



The Trusted Technology Partner in Business Innovation

Build a BI Solution that Accelerates ROI

Realize greater value through increased user-adoption



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Steering a BI program toward successful user adoption and value realization

Probably the biggest misconception that occurs when an organization looks at developing and implementing enterprise BI solutions is that information technology (IT) staff thinks it understands what the business needs but, in actuality, they may not. To enable successful user adoption, BI technical leads must collaborate with business leads and users as part of an ongoing program to address continually changing business needs.

In its research on BI adoption trends, global information technology research and advisory company Gartner emphasizes the importance of forming a BI competency center, or BICC (Figure 1). Gartner explains in its research findings that “where the IT department leads, adoption rarely reaches higher levels. In other words, line-of-business-led BI is more heavily adopted. That’s why using a BICC (or similar organizational construct) — which is all about handing leadership of BI over to (or back to) the business — is crucial in driving usage.”³

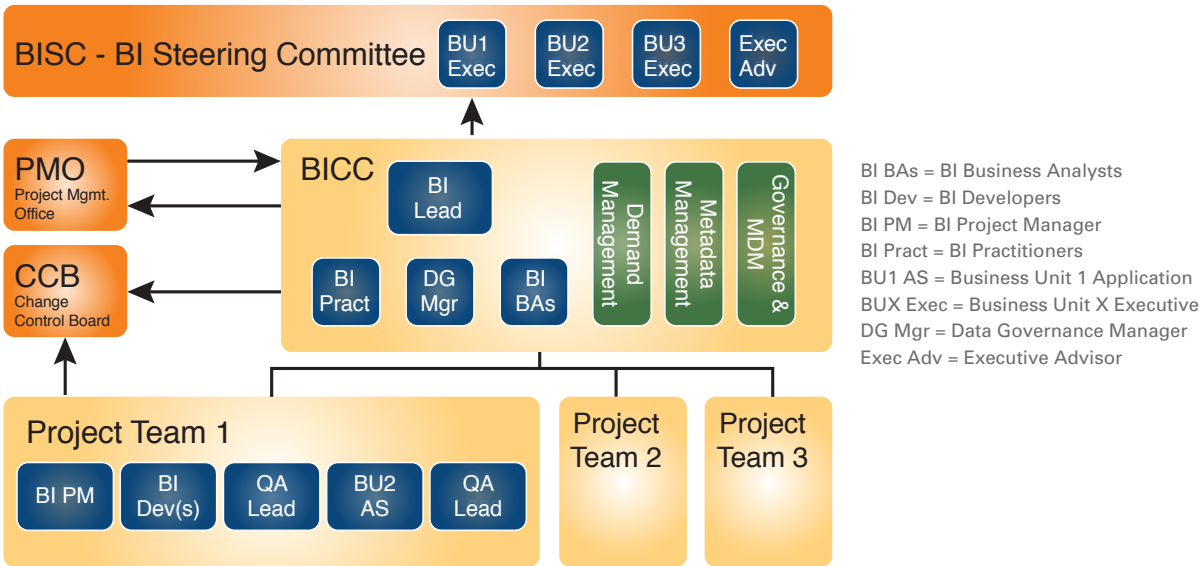
Using Gartner’s overall BICC concept as a basis, Neudesic recommends the formation of a collaborative BI program organizational structure to help clarify roles and responsibilities. This facilitates essential information exchange concerning BI solution requirements among business and IT staff. At the top of this organizational structure, a BI steering committee, or BISC, comprises the business unit leads responsible for determining the overall BI program business needs and strategic priorities, as well as investment justification and allocation.

Effectively serving as copilot to the BISC, the BICC comprises the technical leads responsible for driving and managing the overall development and implementation of BI program technology projects. The BICC also helps to identify the different applications needed and associated costs of each, while determining where focus on certain applications first may, in turn, reduce the costs of implementing subsequent applications.

In forming the BI organizational structure, leadership may find that it does not have the necessary skill sets in-house to fill the various roles. Some organizations may therefore determine it more cost-effective to use outsourced resources to fulfill certain functions rather than hire additional employees.

In this organizational structure, it is also important to emphasize that the BISC and BICC leads are generally not focusing full time on the BI program. Rather, these teams operate in a more virtual sense with the individuals allocating just a few hours or a half day per week to the effort. The project teams at the lower levels of the structure, on the other hand, may be dedicated to work on specific BI projects either part- or full-time.

Figure 1: Business Intelligence Organization Structure



Getting a BI program off the ground with a strategic, holistic approach

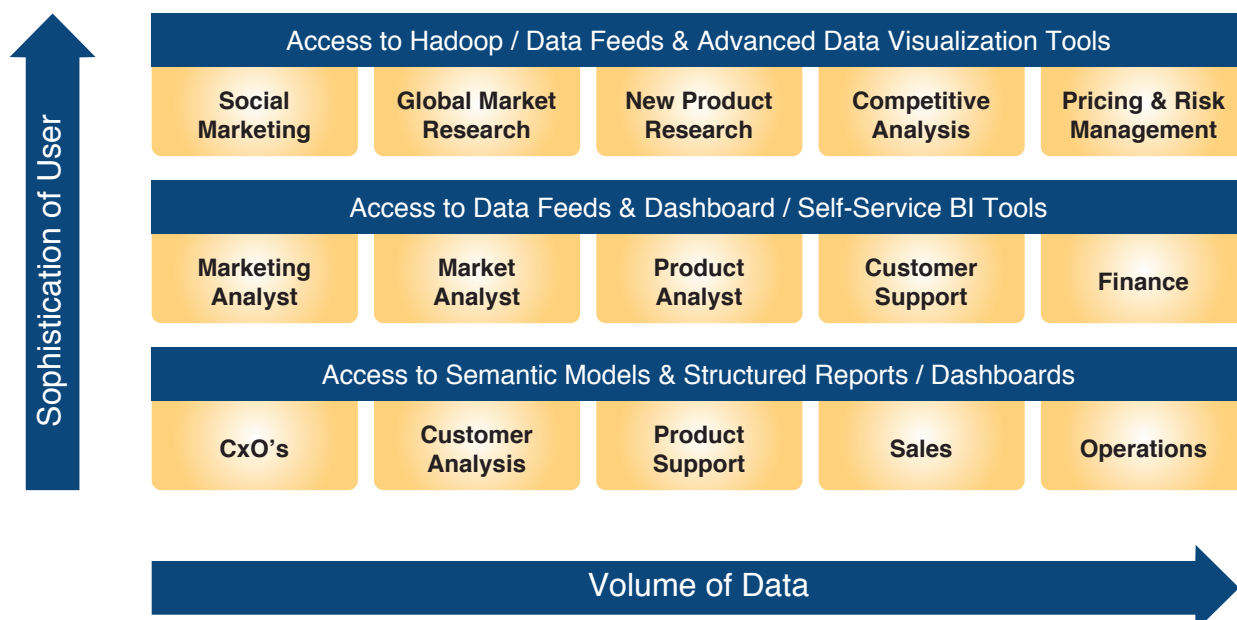
Once the BI organizational structure is established, the leadership kicks off the program with the development of a strategic roadmap for guiding the organization from its current state to its desired BI systems environment. The strategic roadmap provides an overall framework for BI program planning, implementation, management and measurement. More specifically, it identifies and prioritizes the overall BI application needs of the organization as related to ROI and business value based on a logical and practical implementation strategy.

The strategic roadmap will look different for each organization in terms of identifying BI applications that are going to deliver the biggest ROI and business value. While it might make sense for some organizations to focus first on front-office operations, like customer relationship management or service delivery, others might benefit by focusing first on back-office operations, like finance or human resources.

The roadmap process involves surveying, interviewing and actively observing the different business systems' users to understand what they are doing on a daily operational and reporting basis. For example, how much time are they spending on data collection and input, completing manual analysis, and reporting tasks versus more value-added and fulfilling strategic initiatives? The information gathered builds a holistic view of how the organization uses its current BI systems, enabling the identification of new applications and tools, as well as enhancements to existing systems for addressing user-specific needs.

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Figure 2: Increase adoption by exposing the right data through the right tools



Getting a BI program off the ground with a strategic, holistic approach

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Among the key areas of consideration in developing a truly holistic enterprise BI solution is looking at how to improve the batched and near real-time data exchange between different systems for operational and reporting purposes. An important systems integration aspect in particular concerns master data management in which a change to a master record is also reflected across other systems.

As an example, when a customer rep at a casino or resort corrects the email address of a customer in the reception desk system at check-in, any related systems across the enterprise are also automatically updated to reflect this correction. The casino or resort can then take advantage of generating incremental revenue from this customer while they are still on premise by emailing a marketing offer to their phone for a show or other event that day.

Providing a complete BI solution that enables data collection, input, analysis and reporting also generally requires some level of custom web, desktop or mobile application and interface development work. Off-the-shelf Microsoft products like its cloud-ready SQL Server information platform, and SharePoint and Office applications, for instance, can be efficiently combined and customized as needed. This scenario provides a complete BI solution that is much more cost-effective than developing a fully custom-coded solution from scratch. Moreover, taking advantage of opportunities to combine and customize off-the-shelf products where possible provides for an overall easier and more cost-effective solution maintenance and upgrade effort over the long-term.

The value of customizing BI solutions based on the needs of different user groups is ultimately in the form of wider-spread adoption of BI systems and tools, and more active participation in a BI program throughout an organization. There is often a tendency to reserve BI's use for leadership and management only, when there are many opportunities to also involve other levels of the organization and get more value out of a BI program.

One way to drive user adoption is by seeking opportunities to embed BI into the operational systems and tools with which user groups work on a daily basis, such as Microsoft Office and, in particular, Excel. Another example is to provide sales, marketing and customer service reps direct access to all the intelligence needed in their already-familiar customer relationship management system.

Embedding BI access in this way helps to drive small incremental changes in work behaviors that, over time, may translate into significant productivity and efficiency returns when analyzing aggregate results.

To increase user adoption, it is essential to consider the user experience at a more granular level, relative to customizing the visual design of applications and interfaces for the different personas in an organization. For instance, a pricing analytics specialist will naturally differ from a sales or marketing manager in their BI visual design needs and preferences. An executive will benefit more from a high-level overview or dashboard presentation of data, while an individual working at the day-to-day operational level may find greater value from a detailed view.

Additionally, organizations need to consider building their enterprise BI systems, including social networking systems, using a collaborative platform, such as Microsoft SharePoint, and other preferred collaborative tools routinely in use. As an example, when the bottom of a key performance indicator (KPI) threshold is broken for sales, the drop in performance could, in turn, kick-off a workflow in which the sales leads meet to understand why it happened. The sales leads may then work together to decide what action to take to address the issue and improve performance.

“Expose the right data through the right tools to increase adoption.”

Spanning the gaps between strategy, successful implementation and user adoption

The applications identified during the strategic roadmap process are subsequently analyzed and prioritized for development and implementation along three pivots:

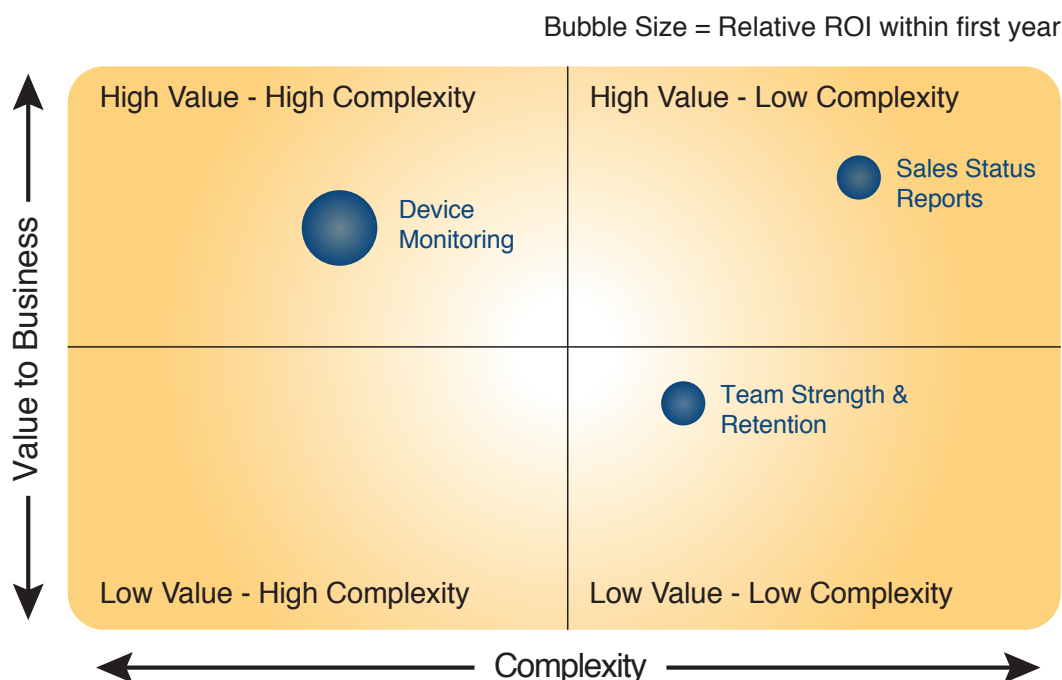
- 1) Overall business value impact of the application relative to the total cost of ownership
- 2) Technical effort required to develop and implement the application
- 3) Relative ROI within first year of the program being available

In prioritizing the implementation of BI applications, the organization focuses first on those that can provide relatively quick wins in terms of ROI and ease of creation, and that will then facilitate the implementation of other more technically challenging applications.

When approaching BI program initiatives whether for its clients or within its own organization, Neudesic ties both a hard-dollar ROI value and a soft nonmonetary ROI value to each application identified in its strategic roadmap of priorities.

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Figure 3: Business Intelligence Application Value-Cost-Complexity Analysis



Spanning the gaps between strategy, successful implementation and user adoption

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In the Sales Status Reports example below, we determine the average hourly rates for sales staff and multiply these by hours gained each week through automation. This allows us to calculate the cost and length of time to recover the price of the project, providing us with a quantifiable and easily communicated ROI. Additionally, this automation allows employees to instead focus their energies on more strategic, business value-added initiatives that serve as an ROI multiplier and increase job satisfaction. Relative to prioritization from a

technical ease standpoint, consider how tackling the creation of an overall executive dashboard at one time may be rather overwhelming, impractical and cost prohibitive for many organizations. Whereas defining KPIs across functional business areas as part of a phased applications implementation approach can facilitate the creation of the overall executive dashboard while also distributing and making the cost more palatable over time. Moreover, a phased approach allows organizations to realize some quick wins from an ROI standpoint and

build champions needed within the organization to help drive user adoption of enterprise BI solutions.

Figure 4: Monetary and Non-Monetary ROI on BI Projects - Examples

APPLICATION	ISSUE	TIMELINE	COST	MONETARY ROI	NON-MONETARY ROI
SALES STATUS REPORTS	50 sales people worldwide manually creating status reports (2 hours each week)	2 weeks	\$20k	Hourly wages recovered pay for this in 5 weeks	Sales force more focused on selling
DEVICE MONITORING	Climate control equipment failure prediction for retail malls across the US, with over 2,000 monitored devices	5 weeks	\$200k	Planned daytime maintenance and part pre-order vs. emergency maintenance cost and rush parts, \$2,500 cost decrease per failure, break even in 80 failures	Improved guest experience
TEAM STRENGTH & RETENTION	Unwanted attrition % Team Strength	10 weeks	Less than \$50k	Avoid unwanted attrition for 3 people: Recruiting \$2k Interviewing \$2k, 2 weeks of lost productivity = \$14k	Prevent unwanted attrition; mitigate loss of additional team members preventing additional losses in productivity, recruiting, domain knowledge, customer satisfaction, external branding impacts, etc.

Improving user adoption with innovative cloud-based technology solutions

Considering the application of cloud-based computing technologies from the start enables the development of a more flexible and scalable enterprise BI solution. This efficiently supports changing business needs and long-term growth with a full gamut of BI analytic toolsets—from dashboarding and visualization to data engine layers and big data infrastructures. An otherwise short-sighted, piece-meal solution approach may limit the efficiency and possibilities of BI.

Consumer product- and service-driven retailers, as well as other organizations with geographically dispersed systems, will generally find it easier to implement cloud-based BI solutions because much of their business data is already generated in the cloud. For instance, product retailers operating with numerous point-of-sale outlets and associated business data hubs around the globe will find it much more practical and economical to capture and store all that data in a cloud-based repository rather than pull it on-premise.

On the other hand, implementing cloud-based enterprise BI solutions will naturally present more of a challenge for organizations that have all of their data stored on premise. In some instances, it may be more practical and economical to maintain headquarter-level or operational management and manufacturing data on-premise.

A hybrid approach to storing and accessing some data off-premise in the cloud and some on premise may therefore offer the best enterprise BI solution. When considering cloud-based BI solution opportunities, organizations must carefully weigh three key considerations:

- 1) Information security and compliance with privacy rules on a global basis
- 2) Cost of moving terabytes of data to the internet
- 3) Time it takes to move terabytes of data across the limited internet bandwidth available today

Another cloud-based BI opportunity that applies to retailers—and a range of other organizations—revolves around the vast mountains of customer data produced in the cloud that are waiting to be mined on various social media sites, like Facebook, Instagram and Twitter. Because such social media data is considered public, not private, information, it is readily available for capture and storage in a cloud-based repository as input for customer analytics. Using Microsoft Windows Azure HDInsight, a Big Data solution powered by Apache Hadoop, as an example, organizations can mine customer data gathered from social media sites to gain valuable insights into customer sentiments for developing and refining product and service offerings.

Enabling truly actionable BI with the application of mobile technologies



Combining cloud and mobile BI technologies along with social networking applications provides for an even more powerful solution in terms of enabling truly actionable BI. Mobile BI offers the major benefit of speed-to-action. From a user experience perspective, there are two types of mobile BI access: smart phone and tablet.

Mobile BI on a smart phone is particularly well-suited to providing very concise and timely or real-time social alerts and posting brief status updates on a need-to-know basis. For instance, a business executive in an organization may receive a message on their smart phone that alerts them when a KPI threshold, such as a regional sales criteria, has just been broken.

The executive can then access and examine more in-depth dashboard analysis and reporting information from enterprise BI systems using a portable tablet at their earliest convenience to learn more. Or, they can simply call or use social networking application from smart phone to connect with that regional business lead immediately to learn more. Empowered with this knowledge, the executive can take swift action to replicate the successful activity, such as a special promotional offer, across other sales regions.

In this way, the application of mobile technologies affords newfound freedoms and serves as a powerful enabler of actionable BI, whether users are in the office, out in the field or at an airport. Mobile BI can serve to communicate just what a user needs to know and when, enabling more efficient and effective business interactions, decision making and use of intelligence.

With the pervasive use of mobile devices among both businesses and consumers, organizations must consider applying a mobile-first strategy to BI solutions implementation. Looking ahead, tablets with a keyboard, will likely replace laptops as the standard in many organizations, especially in certain areas of the business, such as sales, or for leadership or other business roles that require a good deal of travel.

Taking BI from program development and implementation to value realization



The overall benefits of developing and implementing a strategic and holistic BI program are improved visibility, accessibility and use of intelligence across the enterprise. Empowering an organization's BI users with useful applications that automate time-consuming operational and reporting processes enables them to apply more of their time and talents to strategic decision making and value-added actions. Successful user adoption of enterprise BI solutions ultimately helps organizations turn their vast stores of data into coherent, actionable information for driving more efficient, profitable and sustainable growth.

Realizing the potential value of an investment in business intelligence ultimately hinges on successful user adoption

¹ Martha Bennett and Boris Evelson, "Best Practices: Maximize Your Chances Of Business Intelligence Success," Forrester Research, Inc., 95961, July 24, 2013, p. 3.

² Ibid.

³ James Richardson, "Business Intelligence Adoption Trends, 2011," Gartner, Inc., G00225461, November 18, 2011, p. 4.

About the Authors

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As a seasoned consultant and technology leader, Tom specializes in developing business intelligence (BI) solutions that fit the unique needs of Neudesic clients. He is the company's key thought leader in the BI space, as well as principal developer of intellectual property, and primary enabler of delivery excellence. Tom grasps the complexities of business with ease, drawing on his solid technical foundations to complete BI projects successfully. He attacks difficult issues with simple solutions and is happy to share his expertise to help clients overcome unique business challenges. Tom can be reached at tom.marek@neudesic.com.

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Jacob has been helping companies architect better decision-making platforms for over 18 years. His passion for systems development began when he was given a Commodore-64 computer at age eight, and today enjoys blending cutting edge technology with sound strategy. With a diverse international background in web development, infrastructure management, and collaboration across many industries, Jacob brings a holistic vision to the solution of complex business problems. Based in Chicago, Jacob helps clients across the country leverage data as a strategic asset to hone their competitive edge. Jacob may be reached at jacob.saunders@neudesic.com.

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Steve began his IT career in operating systems, web development and portals, before transitioning to application integration. For the past 10 years, he has been specializing in business intelligence and enterprise architecture. Before embarking on his career in technology, Steve worked in myriad industries, including restaurant management, health care, financial services, warehousing, and the military, to name a few. His diverse experience gives him unique insight into how people interact with various technology and systems, and how IT manages and administers these systems to provide a competitive advantage. Steve can be reached at steve.muise@neudesic.com.

Speaking Engagements

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About Neudesic

Neudesic is the trusted technology partner in business innovation, delivering impactful business results to clients through leading-edge technologies, innovative solutions and strategic alliances. Founded in 2002 and headquartered in Irvine, Calif., Neudesic is a privately held company, serving clients globally from offices across the United States.

For more information, visit www.neudesic.com.

To arrange a meeting to discuss how to move forward with identifying and addressing your organization's BI program needs, please contact your designated Neudesic account manager or Neudesic's director of inside sales, Tim Corken at 303-248-8300 or tim.corken@neudesic.com.

