

Interactive Edge

Getting the Most Out of Your Data by Putting It in the Hands of Knowledge Workers

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Consumer goods (CG) manufacturers must increase their sense of urgency regarding improvements to their category management capabilities. Their desires to increase the number of "category captain" relationships are inconsistent with their investments in automation of this mission-critical function. Failure to increase automation investments will result in continued loss of competitive advantage and retailers "taking back" the responsibility and further isolating manufacturers. Through 2008, at least 25% of retailers will threaten to "take back" the analyses currently performed by manufacturers, unless manufacturers improve their analytical capabilities.

- Dale Hagemeyer, Gartner Analyst



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Executive Summary

Your organization has made significant investments in enterprise data management. Are the most important stakeholders in your enterprise leveraging that investment to drive bottom-line growth? Unless you have empowered the Knowledge Workers in your organization to access and use that information in a familiar and flexible environment, you may not be seeing the return you had hoped for.

This Whitepaper examines the issues facing Knowledge Worker access to enterprise data and recommends an approach to empower Knowledge Workers to leverage enterprise data to work more efficiently and effectively – creating real best practices. Remember, a true best practice is used by a broad audience to move your business forward; otherwise all you have is best ideas.

Is Your Data Warehouse a Roach Motel?

If your organization is like most, you have spent a lot of time and money recently to collect, conform, and consolidate the data that exists in pockets across your enterprise. Hopefully, these “three C’s” of enterprise IT have started to positively impact your bottom line and facilitate structured growth. Data harmonization, however, is not without its problems.

One of the more prolific problems facing organizations like yours is the idea of the “data roach motel.” A strong, centralized data warehouse offers huge economies of scale, flexibility and consistency across multiple Strategic Business Units, but it also has the potential to alienate groups of users. Unfortunately, Knowledge Workers are typically presented with few options to get value out of the enterprise data warehouse – even through these systems are often implemented with the goal of providing them with broader access to enterprise data. Issues affecting Knowledge Workers access to key data often fall into three areas:

In 1959, Peter Drucker coined the term Knowledge Worker in *Landmarks of Tomorrow*. The term Knowledge Worker is commonly used to describe stakeholders in an organization who consume and analyze data in an unstructured way to meet collaborative business goals. Senior Management, Marketing Professionals and Sales Executives are all examples of Knowledge Workers in today’s workplace.¹

Problem #1: Access points are too esoteric for business users

An enterprise data warehouse aims to satisfy stakeholders across the organization with a central flow of consistent information. Effective data management has been a huge success in breaking down departmental walls within large enterprises and moving the needle in terms of organizational efficiencies.

An enterprise data warehouse can be thought of as the backbone of the Information Supply Chain (Figure 1). As such, a conceptual view of the enterprise warehouse shows two distinct types of nodes: data input and data access. Line of business systems like SAP provide a strong foundation for data input, with the ability to accommodate multi-system, multi-model data input from a huge variety of sources throughout the enterprise.

However, data access becomes a bottleneck – especially when you consider that by its nature the process of MDM creates a source of data that is continually growing in terms of size and complexity.

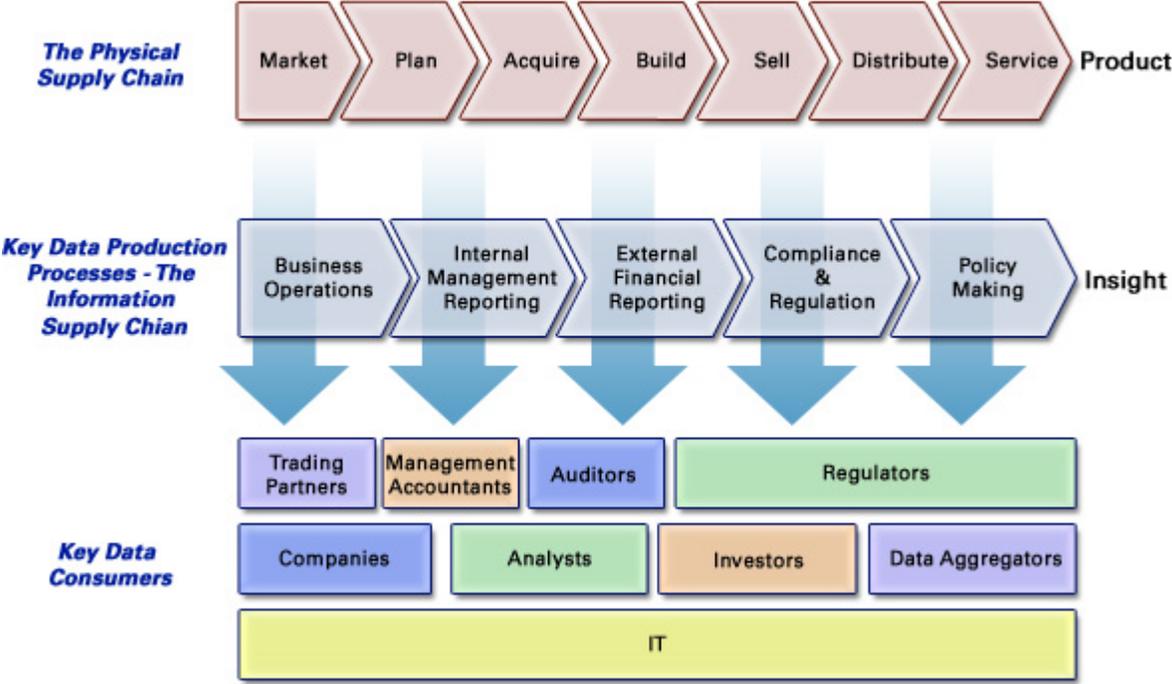


Figure 1 Reference: www.dmreview.com

In the world that we work in, many employees have job responsibilities that focus specifically on extracting insights from the data warehouse. Depending on you/ organization, these people may be:

- Sales Analyst
- Category Analyst
- Admins

Regardless of the title given to these people, there are two unifying qualities to them. They are experts in using data extraction and mining tools to uncover information stored in the data warehouse, and they typically hand those insights over to a Knowledge Worker who uses them to address a specific business goal. The fact that labor specialization is often necessary to extract information from the enterprise warehouse creates a bottleneck. This buffer between most Knowledge Workers and the data warehouse not only creates inefficiency, it stifles creativity and the ability to apply front-line business acumen to the information resources of the organization to help grow the bottom line.

Problem #2: End-user authoring tools don't exist

Over the past 30 years, this buffer between enterprise data and Knowledge Workers has taken many forms.

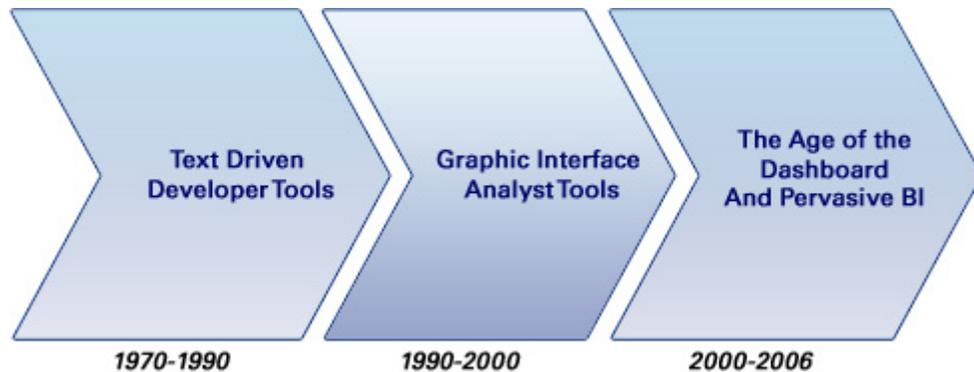


Figure 2

At the dawn of the information age, data access was limited to a select group of individuals who had access to mainframe machines through SQL queries. By the mid-1980's, corporate users were analyzing data obtained from remote storage locally on their PCs. With the emergence of the Internet in the mid-1990's, the Business Intelligence paradigm shifted to centralized data repositories accessible via interfaces and ad-hoc query and reporting tools focused at analysts. Recently, there has been a significant shift towards the web-based dashboard and pervasive BI that allows reports to be defined centrally, and made available to all stakeholders in an organization.

Despite the rapid evolution of data access technologies, the current landscape does not widely support the creation of content directly by Knowledge Workers. Instead, analysts and IT professionals are typically charged with creating content that is applicable throughout the organization. While this approach clearly drives efficiency, it fails to leverage the expertise of Knowledge Workers throughout the organization and threatens to alienate individuals with high levels of domain expertise.

Problem #3: Best practices not being created or leveraged

Because the majority of data driven content within an enterprise is not developed by end-users there is a real issue with best practices not being spread through the organization. Compounded with the fact that most of today's technology is focused on the idea of a central push to the fringes of the enterprise, insights that are delivered from the data warehouse usually wind up being the lowest common denominator.

In 2004, Gartner predicted that more than 50% of data warehouse projects would fail to meet expectations or would be outright failures.²

It is true that most modern BI tools enable some type of user interaction to access relevant data points. However, the vast majority of these tools provide the Knowledge Worker with a predefined framework for analysis and a rigid drill path to get at insights. This situation presents Knowledge Workers with two options: take what they are given, or work in a silo and develop their own best practices.

So what's the answer?

Step #1: Provide better access to data

Master Data Management is the foundation of giving Knowledge Workers access to the right data. It's important to recognize that MDM is more than just the process of creating a data repository. Effective MDM platforms like SAP NetWeaver BI and Microsoft Analysis Services typically provide the following key benefits:

Query Performance

Knowledge Workers need to receive answers to ad hoc questions quickly and consistently. In fact, Nigel Pendse, one of BI's leading minds, states that with slow response times "users are likely to get distracted and lose their chain of thought, so the quality of an analysis suffers."³

Metadata Abstraction Layer

Although this sounds complicated, the metadata layer can be thought of simply as information about data. This information usually consists of attributes that make the data usable by Knowledge Workers. For instance, the metadata layer might contain information such as the color, flavor and size of products sold by the enterprise, or details of the supply chain for a particular store or factory. A metadata layer is critical to allow Knowledge Workers to access the data in the central warehouse in a language that they are familiar with and slice-and-dice it based on real business issues.

Interoperability

Chances are that you've heard people say that their enterprise is an "SAP shop," a "Microsoft shop," or some other vendor's "shop." The reason that these large vendors' platforms can become the sun at the center of an organization's universe is that they are interoperable — the platforms are designed to seamlessly accommodate other systems and tools. The seamless nature of these systems comes from the fact that they have standard, published protocols for data input and access. For Knowledge Workers, an interoperable MDM system means having the option of using third-party, business user tools to get at the data in the central warehouse with the platform vendor's (and IT's) stamp of approval.

Effective MDM helps Knowledge Workers be more effective by providing fast, flexible and standardized access to the information resources of the enterprise.

Step #2: Provide Knowledge Worker authoring tools

Earlier this year, Microsoft and SAP jointly acknowledged the need for better Knowledge Worker access to enterprise data with the release of Duet – an offering to integrate specific, data-driven business processes into the Microsoft Office environment. According to Gartner Research, this solution "provides a vision of a future in which the integration of structured and unstructured processes is possible, and where users' business information is increasingly centered on their specific needs and experienced through their productivity tools."

Unfortunately, Gartner also goes on to recognize that with "vendors (SAP/Microsoft) in control of the delivered scenarios and development framework, users may not realize the full potential of such capabilities". To truly empower Knowledge Workers to leverage their

own expertise against the data in your warehouse, it's necessary to provide them with tools that become part of their everyday existence and meld with their day-to-day work environment. In that regard, Duet represents a breath of fresh air, not unbridled freedom to create.

Given that Knowledge Workers (especially those in customer facing roles) spend the majority of their time in Microsoft Office, an effective tool for transforming data into insights (and revenue) needs to live in that environment. Allowing Knowledge Workers to develop their own data-driven content directly in Microsoft Office is critically important to closing the gap between warehoused data and bottom line impact.

Step #3: Provide tools that contribute to the creation and use of Best Practices

The phrase "No man is an island" probably was not coined with the modern enterprise in mind, but its applicability is clear. The interconnected nature of jobs within a modern business is the result of hundreds of years of corporate evolution and is evident in virtually every aspect of our business day. From instant messaging, Blackberries and email, to corporate portals and dashboards, much of our daily lives revolve around sharing information. To that end, considerable effort has been put into conveying that information in a format that makes it most effective—a best practice.

As stated earlier, though, the problem with best practices in most organizations is that many are simply the lowest common denominator, not true best practices. Within your own organization, you can most likely name a few Knowledge Workers that work in silos and develop their own Data Shadow Systems. These domain experts, although effective in their silos, are not contributing to the positive growth of the corporate ecosystem as a whole. Without the ability to develop and share best practices at the Knowledge Worker level, some of your organization's richest assets are being squandered.

Turning Shadow Systems into best practices requires giving Knowledge Workers the ability to:

Take advantage of attribute based analysis

Knowledge Workers are the front-line of an enterprise and as such are in a unique position to apply real-world expertise to leverage the data in the central warehouse. Instead of predefining 'best practice' views of the data or drill paths, give your Knowledge Workers the ability to develop true best practices by slicing and dicing data based on attributes that exist in the warehouse.

The metadata layer in the central data warehouse should provide a foundation for this, but end-user tools must be in place that allow a Knowledge Worker to collate these attributes into meaningful analyses on-the-fly and in a friendly environment like Microsoft Office.

According to Rick Sherman, Data Shadow Systems "are groups of spreadsheets and local, customized databases - often Microsoft Access and statistical databases - created by business groups to gather data for their users. While these systems provide exactly the information that business users are asking for, they are rarely part of an enterprise's official data warehouse corporate performance management strategy. Outside the purview of the IT group, they often spawn data silos with the usual problems of inconsistency and quality."⁴

Share

Shadow Systems typically exist because the reuse of the thought process to create them is far too complicated for a general audience. The result is that silos of knowledge and expertise exist. Sharing best practices aims to resolve this issue. However, simply sharing end results of best-in-class analyses is not enough. To develop and spread best practices, it is necessary to create an environment in which every Knowledge Worker has the ability to be as productive as the stakeholders that help define best-in-class.

Defining and sharing true best practices is dependant on tools that allow business authors to provide their peers with the ability to repopulate data-driven content dynamically and have guided, context sensitive analyses complete with graphics (e.g. charts and tables) and text (e.g. intelligent commentary and findings). Needless to say, the medium for this sharing of best practices among Knowledge Workers should be user friendly and in Microsoft Office.

Automate

Best practices are only best practices if they are used by a broad audience; otherwise what you have are best ideas. Automation is critical to distributing best-in-class thinking and driving adoption throughout the enterprise. Generally speaking, there are two types of automation—scheduled and ad hoc. Scheduled automation gives Knowledge Workers the ability to push out best practices across a wide user base with no manual intervention, while ad hoc automation empowers Knowledge Workers to pull appropriate data into best practice content on demand.

For instance, a Knowledge Worker might define a best-in-class PowerPoint presentation for reviewing sales performance in a particular geographic region. Scheduled automation of this deck might see it iterated out for each sales rep in the company based on that recipient's sales territory on a weekly basis, complete with all applicable charts, graphs and findings. Ad hoc automation, on the other hand, might see a single Knowledge worker updating the deck on demand to reflect different combinations of products, time periods and geographic regions to perform 'what-if' analyses instantly.

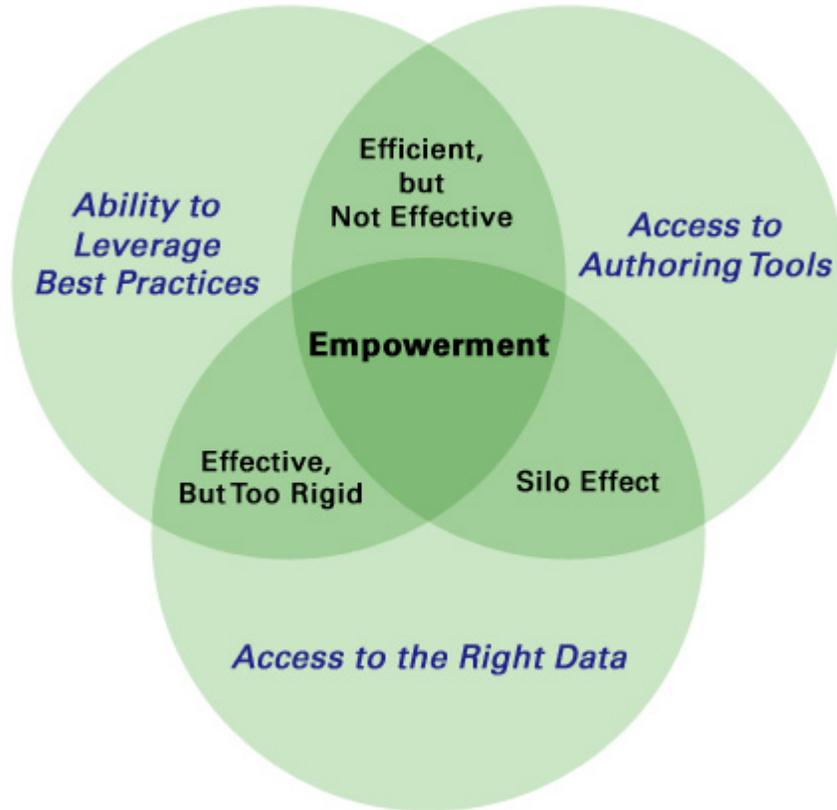


Figure 3

Putting it all Together: Empowering the Knowledge Worker

The confluence of data access, end-user authoring tools and best practices yields Knowledge Workers who are empowered to effectively and efficiently use the information resources of your organization to move business forward. As depicted in Figure 3, any of these three concepts can certainly contribute to bottom line growth in your enterprise. However, the sum parts winds up being much larger than the individual components.

Imagine an environment in which Knowledge Workers throughout the enterprise can integrate their Microsoft Office documents seamlessly with the central data warehouse, author their own content and share not only their findings, but their methods and business acumen with peers and management; all with zero involvement from IT. This ideal is already reality in some organizations.

Knowledge Worker Empowerment in Action

The following is a short case study about a company that successfully empowered its Knowledge Workers through the application of appropriate technology. This organization is one of the world's largest manufacturers of toys.

The Problem

This organization sells a huge variety of products across several large retailers. The toy industry is very volatile, with constant shifts in product sales trends and even category definitions. This organization wanted the ability to let end users create and share data driven PowerPoint presentations that reflected common product definitions across more than 20,000 SKUs and allowed the users to define hierarchies on-the-fly to accurately

reflect each retailer's business. Using the retailers point of sale (POS) data, this organization also wanted to create a single, integrated data warehouse that allowed end-users to view a 'total universe' as well as the granular data for each retail partner.

The Solution

Using XP3, from Interactive Edge, this organization automated the data loading, integration and segmentation process. This process included:

- Automatically loading data from all POS providers
- Automatically assigning product and time period attributes based on the internal structure in the organization's global reporting system
- Automatically creating an integrated source of data by aligning products, time periods and measures across the data provided by each retail provider
- Providing access across the enterprise to a robust set of data on an open, industry-standard platform

XP3's add-in to Microsoft PowerPoint was distributed to Knowledge Workers throughout the organization, and end-users were trained and empowered to:

- Author best-in-class sales and marketing analysis decks directly in Microsoft Office
- Provide management and retail partners with real fair-share numbers based on an integrated view of the POS data
- Create and drill into dynamic data hierarchies based on a common set of attributes, directly in Microsoft Office
- Distribute and present dynamic, data-driven presentations complete with intelligent findings, Excel charts and tables and geographic maps in both a connected and off-line state

The Result

Originally rolled out in the United States, this system is now used across North America, Europe and Asia to empower Knowledge Workers throughout the global organization. End users are able to better leverage the enterprise data by effectively presenting it to customers, partners and management in a familiar Microsoft Office environment. Presentations in this organization now speak to a consistent source of data and provide Knowledge Workers with both the ability to show a global view of the business and customize and drill into data on-the-fly to meet specific business goals quickly and cost-effectively.

Interactive Edge

Interactive Edge develops and markets software solutions designed to put the right information in the right hands at the right time. Award winning XP3 combines a powerful data analysis engine with flexible end user tools to summarize and visualize useful, compelling data on demand, and has proven highly effective as a point of impact solution for distributed sales and management teams. Interactive Edge is a Microsoft Certified Partner and is certified by SAP for NetWeaver integration. Year after year Interactive Edge is the recipient of numerous awards including Consumer Goods Technology Magazine's "Best in Class" and "#1 in Customer Experience". XP3 is leverage to drive bottom line growth at some of the largest and most influential enterprises in Consumer Goods, Life Science and other industries.

Notes and References

^{Cover} Hagemeyer, Dale. Consumer Goods Manufacturers Have Category Management Options; However, Automation Is a Must. Gartner, Inc. ID Number: G00142717. 19 September 2006

¹ Drucker, Peter. Landmarks of Tomorrow: A Report on the New "Post-Modern" World. 1959.

² Friedman, Ted. CIO Update: Data Quality 'Firewall' Enhances the Value of the Data Warehouse. Gartner, Inc. ID Number: IGG-04212004—02. April 21, 2004.

³ www.olapreport.com

⁴ Sherman, Rick. www.dmreview.com/article_sub?articleId-1053406