tools and uploaded to others, degradation is sure to occur. Standardized SQL Data Types like decimals and integers may be implemented differently in proprietary data stores, as are dates, times and other data types.

What happens to data quality when a `TIMESTAMP` is exported from one database into a spreadsheet, and then translated to a `DATETIME` when uploading it into another database? All those dashboards that have been painstakingly created and tested start generating nonsense reports. Junk in leads to junk out.

Each time data is manually adjusted or transformed, there is an increased likelihood that some data or metadata will be changed or lost. This can lead to significant data quality and integrity issues and adversely affect the overall validity of the resulting data analysis.

While many companies have corporate data quality initiatives to randomly sample and analyze data stores for accuracy, these processes don't exist for shadow analytics

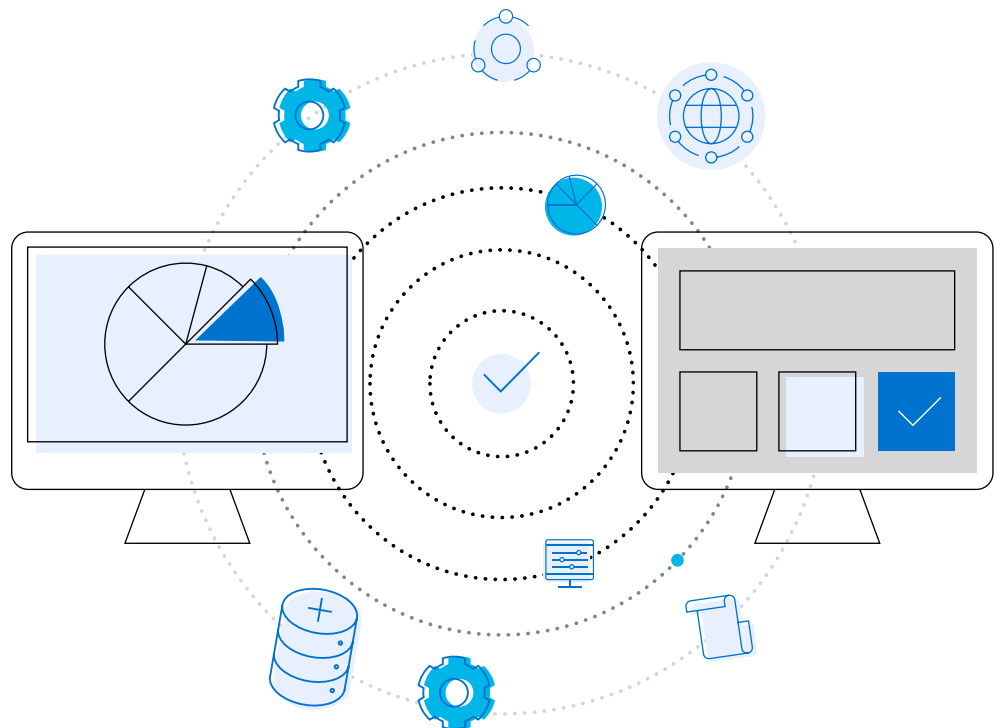
applications. They're operating outside the corporate bubble, without quality assurance or monitoring. How can IT or marketing operations teams monitor data they know nothing about?

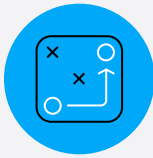
Data Lag

Accessing real-time data is a necessity for any type of accurate reporting or analytics, and every manual processing step increases delays in data availability. Consider the steps involved in manually transferring data from one repository to another. First the original source data must be queried or wholly exported, then the data must be moved over network or email, then imported to another system. Additional conversions may be required as another interim step. One can only hope some type of data quality check is being executed at each stage.

This process must be repeated for each system on a regular basis, whether using a single external data warehouse or moving data from one application data store to another. How often does this process have to be scheduled for all of the corporate analytics tools or reports to get the complete picture across the business? Weekly? Monthly? Quarterly? Every report that's pulled in between these transfers is inherently incomplete.

By contrast, enabling the full application stack to report directly on data where it resides means that dashboards and reports are pulling data that is timely and accurate. There's no need for data exports or transfers, no need for the monthly data quality checks, and no need to fear that sensitive data is being moved outside the corporate security wall.





Unique Shadow Analytics Challenges for ISVs

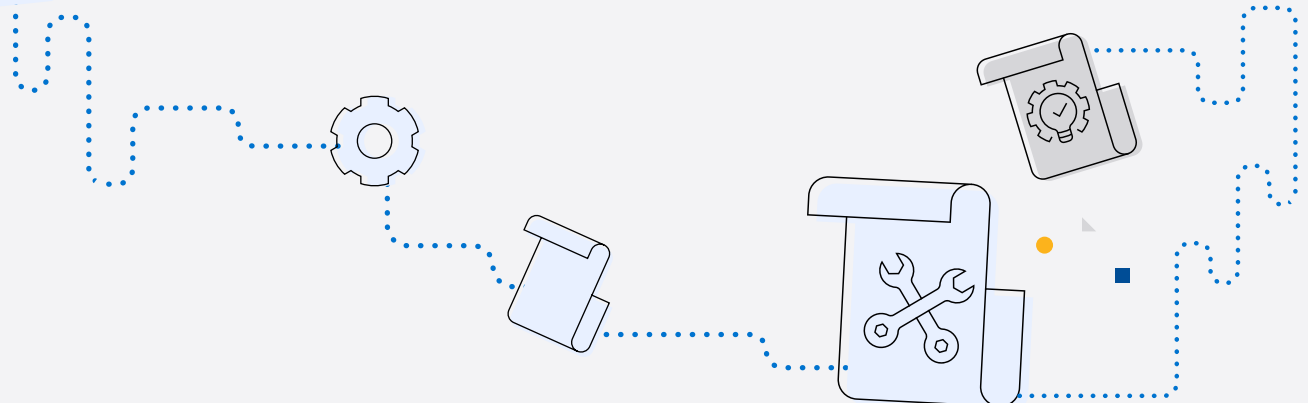
Beyond the shadow analytics challenges that direct users face, independent software vendors (ISVs) also must address an additional layer of complexity when dealing with data access and application interoperability issues. ISV customers expect comprehensive, rapid connection to multiple data sources, and product managers must know their market and anticipate which data stores and applications are necessary for their slice of the martech ecosystem.

This strategic planning is complicated by the breadth of applications and data stores in use across the landscape. Scalability, security, performance, breadth of sources and ease of use are all factors to consider when choosing a data connectivity solution for an ISV application. Growing market share is dependent upon retaining existing customers while expanding to meet the needs of new clients.

Beyond the number of data sources to address, speed and functionality are additional factors to consider. Data access must be both comprehensive and performant. Real-world performance evaluation of the ISV applications won't be simply timing a single SELECT or INSERT. Execution of operations must be fast and optimized for network efficiency.

Customers are running complex, multi-threaded environments with bulk data sets and multiple data sources. Engineering managers lead teams conversant in standard APIs like ODBC, JDBC, OData, REST and SQL, and their applications expect data access to implement complex functions. The ideal data access solution addresses existing technical debt while adding new features and capabilities, with faster performance to more data sources.

Choosing a technology partner means evaluating the breadth of a company's offerings as well as the depth of functionality. Finding a single partner, especially one experienced in the challenges of the ISV market, can lead to quicker and easier implementations to meet the needs of your customers.





Evaluating Solutions

When evaluating martech data access options, marketing users and IT users have different needs and priorities. To make the right selection, both sets of needs must be considered and weighed. Choosing based on only one set of priorities is sure to lead to conflict, incomplete solutions and future use of “shadow” tools outside the corporate standard.

Marketing User Needs

For marketing users, a successful data strategy must deliver access to a broad range of platforms and data stores including CRM, automation tools and web analytics. Robust connectivity to a single store becomes useless if that data can't be integrated with other platforms. Solutions must be evaluated across the full scope of the marketing stack to eliminate data silos.

In addition, timely access to data must be a priority. Solutions that require regular IT intervention or manual processing by the marketing team create barriers to day-to-day operations. Requirements for exporting data, doing manual imports, and maintaining data warehouses all decrease the effectiveness and timeliness of reporting.

Finally, a successful solution must meet the needs of the entire Marketing team. While business users expect smooth and flexible dashboards, analysts are looking for direct access to complex layers of data. A complete data solution must deliver both.

Marketing User Checklist

- Access multiple marketing data silos with a single tool
- Ability to see trends across multiple channels
- Simple, reliable systems that don't require frequent IT support
- Near real-time access to data
- Reduce manual processing and Excel exports
- Robust dashboards for teams
- Access to complex data for analysts
- Operate within corporate security requirements



IT User Needs

For IT users, robust functionality is likely less important than security and compliance. However, both aspects are crucial in order to prevent the rise of shadow analytics and unauthorized data transfers or workarounds.

Usability for business teams must be integrated with security requirements and the realities of distributed teams working remotely. Existing data collection and data residency requirements must be maintained for GDPR compliance.

In addition, integration with the corporate stack as a whole should be considered. How do solutions under consideration mesh with legacy data and existing application architecture? Can existing skills like SQL be used to implement and build the necessary dashboards? Are new tools interoperable with the current analytics applications?

Finally, martech solutions extend far beyond the selection and implementation. Will the chosen solutions function independently for business users, without constant need for IT support? If connections between marketing platforms like CRMs, marketing automation, and web analytics don't exist, IT teams must divert ongoing resources to data discovery and custom coding. Compatibility with existing architecture and real-time access to martech data removes a burden from IT.

IT User Checklist

- Proven compliance with required security standards
- Compatibility with existing architecture, including legacy systems
- Use existing SQL skills for easy implementation
- Reduce tech sprawl by partnering with the fewest possible vendors
- Utilize existing hardware and minimize impact on cloud data storage charges
- Ease-of-use for less technical business users, with minimal IT support needed

Conclusion

The martech landscape has never been so exciting and diverse, with new tools appearing on a regular basis. For businesses seeking innovative solutions, this is an exciting time to be in the market for martech. But rather than hopping on a bandwagon, marketing and IT directors must survey their existing infrastructure and application stack to determine requirements and necessary integrations.

Delivering ease of data access while maintaining tight security standards must be at the top of the list. But there's no reason to be afraid of your own shadow—you can avoid the dangers of unsanctioned data access by choosing connectivity solutions that deliver a single point of data access from multiple applications. Give your teams the tools they need to do their jobs effectively and you'll never have to worry about hidden systems, unauthorized exports or unsecured spreadsheets containing customer data.

Not sure where to start looking for solutions? As the industry leader in fast, reliable, and secure enterprise data connectivity, the Progress® DataDirect® portfolio offers a variety of connectors to popular martech platforms, including Google Analytics, HubSpot, Microsoft Dynamics 365, Salesforce and Oracle Eloqua. Leverage all the essential martech data across the breadth of your business and connect your martech silos to existing BI and reporting tools with a standardized solution.



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