Smarten
Advanced Data Discovery

# White Paper

## Self-Serve Data Preparation Provides Significant Benefit to the Enterprise

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**Abstract**

By providing sophisticated analytical features and algorithms in an easy-to-use self-serve environment, the enterprise enables business users to perform data preparation and test theories and hypotheses and prototype on their own. Rather than preparing data at the central meta-data layer, and restricting what business users can do and see, IT enabled (rather than IT controlled), self-serve data preparation allows users to compile and prepare data and use that data in analytics to test hypotheses, perform visualization and create and share reports, and create custom alerts and other information. Business users can control the data elements, the volume and the timing.

https://www.smarten.com
sales@smarten.com

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## Introduction

Self-Serve Data Preparation is a crucial component of Advanced Data Discovery. The emergence of self-serve data preparation features in business intelligence solutions has enabled organizations to transform business users into Citizen Data Scientists and, in so doing, to empower these users, hold them accountable for results, and improve productivity and resource allocation among professional analysts and IT professionals.

By providing sophisticated analytical features and algorithms in an easy-to-use self-serve environment, the enterprise enables business users to perform data preparation and test theories and hypotheses and prototype on their own. Users are not restricted to complex tools or forced to wait for programmers or ETL experts or data scientists. Self-Serve Data Preparation empowers business users and allows them to perform tasks, make decisions and recommendations quickly and with unprecedented agility.

Rather than preparing data at the central meta-data layer, and restricting what business users can do and see, IT enabled (rather than IT controlled), self-serve data preparation allows users to compile and prepare data and use that data in analytics to test hypotheses, perform visualization and create and share reports, and create custom alerts and other information. Business users can control the data elements, the volume and the timing.

## Benefits of Self-Serve Data Preparation

Some organizations remain reticent about self-serve data preparation, believing that there is inherent risk in an environment where business users can access and analyze business intelligence. This reticence is based on the idea that business users cannot appropriately prepare and interpret data and that in such an environment, the organization risks incorrect analysis and poor decisions.

However, if an enterprise prepares its environment, its business users and its analysts and IT teams, and plans appropriately with guidelines and processes to support a self-serve data preparation initiative, the benefits of this type of environment far outweigh any perceived risks.

### Benefits and Impact of Self-Serve Data Preparation

| Impact on Business User | Impact on the Enterprise |
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| Improved Productivity, Decision Timing and Collaboration | User empowerment, resulting in the evolution of 'power users' |
| Data and report sharing, improved insight | Improved data integration, management, governance and security |
| Ability to leverage data exploration and find crucial 'nuggets' of information | Improved TCO and ROI |
| Ability to access integrated data sources | BI tools that integrate with infrastructure and allow for future growth in user volume, data sources, etc. |
| Encouraged data 'popularity' and user adoption of BI tools | Optimized analyst and IT resources resulting in better focus on crucial projects and timely response to requests |
| Data agility to respond to day-to-day issues, opportunities and challenges | Improved flexibility and responsiveness as compared to centralized business intelligence model |
| One-stop data analysis | Decrease in reporting and decision delays and accuracy errors |

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| Improved integration of user and organizational goals and activities | Improved data provisioning and understanding of user preferences for types of data and reporting. |
| Ability to do mashups, data cleaning and reduction without need for IT | Comprehensive user access and data security |
| Ability to identify patterns and trends within underlying data | Analyst and IT teams can perform mature modeling as and when 100% data accuracy is required |

## Planning for Self-Serve Data Preparation and Analysis

As with any new initiative and solution implementation, the success of a project is greatly dependent on planning and an understanding of current and future workflow, user adoption and required skills and organization. There are many factors to the success of a self-serve business intelligence initiative and the transition of business users to Citizen Data Scientists.

### To ensure self-serve data preparation success, organizations must include best practices

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| Establish clear policies regarding ETL and DWH inquiries and IT and analyst optimization - remember that self-serve data preparation is complementary to these more detailed, skilled data inquiries and analytical initiatives. |
| Outline processes and approaches for data cleansing, data modeling and the maintenance and integration of data sources within the enterprise to ensure data integrity. |
| Leverage advanced data discovery among business users and analysts to encourage use of tools and collaboration. |
| Present and establish the value of self-serve data preparation and advanced data discovery tools to champion projects with business executives and business leaders to encourage adoption and expansion and promote self-serve BI tools and data democratization. |
| Develop usage and user guidelines based on use case scenarios to illustrate the best use of the solution and resources. |
| Establish IT foundational data management for integration, mashups and performance. |
| Assure scalability for user and data volume increase and optimize hardware and infrastructure usage, dependability and responsiveness. |
| Engage analysts and domain experts to explore and assess data sources and recommend governance and guidelines, data certification (watermarking), data auditing, etc. |
| Encourage social BI and analysis, and report and data sharing to create power users, 'data heroes', and popular data and content, and gain insight into what types of data and analysis are favored by business users. |

## Preparing the Data

Remember that data preparation is not a 'one off' activity. The process is iterative and ongoing and must be managed. Identifying and recommending data sources for integration with business intelligence and analysis is the first step but, because the organization is ever changing, these data sources must be monitored and changes made as appropriate.

### Data Preparation

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| Identify trusted data sources and assess integration capability |
| Identify team and individual responsibilities for data cleansing, preparation and certification |
| Create and monitor measurements and metrics to ensure uniform data quality |
| Establish a certification (watermarking) process for data to help users understand the source and validity of data. |
| Cleanse, transform and integrate data and establish continuous improvement and data monitoring to ensure data quality. |

## Preparing Business Users

Business users will welcome and happily adopt easy-to-use tools that allow them to make faster, better decisions and to gather and analyze information, share data, report and pursue opportunities without the delay or frustration of engaging others to do the work for them. But, self-serve data preparation and data democratization cannot happen in a vacuum. Business users must understand the benefits of the tools and, above all, they must have tools that allow them to perform these sophisticated tasks without frustration and with a minimum of training.

### Prepare business users for Self-Serve Data Preparation

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| Ensure that the selected BI tools meet user skill needs and provide expected features and functionality. |
| Assure that user expectations and assumptions area level set and that users have a clear understanding of when and how to use these BI tools |
| Establish and communicate user access rules |
| Ensure that business users know when to involve analysts or IT staff for more complex ETL or DWH inquiries or detailed requirements |
| Encourage and promote 'power users' and the emergence of 'data popularity' as a method to determine what data users need and how they want to see and use the data. |
| Establish use cases and illustrations to display the potential of plug n' play predictive analysis, smart visualization and self-serve data preparation. |

## The Future of Self-Serve Business Intelligence

A self-serve business intelligence initiative is not, and should not be, a decision that is made at a point in time without consideration for the future. Any product or solution the enterprise chooses must support time and budgetary requirements but it must also be scalable and flexible enough to accommodate increased usage and an increased user base, as well as new requirements that are not currently anticipated.

An organization may expand to numerous locations, or it may acquire another enterprise, in which case it will need to integrate other data sources. An enterprise may need to alter user access or create additional layers of security, it may need to create standard reports or dashboards or allow for stakeholder or partner collaboration or access, it may need to accommodate new mobile devices, screen sizes or access points. Any and all of these things are probable and that required flexibility must be incorporated into the solution selection criteria.

Hardware, infrastructure, cloud integration, changes in resource availability, skills, analytical needs and reporting requirements should also be considered. It isn't enough that a BI tool meets today's requirements. The time and investment of a self-serve business intelligence initiative must support future requirements as well and it must encourage and support business users throughout and beyond the initial self-serve data preparation project.

There are a number of important factors an organization must recognize and accommodate in planning for the future growth and evolution of a self-serve data preparation initiative.

## Looking to the Future of Self-Serve Data Preparation

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| **The Emergence of Power Users** | Whenever and wherever people gather and collaborate, leaders will always emerge. The same holds true with self-serve data preparation. As business users gain knowledge and insight from self-serve BI tools, they will naturally share reports and data and from this sharing, power users will emerge. Business users will recognize the creativity, clarity and precision inherent in the work of other users. If an enterprise wishes to grow its self-serve BI culture, it must acknowledge and recognize the potential of this type of sharing and collaboration and support this transformation with flexible BI tools that allow for a natural progression and evolution of data analysis and sharing and provide the opportunity for business users to learn from one another. |

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| **Data Popularity vs. Data Quality** | The wise enterprise will resist the temptation to declare the significance and importance of 100% quality data across the board. In truth, the day-to-day decisions made by business users require good, solid data, but they do not always require 100% quality and precision. Giving business users self-serve data preparation tools allows them to make these important decisions in a timely and accurate fashion and, when required, these users can seek the assistance of analysts and IT professionals to perform ETL or DWH inquiries and searches and produce 100% accurate data as required. It is important that the enterprise recognize the value of both approaches and allow business users to grow into these self-serve BI tools and improve their own knowledge and skill. From the crucial foundation of self-serve data preparation, a culture of 'data popularity' will emerge. Users will adopt and appreciate BI tools and adapt to the opportunities provided by data sharing to identify popular data and reporting techniques. As this evolution takes place, the enterprise will see an improvement in collaboration, productivity and resource optimization as well as the quality and timeliness of decisions that impact the bottom line. |

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| **Insights from Social BI** | Social BI is the natural progression of sharing business intelligence and the enterprise should welcome this transition as a foundation for continuous improvement in the future. Social BI allows users to rate, share and discuss data and reporting and, in so doing, improve the precision and relevance of analysis and coloration. As the organization comes to understand the types of data and displays that are valued by business users, it can better supply data sources, and respond with flexible tools and opportunities to improve insight and decisions. As with any type of social media and social networking, Social BI will grow and change as it is driven by the needs and preferences of users and the organization will remain relevant and responsive. |

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| **Encouraging Productivity & Resource Optimization** | As self-serve data preparation is adopted and used in the organization, the enterprise can monitor and manage resources to fully optimize the skills, knowledge and availability of business users and skilled analysts and IT staff. The ability to manage these resources and to balance budgets against the need for improved response time and decision accuracy offers a competitive advantage to every enterprise. |

## Conclusion

Self-serve data preparation allows users to compile and prepare data and use that data in analytics to test hypotheses, perform visualization and create and share reports, and create custom alerts and other information. Business users can control the data elements, the volume and the timing. There are significant benefits to a self-serve data preparation approach to business intelligence and to BI tools that support this approach. The enterprise will enjoy improved productivity, both in the business user domain and in the domain of data scientists, analysts and IT staff. When business users are empowered with sophisticated self-serve data preparation tools, they can make clear, concise decisions, and manage day-to-day challenges, and opportunities. This self-serve approach does not replace, but rather augments, the more precise, detailed reporting and analysis required for crucial projects or decisions that demand 100% accuracy. The addition of self-serve data preparation tools will support the emergence of power users and data popularity and enable the enterprise to gain insight into the types of data and reporting its business users prefer, thereby improving data analysis, data sharing and the precision and timeliness of critical business decisions.

## About ElegantJ BI

The ElegantJ BI business intelligence solution re-imagines business intelligence, and the possibilities inherent in business user empowerment. ElegantJ BI is a self-serve, mobile BI tool designed to support data democratization and transform business users into Citizen Data Scientists. The ElegantJ BI Advanced Data Discovery, Smarten approach to BI tools, includes Plug n' Play Predictive Analysis, Self-Serve Data Preparation and Smart Data Visualization. In 2016, ElegantJ BI was listed as Representative Vendor in the '*Gartner Market Guide for Enterprise-Reporting-Based Platforms*', and noted in the '*Gartner Magic Quadrant for Business Intelligence and Analytics Platforms*'.

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