

Integrating and leveraging global spend data at Intel Corporation

Introduction

Access to company-wide spend data is a powerful tool for reducing cost and improving collaboration with suppliers. For large global corporations, however, detailed spend data is generally distributed across multiple systems, organizational units, and geographies, making aggregation and integration challenging.

At Intel most spend data is generated in one of the multiple instances of the ERP system that support its operations around the world. To enable this data to be efficiently aggregated and fully utilized, Intel launched the Global Procurement Reporting (GPR) initiative.

A key factor in the success of the initiative was that it was driven by clearly defined, high impact business requirements, and architected to deliver the data with the greatest business value. Under the initiative, detailed spend data from across the company is standardized and extracted to an enterprise data warehouse. Once centralized, the data is integrated and used to enable high quality business intelligence and analytics for spend analysis and monitoring, which are delivered to the desktops of business users across the company.

Intel was able to reduce the cost and organizational impact of the Global Procurement Reporting initiative by coordinating its activities with those of a major ERP re-implementation. Doing so provided valuable synergies in the alignment and standardization of data definitions, business processes, and transaction systems, enabling more comprehensive business transformation.

Launch of the initiative

Intel's GPR initiative was launched by business leaders in its materials management organization to capture the business value of centralized, easy to access, high quality enterprise data about Intel's spend, on both direct and indirect materials and services.

Prior to the initiative, individual procurement teams across Intel maintained much of their own data. Because different standards were used, aggregation and integration were difficult, and it was costly and time consuming to get answers to important questions about overall spend and supplier performance. Based on these obstacles the value creation opportunity for the GPR initiative was estimated to be in the tens of millions of dollars.

The team

The team created to lead the initiative included members of both Intel's materials management and IT organizations. This leadership team had access to members of Intel's enterprise data warehouse management team, including a data architect and several modelers assigned to the procurement domain, and to the team leading Intel's ERP re-implementation.

Building the foundation: Master data management requirements, and integration with ERP re-implementation

As noted above, prior to the GPR initiative individual procurement teams maintained much of their own data. As a result, before spend data could be aggregated and integrated across the company, common data standards had to be created. To implement the data standards, the implementation team developed a standardized set of business terms, definitions, and rules.

While the purpose of the data standards was to create a consistent data model across the company, the overall GPR initiative drove commonality in business processes and systems. Since the GPR goals were driven by clearly defined, high impact business needs, valuable synergies resulted between improved data access, business process redesign, and business intelligence capabilities:

“GPR started as the reporting leg of the (e-procurement) solution, but it gradually grew in significance to become the transformation engine in the creation of a comprehensive BI infrastructure.” - Robert Muller, Business process and data management group manager, Intel Materials Business Solutions

By coordinating implementation of the data standards and business process with Intel's ERP re-implementation, the GPR team was able to realize important synergies in process design, enabling it to extend the business transformation deeper than otherwise would have been possible.

For example, by working jointly the GPR and ERP teams were able to streamline and standardize the transactional business applications used by Intel's procurement and materials management teams. Similarly, the new ERP implementation included a new supplier data model that better reflected the attributes and relationships required for spend analytics and compliance reporting. By integrating changes in data standards and systems in this way, the GPR and ERP re-implementation teams were able to ensure a smooth transition from legacy systems and data sources to the new systems and data sources.

“A key element of success was the leverage that GPR and the ERP re-implementation provided to create standardized data. Without those forcing

*functions, there would have been very little incentive to align.” - Greg Valdez,
Director of Master Data Engineering, Intel*

While the changes in data standards and business processes required each of Intel’s materials and procurement teams to make changes, in exchange the teams benefited from standardized, best practice processes, and from the ability to access detailed spend data from across the company through GPR, which was established as the information hub for Intel’s materials management and procurement activities. By basing the changes on clearly defined, high impact business requirements, the value realized was greatly increased:

“97 percent of the value was sourcing-related, while only 3 percent was transaction management-related. The sequence of events that goes "first deploy the transaction engine, then deal with the reports" is backward, creating a strong risk that the reporting output will not be tied to the actual transformation business values.” – Robert Muller

Data sources and data governance

While the majority of information the GPR contains comes from Intel’s ERP systems, some information, including information about the terms and conditions of Intel’s supplier contracts, comes from other sources. Integration of data originating across different sources provides many benefits. For example, by integrating transactional spend data with data on contract terms, Intel is able to ensure that it realizes the benefits of the contract terms it has negotiated.

To create and manage the data model required to centralize and integrate Intel’s spend data, a data architect and several modelers are assigned to the procurement domain. In addition, a governance board oversees data standardization and integration policies, and is responsible for resolving change management issues for supplier, commodity and source item data definitions.

Key to success and on-going development: A close partnership between business and IT

To support the GPR capability on an on-going basis, members of Intel’s supply management team work closely with IT to ensure the right data continues to be extracted, monitored and managed over time as Intel’s business needs, spend areas, and supplier relationships evolve, and as changes and upgrades to its ERP systems and other data sources are made.

To make this possible the materials organization at Intel has assigned permanent roles to this function. This enables members of the materials team to develop the deep expertise required to work effectively with their counterparts in IT to map out the vision, roadmap and detailed execution plan required to achieve key GPR goals.

For example, business data experts were deeply involved in the selection of the master data management solution for supplier master data and its subsequent development, and in the development of item and commodity data definitions.

The roadmaps developed by the joint team get visibility at top management levels in the materials & procurement organizations, and are carefully linked to the capabilities required to meet the key business objectives enabled by GPR capabilities.

Finally, the joint business and IT team measures progress constantly, and funds small but meaningful continuous improvement efforts to extend best practices and refine the team's future roadmap.

Business impact and ROI

In 2007 the GPR initiative received Intel's IT Excellence Award. The description of the award summarizes the business impact of the initiative:

“Congratulations to the Global Procurement Reporting team for flawless delivery of an industry leading reporting solution for Materials and Accounts Payable. This solution captures over 98 percent of Intel's procurement spending, demonstrates how best to design ERP applications to maximize data value, and demonstrates leading edge reporting capabilities such as desktop report delivery via e-mail and event driven alerts to the desktop. This capability is a core component of the eProcurement program that has delivered over USD 300 million of business value to date.” 2007 Intel IT Excellence Award

The comprehensive spend data made accessible by the Global Procurement Reporting initiative allows Intel's supplier negotiation teams to be highly effective, driving improvements in cost, supplier performance, and accountability by leveraging detailed data about spend and supplier performance.

GPR data and processes also allow supply management teams throughout Intel to coordinate and collaborate more effectively, enabling improvements in supplier selection, materials management, and best practices.

Finally, access to consistent and detailed procurement data has provided important benefits in the working relationship between the procurement and materials organizations and other functions with Intel, such as finance and IT, by providing the data foundation required for informed decision making.

Impact of GPR on Intel's enterprise data warehousing strategy

Prior to the GPR initiative Intel's enterprise data warehousing activity focused primarily on consolidating data into a single location, rather than on integrating data inside the warehouse to enable more effective decision making. For example, the initial role of the enterprise data warehouse team in the GPR initiative was simply to help the GPR development team find and model the data it required.

Through its involvement in the GPR initiative the EDW team identified many data integration opportunities that could be developed for broader usage—well beyond the needs of GPR. As a result, Intel's EDW team is now developing a broad layer of integrated enterprise data and using it to deliver 'data on demand' services capable of supporting a wide range of business intelligence applications across the company.

"Data on demand services are about getting to business solutions faster, with fewer resources required and at substantially higher quality levels," – Greg Valdez

Leveraging the learning across other functional areas

The success of the Global Procurement Reporting initiative, together with the experience the GPR team gained with the IT capabilities and organizational processes that enable it, provides a foundation that can be leveraged across other key operational activities at Intel. Particularly large opportunities exist for activities that span multiple functional organizations, such as supply chain management, customer relationship management, and sales and operations planning, due to the range and diversity of data involved, and the number of source systems and organizations.

Stakeholders in these domains who choose to pursue these opportunities benefit from access to the GPR's team of internal experts, and from the processes the GRP team has developed for working across business and IT boundaries. The most important of these is ensuring that initiatives begin with clear identification of the key business needs, and that these needs drive decisions and investments in data standardization, business process and systems change, and governance.

"The BI-driven design drives a reverse re-engineering-based approach - first, identify the data that is required to accomplish the program value drivers, and then influence the business and system/application architecture aspects."
- Robert Muller

Future initiatives will also benefit from the investments Intel's EDW team has made in integrated enterprise data, and in technical capabilities for master data management. Together these resources enable significant reductions in the cost, lead time and risk of new initiatives at Intel designed to bring benefits to other key business functions at Intel similar to those the materials and procurement organization has realized from GPR.

Key Take-aways

The success of the Global Procurement Reporting initiative demonstrates the value that integrated enterprise data can bring to high impact business needs like enterprise spend management. The processes Intel used to implement, sustain, and build on the initiative highlight five key success factors:

- Executive leadership from key business stakeholders to ensure that critical, high impact business needs are met, and to secure necessary organizational support
- A leadership team that combines business and IT and has the continuity to develop deep cross-functional expertise over time
- An enterprise data warehousing strategy that focuses on integrating data, as well as centralizing it, to enable a broad range of additional high-impact data services
- When possible, integrate the initiative with major IT and business process redesign activities, to leverage synergies and minimize organizational impact
- A roadmap that leverages early business successes and investments in integrated data to drive BI-led business transformation, and enable similar initiatives to meet other key business needs