



# Five Disciplines of Business Intelligence®

HOW WE VIEW THE SCOPE OF BUSINESS  
INTELLIGENCE IMPLEMENTATIONS

## An Overview

**“Just tell me, what do you want me to do?”** As an Information Systems Executive responsible for Information Delivery, Business Intelligence and/or Data Warehousing, don't you wish you could ask someone this question and get a helpful answer? Your CIO probably can't answer it, because he/she doesn't have your level of expertise in BI. Your business clients might know what they want now for their specific interests, but they can't help you integrate all business requests, nor can they help you respond to next year's needs, nor those of the following year. Your platform vendors might have excellent suggestions, but they really don't know your business the way you do, and you have to consider their bias. The big system integrators can help you figure it out, but at what cost? And, if the big system integrators are needed to answer the question for the corporation, then why are you there too?

The reality is that no one but the IS Executive responsible for BI can answer this question properly. The BI thought leader needs a mental framework for cataloging the range of activities and associated responsibilities required to execute a respectable Business Intelligence program in an organization of any size or substance. If we look to the sister professions of Engineering, Medicine, or Accounting we can find standard definitions and conventions that tell us when a job is complete, or when it is correct. For our profession, we need to define the disciplines of Business Intelligence. Based on our experience here at Lancet and in the trenches of Corporate America IT, we see five -- The Five Disciplines of Business Intelligence®.

**Master of the Obvious?** The Five Disciplines of Business Intelligence® are not breakthrough thinking. The activities and responsibilities we define are part of most mature IS shops.

The Five Disciplines of Business Intelligence® is more a packaging of our observations than a contribution of content. Nevertheless, the packaging provides a valuable mental framework. Frameworks provide structure and focus, and they provide a paradigm for communication. The Five Disciplines of Business Intelligence® are defined from the perspective of the Data Warehouse Director, or the highest level leader in the organization that deals with information delivery issues.

## The Five Disciplines framework provides several benefits:

- It provides a list of functional responsibilities that need to be addressed by the organization to assure a stable and productive Business Intelligence program. It represents responsibilities for execution, opportunities for influence, and the domain of Business Intelligence contributions.
- It influences organizational design. While there are several ways to break up the work, there is no way that any one individual or small team is likely to have the range of skills and experience to deal effectively with all aspects of all Five Disciplines. In large organizations, no single group would be granted the authority and autonomy to make their own decisions on all issues regarding the Five Disciplines. The framework lets the BI Executive delegate within his or her team. For those components of the framework that the BI Executive does not control, it encourages him or her to form partnerships and negotiate service levels with peer organizations that service the BI program.
- It sets a standard, a convention, and a best practice. If the Five Disciplines framework asserts that a Business Intelligence program should address data quality, for example, it might make it easier for the BI Executive to direct appropriate infrastructure funding to the issue. The standard legitimizes the issue as a common issue faced by many.
- It provides a structure for assessment and measurement. It allows the BI executive to set dials on the various components of his or her program and track progress, both on the visible and tangible

delivery of new BI functionality to the portfolio, but also on the intangible and behind-the-scenes foundational work that assures a BI investment will be lasting, supportable, and consistent with the needs of the sponsors.

- For Claraview and our professional services practice, it helps us show our clients where we can and cannot help. It allows us to collaborate with our clients to find points of pain, whether known or latent. It guides us in setting a course of action with a deliberate strategy to attack those points of pain, with proper priorities, and in a cost-effective manner.

It is important to note that the Five Disciplines Framework does not by itself solve the issues of BI Program Management; it only identifies the scope and range of what the issues are. The Five Disciplines framework describes the “what” of BI. The “how” of BI is covered by the combined work of a range of authors, the observed practice of BI professionals throughout the industry and the expertise harbored in select professional services practices who specialize in the disciplines of Business Intelligence.

The Five Disciplines of Business Intelligence® are anchored by the first discipline, Project Execution. Project Execution is the art and science of defining, developing and delivering BI functionality to an end user community. Much is written about managing BI projects, and as the field matures, those who have 10-, 15- and perhaps 20-year careers working in the field have emerged to become seasoned practitioners of the BI craft. While project management is critical, the point of The Five Disciplines is that there is much more to BI and Data Warehousing than just managing projects. Without the other four Disciplines, the projects become more costly, and their work products less integrated with other components of the portfolio.

## The Five Disciplines of Business Intelligence Defined

### D1 - Project Execution

The first of the Five Disciplines is Project Execution. Project Execution is about how projects are completed, and the guidebook to project execution is project management methodology. Everyone has a project management methodology. Some are tailored for BI and/or web development, some are generic. Simple methodologies are best for small teams and smaller organizations where a few people are responsible for a wide range of roles, while complex methodologies increase the predictability of large and complex integration efforts leveraging the talents of hundreds of people. All methodologies are different, and each project team has a different interpretation of the methodology they use. It is probably more important that there is one, than the specifics of what the methodology is, because it means that the project organization appreciates the benefits of execution maturity, which include efficiency, predictability, and repeatability. It also indicates that the project team has arrived at a common way to work together with known roles, common language and a shared vision of how things get done. Claraview's methodology supports the type of projects we do the most, but we adapt to the client's preferred approach when requested. If we work on an Accenture project, for example, we work with their ADM. If a client likes the Claraview Way, we go with that.

While a complete review of the Claraview Way is beyond the scope of this discussion, it is worth appreciating a few of its key elements, such as the stage gates. Stage gates are the significant milestones in a project's journey. Properly exploited, they allow for careful inspection and acceptance of work performed mid-course in the project. Should elements of the work not meet the defined scope or the expectations of the project sponsors, a mid-course correction is possible without wasting time, money or effort in subsequent stages of the project. Stage gate inspections help the

sponsors and the project teams know the work is on track. The critical stage gates defined in our methodology are:

- **Envision** – At the end, all stakeholders have a clear understanding of what the solution will do, they can visualize the user experience, and they will be able to relate the implementation of the solution to a well-justified business case.
- **Plan** – At the end, all stakeholders clearly understand the scope of the project, the resources required (time, people, money) and the way the project will be implemented. This is the go / no-go call that lets the project proceed to development.
- **Develop** – At the end, stakeholders accept that all in-scope functionality is complete, tested, and ready to deploy.
- **Deploy** – At the end, the implemented solution is accepted, in production and used by the target audience. In-scope functionality is working at agreed-upon defect levels or better, at agreed-upon service levels or better. The project is turned over to an operations and support team, and the project team is released to work on other opportunities.

Projects build things or change things. They are created when a problem needs to be solved, and completed when the solution that solves the problem is implemented. But how does your BI program determine the problems you will solve, and how do you operate, grow, reconfigure, and reintegrate the solutions you create over time? Who provides the care and feeding of the implemented solution once the project is over? Who owns it? How is it managed? When we throw it over the wall, who is there to catch it? What do they do after they catch it?

Something is in place for all of this whether you know it or not, whether implied or deliberate, whether you control it or someone else has the responsibility. If the Discipline has not been staffed, funded or worked, there is a laissez-faire default. These topics are the domain of Discipline 2, Operations and Service Level Management.

## D2 – Operations and Service Level Management

Discipline 2 is Operations and Service Level Management. Your data warehouse program is the cesspool at the end of the sewer pipe of corporate change. We don't use the metaphor to be graphic; it simply applies well. Any data warehouse topology, but especially the Enterprise Data Warehouse (EDW) topology, is the point of integration for a wide-range of transaction-generating, data-changing systems. The data warehouse is impacted by **system changes**, which may or may not be effectively isolated by Enterprise Application Integration (EAI) architecture. It is impacted by **business process changes** that require you to modify the reports and analytics you produce. Processing volumes are impacted by **seasonal fluctuations and business growth** that affect capacity and your ability to maintain service levels.

Operations and Service Level Management are all the activities involved with running the components that the project teams develop. It includes ETL and batch scheduling, intermediate ETL and scripting to maintain data marts, cubes and aggregates. It involves the administration of middle-tier servers running the various BI tools, web applications, portals, and email-based delivery generated by push applications and their schedules.

Anything that can go wrong with these components, anything that needs to change with these components, and anything that can cause these components to slow down is in the domain of this second discipline. While it is relatively easy to find funding for projects which create new business capabilities, the expense involved with operations and service-level management of those same

capabilities is rarely well understood or tolerated. The roles involved can be those thankless jobs that are unappreciated when things go well and scrutinized when things fail.

To be successful, the work required needs to be defined and quantified as the BI environment matures. Ideally, impact to the cost of Operations and Service Level Management are captured as new projects are defined. Continuous improvement techniques help lower costs and improve efficiency as the complexity of the implementation grows.

Some of the activities in the second discipline include:

- **Configuration Management** - The definition, archival, tracking and control of each component of the portfolio.
- **Technical Change Management** - The systematic analysis, preparation, approval and execution of changes to the environment.
- **Service Level Measurement** - The measurement, tracking and trend analysis, of batch completion, application availability and query response times. Also includes measurement of the usage of the system features.
- **Service Level Management** - The establishment and negotiation of service level agreements (SLA), and the activities involved with assuring that SLAs will be met most cost effectively over time.
- **Capacity Planning** - Understanding the impact of growth, usage and change on the environment and the acquisition of or reconfiguration of new capacity as needed.
- **Performance Tuning** - Working with the various database, ETL, and reporting components to optimize performance for the mix of system activity observed.
- **Batch Scheduling** - Continuous optimization of critical path jobs to make information available earlier in the processing window.
- **Application Support and Maintenance** - The burden of keeping otherwise stable application components in sync with upstream systems, and the continuous cycle of detecting and correcting quality and performance issues.
- **Help Desk** - BI capabilities are complex applications deployed to a broad and diverse user base. The help desk is your BI program's customer service interface, and your reputation relies on their ability to resolve problems quickly and effectively. Training, support scripts, and escalation options are required to maintain a vital connection to your user community.
- **Data Quality Management** - The continuous auditing and monitoring of inbound information, and making sure it remains available, accurate and timely.
- **Database Administration** - There are two blends of DBA work: one that occurs in the development of new capabilities (Project Execution) when new physical designs are developed and optimized and another that is continuous (Operations and Service Level Management) that assures performance and functionality of the data warehouse DBMS platform.
- **System Monitoring and Job Control** - As batch ETL runs throughout the processing cycle, expertise must be available to detect and resolve anomalies that stop processing. Otherwise minor incidents can make BI applications unavailable for the business day. Automation and effective escalation processes help make this activity more routine and reliable.
- **Issue Management and Escalation** - Complex portfolios can experience tens of thousands of issues in a year. Some are simple, others may take weeks to resolve. Efficient tracking and delegation of issues speed resolution times and reduces expense. Inefficient methods affect service levels and user satisfaction.



- **Security Administration** – Database security, application security, firewall configuration, user authentication and privilege administration all affect application service levels and the cost of operating the BI environment. Process compliance (Sarbanes-Oxley), customer privacy obligations, and general protection of the corporate information assets against ever increasing threats force additional rigor in administration of the environment.
- **User Administration** – Some BI deployments have tens of thousands of users with turnover happening daily. BI applications need to be integrated with single sign-on and user privilege administration subsystems to lower the cost of BI application administration.
- **Disaster Recovery (DR) and Backup and Recovery (BAR)** – DR and BAR is the ability to recover from a range of disabling incidents within a defined window of time. DR for data warehousing is especially complex due to the amount of data involved and the cost of large platform systems.
- **BI Application Server Administration** – Maintenance and administration of BI platforms such as MicroStrategy, Tableau, Power BI, etc.
- **Platform Administration** – This is the maintenance of the hardware platform, operating system and the DBMS, or Application Server components that host various parts of the BI environment.
- **Release Management and Upgrade Administration** – These are the methodical processes used to migrate newly developed application components to deployment. Procedures are based on the type of component and the platform on which it runs. BI reports and ETL mappings require metadata migration. Scripting and schedules require integration and testing at each tier of migration (i.e. development, test, integration, production). This activity also applies to maintenance releases of operating systems, DBMS, and BI tool technologies.

Obviously, there is a lot to do to operate a BI Environment and maintain desired service levels. While most aspects of operations management in a BI environment have a unique BI twist, the issues are common to general IT system management. The organization must be prepared to manage its core operational systems as well as BI. The BI program can, and is most likely required to, leverage these departments, standards, and resources to meet its goals.

Industry best practices like ITIL provide a great framework for Operations and Service Level Management generally. ITIL (IT Infrastructure Library) is the most widely accepted approach to IT Service Management in the world. ITIL provides a cohesive set of best practice, drawn from the public and private sectors internationally.

The good news is that the BI Executive does not usually need to face Discipline 2 alone. The challenge is to integrate the efforts of many disparate internal service providers. Their offerings must be tailored to the unique needs of BI to assure BI support is sound. Relationships with suppliers, both internal and external, are a focus of the third discipline, Program Management.

### D3 - Program Management

Discipline 3 is Program Management. At some point in an organization's Business Intelligence journey a collection of BI projects will evolve to be a recognized BI program. We define a BI Program to be a sustaining organization with ownership for and stewardship of the existing and future portfolio of BI capabilities. Projects commissioned to create new BI capabilities are part of the program, but the program would persist even if there were no ongoing projects.

Program Management drives and defines the activities of the other four Disciplines. Its role is to be the enabler, the resource provider, the coordinator, and occasionally the referee for ongoing BI

activities. Its goal is to make BI development and support more efficient and less costly over time, while enhancing the value of the capabilities it creates to the organization.

While the other four Disciplines concentrate on usage, execution, and technology issues, Program Management deals with the IS business issues of customers, team members, budgets, schedules and suppliers. While Project Managers might run the projects, Program Management makes it possible for the projects to be run.

Some of the people working for the BI program are your employees, so all of the nurturing and development activities associated with managing any team need to be supported. Many of the resources required by the program are likely to be external. They might be provided by sister organizations within the company, or by vendors from outside the company. In these cases, the terms of the services offered and the details of the relationship need to be actively managed by the program to get the most benefit from the relationship.

Below are some of the activities we recognize as BI Program Management activities:

- **Client Relationship Management** – Working with the business sponsors of new BI capabilities to assure a perception of quality service and met expectations. This complements the day-to-day role of project managers who deal more closely with the details of the application and delivery of functionality to meet expressed requirements.
- **Demand Generation, Demand Management** - In every organization there is a wealth of business benefits (revenue opportunities, cost savings, competitive insights, risk mitigation, regulatory compliance, etc.) that can be mined from available data. Industry expertise, creativity, and interdepartmental collaboration are combined to create a prioritized queue of feasible and value-generating BI capabilities.
- **Portfolio Management** – Managing the maintenance of all previously existing BI capabilities from a total-cost-of-ownership perspective while integrating new capabilities into the portfolio. Working with Demand Management to prioritize, sequence and load- level incoming work for the program.
- **Release Management** – The packaging of multiple work products into a single deployment. Attention to the various deployment issues including managing change for the user community, and assuring appropriate technical support to deal with potential defects and performance issues.
- **Budgeting and Funding** – Securing financial support for all ongoing and support activities while estimating and planning for new work to be performed. Tying benefits realized to previously deployed capabilities. Optimizing headcount allocations to support the range of work to be performed.
- **Chargeback Schemes** – Allocating the cost of BI to information consumers, while avoiding schemes that are a disincentive to usage.
- **Recruiting and Staffing** – Acquisition of talent, either internally or externally, to support the expected workload generated by the program.
- **Skills Development, Staff Development, and Training** – Understanding the mix of skills required to run the program. Balancing the needs of the program against the career objectives of the team members. Scheduling Training. Succession plans. Dual training for any critical skill.
- **Methods and Best Practices** – Continuous refinement and infusion of existing methods and newly discovered best practices.

- **Supplier Relationships (internal and external)** – Service Level Agreements, pricing contracts, staffing levels, collaborative planning, etc. to make sure preferred suppliers are able to deliver to expectations at the lowest rational price.
- **License compliance** - Mitigate the risk of a compliance audit by a software supplier through continuous monitoring of usage using automated tools. Add software licensing to the scope of periodic capacity planning.

With Program Management in place we move to the fourth Discipline, Architecture and Technology, which assures the consistency, efficiency and scalability of the BI capabilities created by the program.

#### D4 – Architecture and Technology

Discipline 4 is Architecture and Technology. Architecture is a difficult word to depend on when used in conversations about IT and information systems. Most people are very comfortable using the word often, but the meaning varies based on the perspective of the user and the context of the conversation. We like to put a modifier on the word to help narrow the field and remove ambiguity. Information Architecture is a much different topic than Platform Architecture, for example, but both are clearly architectures. A wide range of architectural issues need to be addressed to form a comprehensive architecture that drives consistency, extensibility and scalability to the capabilities created by the BI program.

The building and construction metaphor helps to anchor the meaning of the word architecture for BI. An architecture is a style, a repeated pattern, a set of rules and guidelines, and it might imply a usage of certain materials. An architecture for residential buildings is different than that used in commercial space because the usage patterns, cost parameters, floor loads, and hazard tolerances are different. An architecture can be used in several designs, but a design represents one architecture. Ideally, a single comprehensive architecture can be established for your program, and all your projects designing new BI capabilities can adopt it.

The purpose of architecture in building and construction is to guide the design to adequately address present and future requirements across a wide spectrum of considerations. Those considerations might include capacity, aesthetics, term of use, flexibility to change, reliability tolerance, etc. These considerations are balanced against cost and budget. Without cost constraints, every house would be a Taj Mahal. The same holds true for IT architectures and BI specifically. For a business asset like a BI capability, the benefits provided by the capability must exceed the cost to create and maintain the capability.

Why is a comprehensive architecture so important to a BI program? Two simple reasons:

- 1) It reduces the cost and complexity of individual projects. Unlike some operational systems that can be installed and stabilized, BI capabilities continuously evolve. The use of information creates insight and innovation that creates new needs for new BI capabilities. BI programs will spawn many projects, so reducing cost per project is important. When architectural guidelines are clear, project teams make fewer decisions and deliver functionality at lower cost. It also enhances the consistency and integration, eliminating rework. Lower costs per project allow more BI capabilities to be sponsored and more value to be created.
- 2) It avoids scalability constraints. Thinking thorough the the future needs of the organization allows for platform choices that support the range of growth and/or usage over time. Proper



choices eliminate the need to support multiple platforms simultaneously, and help eliminate costly platform conversions.

As mentioned above, a comprehensive BI architecture is a combination of several component architectures. While each stands alone, they come together to form a complete vision for BI, Data Warehousing and Information Delivery. We might define the following as some of the component architectures relevant to BI:

- **Data Warehouse Architecture** – The flow of data from operational systems to data warehouse systems to information delivery systems. The Data Warehouse Architecture defines the usage of Operational Data Stores, Data Marts and OLAP vs. ROLAP. It implies the data architecture for the different data warehouse tiers. Inmon's Corporate Information Factory is an example of a Data Warehouse Architecture.
- **Solution Architecture** – The definition of how BI capabilities integrate with Business Process and potentially operational systems. For example, a Solution Architecture would show how a retailer responsible for assortment planning would use a particular set of BI analytics to rebalance an assortment between certain stores and then enter the appropriate changes into the distribution system to affect the change.
- **Information Architecture** – This is an abstraction that is distinct from applications and data. It is the listing of information elements used within the business for decision-making and associated business rules about how the elements interrelate. For example, "performance rank" may be an important piece of information used by the business, but it does not exist as a data element. To support the business, BI systems must derive the rank based on available data using the business rules that define rank at the time.
- **Data Architecture** – The map of physical and logical structures that exist, or are planned to exist, in operational systems and the data warehouse. Definitions of relationships between entities, physical key structures, partitioning schemes, and intentions regarding analytical usage (i.e. historical perspective vs. current) are important considerations in the data architecture.
- **Enterprise Application Integration (EAI) Architecture** – EAI moves data between applications, and data warehousing is a major consumer of EAI services. If implemented completely the data warehouse may be able to leverage EAI metadata for descriptive information about data elements and their lineage. EAI can help isolate the data warehouse from disabling changes through publication, subscription and transport if data is canonical form. EAI most likely defines the architecture for all metadata management as well.
- **Platform Architecture** – Definition of the hardware and software products that support the various tiers of the data warehouse architecture. Decisions at this level have dramatic impact on the cost and eventual degree of "-ility" each alternative might provide. "-ility" refers to characteristics such as scalability, reliability, maintainability, recoverability, flexibility, etc. Platform architects try to guess the upper limits of processing volumes, complexity, mission criticality an enterprise program might require over time, and recommend the most cost-effective platform alternative that eliminates foreseeable constraints. BI tools, MOLAP databases, RDBMS products, ETL tools, OS, Schedulers, Aggregation Manager, etc. are classes of platform products.
- **Application Architecture** – For a given application, this is the listing of application components and a definition of the interfaces they use to communicate.
- **Security Architecture** – For BI, Security Architecture encompasses logon (authentication), application (privileges), data (which data elements – row and column – may be viewed or updated by which class of user), and firewall (network connectivity) considerations.

With the mature capability to create and operate scalable, consistent and reliable BI applications we move on to the fifth and most critical discipline, Business Integration.

## D5 – Business Integration

Discipline 5 is Business Integration. Some would argue that this needs to be the first Discipline, and we agree that it is the most important. We leave it for last because it is the highest-order discipline. It is the least technical, the hardest to master, yet the most valuable set of activities for the health of the BI program. The activities of Business Integration are hard to fund, because it is difficult to tie them to tangible benefits. But when an enlightened CFO or COO begins to appreciate the subtleties and nuances Business Integration attempts to address, sponsorship becomes a non-issue.

Business Integration is hard to master because BI and Data Warehousing are traditionally the technical pursuit of experienced information systems professionals. As we've seen thus far in our definition of the BI challenge, a wide range of technology mastery is required to make BI work. But BI is only of value to the organization if it is put to work by the business. Use of transactional systems is not optional. You can't get new employees their first paycheck without dealing with the payroll system. BI, however, is optional. Business decision-making can happen with or without a BI application, regardless of the number of reports you create per hour or the number of terabytes you have on-line. Information is available from a variety of sources, and the information that gets used is the information that is trusted and available. For a BI program to be truly adopted, it must be endorsed as the single version of the truth by the business leaders of the organization.

The goal of Business Integration is to foster collaboration between end-user organizations and IS and to build an invincible bond of trust between information consumers and the capabilities offered by the BI program. It is unusual for professionals with the technical mastery of BI to also have true mastery of the business they serve. It might be best to recruit, as recommended by Gartner in their work on BI Competency centers, a business BI leader to drive the business integration discipline. When the business truly owns BI, the problems become everyone's problem, not yet-another- failure by IS.

Some of the activities that make up the Business Integration Discipline include:

- **Strategic planning for future capabilities** - How will information be used in the future? How can BI and operational systems be more tightly coupled? What business programs are on the horizon and what information will they require to be successful? When can we eliminate reporting and simply incorporate intelligent analytics in all that we do?
- **Facilitation of data stewardship** – Who owns which parts of the corporate information asset? How do we define what correct and accurate is, and how much energy can we afford to assure it?
- **Project and program steering committees** – Who needs to be involved to make sure we get the most value from and best results from the work we've asked to have done?
- **Concept exploration and validation** – What on-going experiments can we be doing to make sure we are using information most effectively?
- **Executive analysis services** – Easy-to-use applications are imperative for the majority of the employees, but what services can we provide to the executive community to keep their questioning and curiosity unconstrained?
- **Facilitation of metric stewardship** – A single version of the truth requires common definition of a limited set of key business measures. How do we bring the disparate groups of information consumers together to get them to agree on a single definition?

- **On-going training, super-user groups** - Training cannot be a one-time event when a new application is released. How do we create a program of continuous learning that lets the entire organization exploit what BI offers?
- **Internal marketing of BI capabilities (website, newsletters, events)** – How do we keep the benefits of using the BI capabilities on top-of-mind? How do we communicate new findings and new tips and tricks to the masses?
- **Data dictionaries, tools catalog and advisories** – Where do we publish the archive of data definitions? How do we keep it current and accurate?
- **Benefits assurance and tracking** – How do we check to see if the benefits promised by the application were truly realized?

Business Integration is the highest order challenge of The Five Disciplines of BI. Organizations that have chosen to sponsor these activities have been able to exploit the capabilities that BI offers and truly integrate BI into the mainstream of the business. Conclusions In future articles we will look more closely into each of The Five Disciplines, the benefits of a proper focus, and the potential pitfalls of under funding the work. Business Intelligence is no longer a science project sponsored by a CIO's discretionary project fund. Information is a competitive weapon in global business, and Information Systems Executives responsible for BI have more and more responsibility for assuring the timeliness, accuracy and relevance of that information. A balanced BI program with a clear strategy sees synergy from the combination of The Five Disciplines of Business Intelligence. Proficient Project Execution alone can no longer sustain the expectations of sophisticated corporate information consumers. The Five Disciplines Framework provides a structure for internal BI strategy development, as well the communication and education that leads to executive and end-user collaboration and sponsorship.

### How Can Claraview and Genesis10 Help?

Claraview Partners and Directors have over 200 years of experience assisting Director and VP level Information Systems executives, and a few have held Data Warehouse leadership positions in large organizations. We know what works and why.

Genesis10 is a professional technology services firm providing staffing, workforce optimization and domestic outsourcing solutions. The company was founded in 1999 and is dedicated to helping organizations implement business and technology initiatives cost-effectively.

While the core of the Claraview and Genesis10 partnership is providing BA and BI skills for Project Execution, we know that the value created by any one project is dependent on our client's ability to attend to the other four Disciplines. So, a percentage of our practice is dedicated to helping our clients master The Five Disciplines. As Business Intelligence practitioners and specialists, we are uniquely qualified to be the BI Executive's special assistant. Because of our experience in a wide range of organizations and industries, we can orient quickly. We can be an extension of the Executive's personal capacity, accelerating the pace of strategy development and programmatic change without awkward and temporary internal staffing changes or organizational realignment.

The first step in the process is an assessment. Through a series of interviews, application walkthroughs, and technical reviews, we can mutually understand the opportunities available and jointly create a strategy to address them. Our goal is to help each client develop its BI program to be world-class in execution, and to generate outstanding recognized value for their business partners through their ability to turn data into information, and information into insight.