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# Business Capability Modeling Helps Mercy Execute on Business Transformation

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Mercy launched a business capability-modeling initiative to support strategic design and planning efforts in support of its business transformation initiative. This case study focuses on the process Mercy used to create its business capability models and the benefits it derived from leveraging them.

#### Overview

## **Key Findings**

- Business capability models aid in prioritizing, sequencing, and delivering the project and technology portfolio.
- Business capability models can be a strategic planning tool for understanding, analyzing and communicating business and IT change.
- Business capability models can provide the foundation platforms for developing

diagnostic deliverables that can be used to formulate actionable deliverables.

- To ensure that business capability models represent core business value and differentiation, overlapping business capabilities within a model should be reduced to a manageable set (eight to 10).
- Business capability models allow business and IT leaders to "think out of the box," envision their businesses in the future (new model of care) and support business transformation.

#### Recommendations

#### EA practitioners:

- Bring drafts and proposals into business and IT leaders to initiate collaboration.
- Link business capability models to enabling deliverables (resource planning, information models, process workflows, facilities design and so on) for diagnosing change.
- Use business capability models with IT teams during technology planning efforts to focus on business outcomes.
- Use a business capability-modeling approach with business and IT leaders to analyze new business disruptions, opportunities and challenges.

# **Analysis**

#### What You Need to Know

#### Introduction

Mercy is the eighth-largest Catholic health system in the U.S., with 31 hospitals and more than 240 outpatient facilities in four states: Arkansas, Kansas, Missouri and Oklahoma (see Note 1). It generates more than \$4 billion in annual operating revenue and employs more than 38,000 people, including 4,500 physicians. Mercy is one of the most technologically advanced healthcare organizations in the U.S., with a comprehensive electronic health record (EHR) system containing more than 8 million unique records. Its IT innovations include MyMercy service, which enables patients to connect with doctors and medical information, and Mercy SafeWatch, which provides 24-hour vigilance to intensive care

patients.

Recently, Mercy's enterprise architecture (EA) group spearheaded an effort to roll out a comprehensive business capability-modeling initiative to aid the organization's move to a new, more unified health delivery model, to help the organization better meet evolving healthcare trends, and to drive effective business and IT planning.

Business capabilities are the ways in which enterprises combine resources, competencies, information, processes and their environments to deliver consistent value to customers. They describe what the business does and what it will need to do differently in response to strategic challenges and opportunities.

This case study describes the approach Mercy used to launch the initiative, the process used to develop the capabilities, some of the ways the capability model was used by the business, and some of the benefits it achieved and lessons it learned from applying the model as a business and IT planning tool.

# The Challenge

Mercy faces several challenges related to the need to adapt to trends under way in the U.S. healthcare industry, which is moving through major changes involving competition, reduced costs, and new kinds of care and payment models. In addition, Mercy is facing internal challenges related to its recently launched "One Mercy" business strategy — a new model of healthcare delivery that requires the organization's various geographic regions and service lines to be integrated within a more holistic "enterprise" paradigm to ensure consistent quality of care.

These challenges have left the organization in need of a structured approach plan around changing business designs and IT systems. These challenges, in combination with Mercy's entrepreneurial and innovative business culture, led Paul Helmering — vice president of Technology, Information & Business Solutions — to recognize that Mercy had an environment ripe for exploiting the benefits of business capability modeling.

# The Approach

Helmering and Steve Albers, the business architecture lead on the EA team, set out to launch a capability-modeling initiative at Mercy with the following objectives:

- Improve Mercy's business design and strategic planning processes.
- Document and increase understanding of the business and IT.
- Model the business to drive technology planning.
- Improve IT's working relationship and credibility with the business.
- Introduce a repeatable method for joint business-IT planning.

Because these goals are similar to those of EA in general, capability modeling has become a cornerstone of Mercy's two-year-old EA program.

### The First Goal: Getting a Seat at "A Table," Instead of "The Table"

In approaching the business, many EA and IT planners focus on trying to "get a seat at the table" with the highest-level executives and strategic planners in the enterprise — but Helmering noted that, early on, such efforts are often futile. He and Albers weren't invited to discuss their capability-modeling proposal with Mercy's executive CEO council or any similar top-level groups, but they didn't let that become a roadblock. Instead, they took a tactical approach of first seeking a seat at "a table" with the leaders of a unit lower down in the organization, which they identified as one that was ripe to benefit from capability modeling. "If your trip to the first table wins you the opportunity to do capability modeling — and that opportunity leads to a successful modeling effort — that success leads you to other tables," Helmering noted. "Building on that cycle of success will eventually get you to the higher levels."

The first executive to whom they made their pitch was Shannon Sock, executive vice president (EVP) in charge of Mercy's planned new Virtual Care Center (VCC) initiative, in which hundreds of doctors and nurses will be linked electronically to Mercy hospitals and clinics via telemedicine technology. To make this initiative a success, several existing service lines had to be managed and coordinate under a unified strategic plan, making the need critical for a clear, unified method of business and technology planning and communication.

When Helmering and Albers attended one of the planning sessions, they found the lack of a common approach to discussing and exploring the business plans. They realized that these planning groups would clearly benefit from a more structured approach to discussion and business design, and this became a key "selling point" in their capability-modeling proposal to this organization.

#### **Selling the Concept to Management**

Next, Helmering and Albers made a "sales pitch" to the EVP on the nature of capability modeling and the benefits it could offer to his initiative. In this presentation, they:

- Summarized their proposal by defining what capability modeling would do and what challenge it would address
- Explained how the technique works and provided examples of the approach they proposed to use
- Described the expected benefits from using this approach

They began by identifying the following challenge faced by the EVP's group, as well as their proposal for resolving it:

- Challenge: Ensure that each service line's vision and strategy are captured and utilized in prioritizing, sequencing, and delivering the project and technology portfolio.
- **Proposal**: Use a capability-modeling approach to formalize the service line analysis and the design of future-state operating models.

# Describing the Business Capability-Modeling Approach

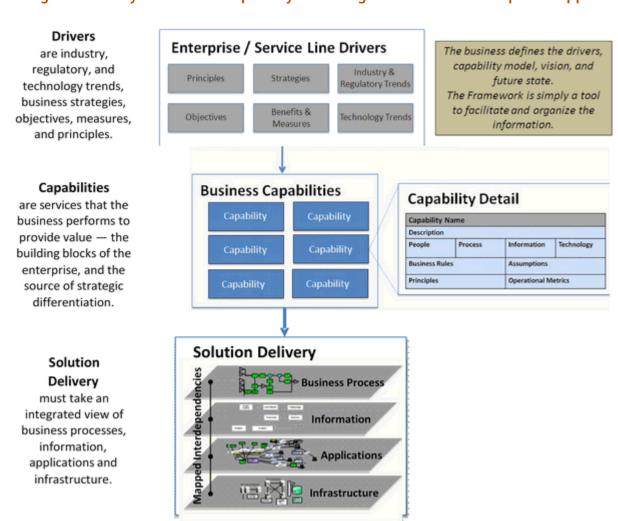
Next, Helmering and Albers explained that capability modeling was a structured approach to discussion and business design that could be used to:

- Provide a consistent model for knowledge sharing, collaboration and decision making.
- Identify interdependencies and overlaps, and eliminate silos of business capabilities, processes, information and technology.
- Provide complete and cohesive information for business/technology alignment, and a

common language for business and IT communication.

They also discussed how capabilities reside — and provide a key link — between business drivers and solution delivery, and stressed that their use in modeling is an industry best practice. Figure 1 shows some of the graphics and definitions they used in their presentation to illustrate these relationships. They further illustrated the capability-modeling concept by showing a draft example of what an actual Mercy capability might look like — in a high-level, "one-page summary" view (see Figure 2). Prior to the proposal meeting, Albers and Helmering had performed some research on one capability (disease management) to create this example.

Figure 1. Mercy's Business Capability-Modeling Definitions and Proposed Approach



Source: Mercy

Figure 2. Sample Business Capability for Proposal Meeting

Capability: Disease Management			Representative Draft		
	promotes quality care with an integra grated with Mercy Health System which ation.				
People  DM Nurses Patients Patient's family Physicians Case Managers Utilization mgmt Demand Mgmt Nurses Educators Other multidisciplinary professionals	Process Identify candidate patients Claims Stratification Handle Referral Health Risk Assessments Contact and enroll patients Outcomes based research Marketing & Selling Cost Accounting / Financial Analys Actuarial & Risk analysis Customer Relationship Manageme		Technology  Data Warehousing  Data Mining & Analytics  Automated Voice Interaction  Registries  Complex event processing/pattern matching  Mobile health applications  Remote monitoring		
Business Rules TBD					
Patient and clinical data should be stored in Epic		FY12 Operational Metrics  • xx managed lives  • xx company contracts  • xx% statistically significant in	xx managed lives		

#### **Explaining the Benefits**

Finally — and most importantly — Helmering and Albers discussed the benefits that the EVP's service lines could expect to achieve from capability modeling, and explained how this approach could:

- Help implementers in multiple service lines follow a unified strategic plan by providing directional vision for leadership and change management.
- Provide a clear line of sight from business to technology for better-aligned enterprise technology planning.
- Identify and leverage synergies across service lines using a scalable, repeatable approach.
- Help create a more responsive, flexible organization, since the component-based nature of capability models provides a modular, interchangeable approach that supports an evolving service line vision and definitions.
- Support the move from project-centric to program/portfolio-centric planning and solution delivery through more cohesive prioritization and sequencing.

Improve the quality of investment decisions, and reduce costs and time to market.

#### Winning the Green Light

One key to the success of this presentation was that Helmering and Albers expressed the benefits in "business language," rather than using highly technical terminology. "Business capability modeling is a business function, not a technical or IT function," Helmering explained. "So we focused on explaining the proposal in terms of business benefits that this EVP could really relate to." For example, because the EVP had six service lines he had to manage and coordinate into an overall strategic plan for the new model of healthcare delivery, Helmering and Albers made it a point to include the value of a "unified approach to planning" among the benefits they cited.

The pitch was successful, and the EVP gave his approval for the capability-modeling initiative to move forward. All his service line leaders were tasked with working with Albers and Helmering on the next step: identifying and modeling the capabilities.

## The Process Used to Develop the Business Capability Model

To develop the model, Albers worked with the service line leaders in Sock's VCC organization to identify each service line's capabilities. Albers also worked with the people responsible for those capabilities and IT resources to identify specific details and requirements for each capability. Figure 3 shows the process that was used to develop the capability model through a series of meetings, handoffs and approvals among these different groups.

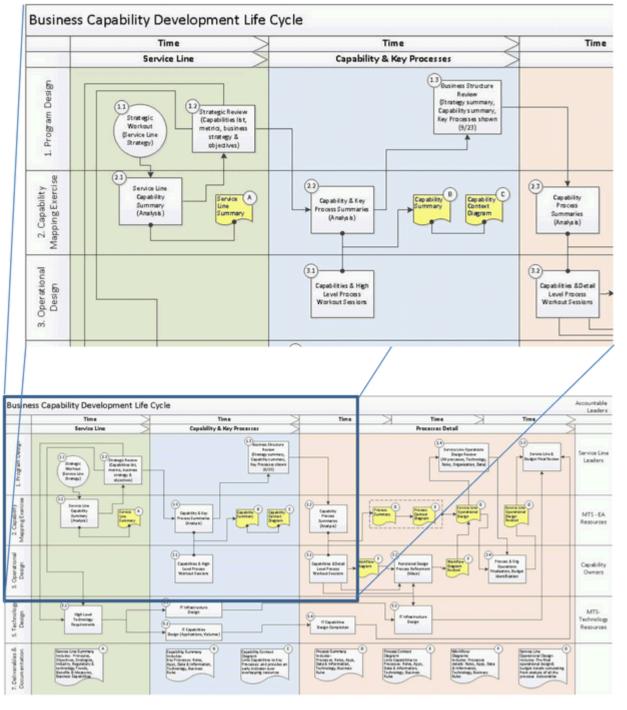


Figure 3. Business Capability Model Development Process

The process began with identifying pertinent details regarding the service lines themselves — including business strategies, principles and objectives, and measures and benefits — and then moved into their capabilities, and finally moved into the details of their key processes (as seen in the columns from left to right). "Once you get to the process-level details, then you get down to people, information, applications and systems," said Albers.

"All this is documented through the capability life cycle." The various parties involved — service line leaders, EA resources, business capability "owners" and IT resources — are shown in horizontal rows in the chart.

This process was designed upfront and presented to the EVP and his service line leaders before the work began. Albers noted that having this process chart modeled in advance helped establish credibility and trust by demonstrating the collaborative nature of the model's development, and by ensuring that the parties involved knew what would be asked of them and when. This process map was used as a communication device throughout the effort.

#### **Interview Questions and Templates**

A major part of the development process involved holding business conversations with service line leaders, so Albers and Helmering came prepared with standard questions that would be covered during these meetings. Table 1 shows a sampling of these questions.

Table 1: Questions Covered in Business Conversations During the Capability-Modeling

Process

General Questions ↓				
What is the	Who does the	Describe your	Where will the	
business?	business want	target market	business	
	to serve, and	or customer	service be	
	who are our	profile.	performed?	
	future			
	customers?			
What is the	Who are the	How are the	When do you	
geographic	current	processes	wish to launch	
reach?	customers?	performed in	the new	
		each location?	business	
			model?	

	General Quest	tions $ egt$		
What are the	Describe how	Describe five	Process: How,	
business	you generate	to six key where a		
processes, roles,	customer knowledge	points that define your vision for	whom?	
departments and				
locations	about the			
impacted?	capabilities.	achieving the		
		business		
		goals.		
Business	Business	Information	Business	
Change	Information	Technology	Solution	
Requirements	Requirements	Requirements	Requirements	
What business	What	What types of	How and	
process changes	information is	information	where do you	
are necessary?	needed? Who	must be	measure	
	needs it?	supported?	outcomes?	
What business	How and where	What	What	
components	do you measure	applications	business rules	
must be	outcomes?	are needed?	do you follow?	
changed/added?				
What business	When (how	What access What does		
stakeholders are	often) is it	must be business		
affected and	needed?	provided? to do (adde		
how?			capabilities)?	
What is the	Where does it	What	How will this	
impact on the	come from?	locations	solution be	
organizational		must be	used? By	
structure?		supported?	whom?	

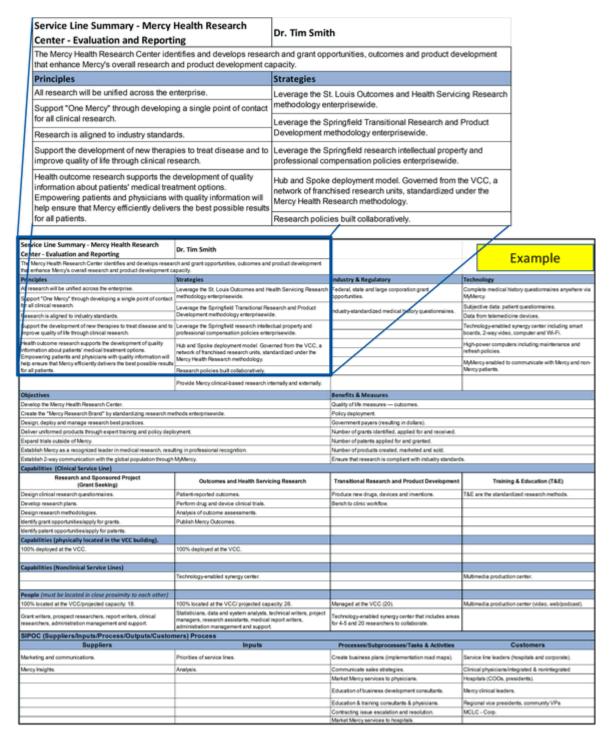
General Questions ↓				
What is the	How can	What	How does the	
impact on our	information be	frequency of	solution	
extended value	leveraged to	information	integrate with	
network	provide more	delivery and	existing	
(suppliers,	value to the	processing	business	
partners,	enterprise?	must be	processes?	
customers, etc.)?		supported?		
Do we have the	Do we have	What sources		
right people and	defined roles	of information		
skills?	and	must be		
	responsibilities?	supported?		

Albers explained that they didn't simply place these questions in front of the service line leaders, or read them off in order. Instead, the question lists were designed as a reference to ensure that all relevant points were covered during the conversations. Interview templates captured information from each service line on a number of topics, including:

- Principles
- Strategies
- Industry regulatory issues
- Technology
- Objectives
- Capabilities
- People
- Processes
- Process outcomes
- Benefits and measures

Figure 4 shows what one interview template looked like after it was populated with information from the sessions with service line leaders.

Figure 4. Business Capability Interview Template



Source: Mercy

In the capability methodology process, this information would be used to define the service

line's high-level capabilities and key processes. From there, further meetings would be with operational capability owners to discuss process-level details that would be captured for technology-design purposes. All this is documented through the capability life cycle shown in Figure 3.

## Business Streamlining Benefits Achieved During the Business Capability-Modeling Process

As the modeling exercise progressed, Helmering and Albers discovered that certain constructs regarding how leaders thought about their businesses were similar across service lines. These constructs basically translated into five main categories — patient/provider-facing, enabling, specialized, support and administration — so they organized the capabilities under these categories to enhance business comprehension and comfort with the completed business capability model (see Figure 5).

When the capability development process for the new VCC was complete, the resulting model originally contained 104 capabilities. The completed business capability model made it clear that a number of support and administration capabilities were redundant across the service lines, so in the new model of care, these redundant capabilities were consolidated from 46 to eight — after which there were 66 capabilities in all. After the redundant capabilities were consolidated down to eight, VCC operations was selected as the service line that would handle those capabilities for the rest of the service lines under the new model of care. The complete business capability model for the organization is shown in Figure 5, with the six horizontal rows representing the six service lines.

Enabling Patient/Provider Facing Specialized Support Care Specialized Patient/Provider Facing Enabling SafeWatch E-Hospital Patient/Provider Facing Telemedicine Video Consultations TeleStrok (4 - Type Tele-Peds Specialized Tele-Imaging Patient/Provider Facing Pharmac Tele-Cons Reads 24/7/365 Primary Reads ePharmacy Patient/Provider Facing Enabling Specialized 24/7/365 W Specialized Patient/Provider Facing Enabling VCC Support Administration Operations

Figure 5. High-Level Business Capability Model (With Consolidated Capabilities)

# How the Business Capability Model Is Used by the Business

In addition to enabling quick recognition — and subsequent consolidation — of the redundant activities shown on the right side of Figure 5, the completed high-level business capability model also enabled the service lines in the new VCC to recognize their

similarities, and to visualize how they could work together in a more unified way. Previously, these service lines had been functional "silos" with different approaches, systems and structures — and with no prior history of cross-functional collaboration. With the aid of the new business capability model, they were now able to see commonalities and recognize that they could work together in a common approach under a consolidated model of care.

The new business capability model was put to a variety of practical uses for the business, including:

- Cross-functional business planning
- Resource planning (roles and responsibilities) and resource sharing
- Facility design and department proximity planning (within the VCC's new multimilliondollar facility)
- Identification of relationships across key elements of the business
- Design of process workflows
- Support for program management
- Communicating and planning for business technology requirements

Figure 6 shows one of the diagnostic deliverables used by the business. This deliverable, which was developed by the EA team based on information captured in the capability-mapping process, depicts a high-level business timeline for a series of projects needed to enable the business to move forward with its new model of care.

VCC Road Map - Timetable 2015 2012 2013 2014 Project by Priority + Estimated Scope 01 Q1 04 Construction Building the VCC VCC **Dedicated Technical Support** Technology for Conference and Operation Command Center Call Center Workload Balance and Tracking Market Service Outside of Mercy Credentialing and Licensing eIC U 2-way video and Audio **Enterprise Remote Telemetry** Monitoring Telemedicine Video Consultations Video Consultations Equipment Build Security: Standard Builds (3 Levels) Care Management Disease Management (CHF) **IVR System** Nurse Triage: Nurse On Call Software Alerts Dashboard Teleradiology After Hours **Enterprise Solution** Health Research My Mercy Medical Questionnaires Interface to Telemedicine Devices Hardware/Software Build

Figure 6. Planning Deliverable Example: Business Implementation Timeline

## How Business Capability Models Are Used by IT

Capability modeling provided important benefits to Mercy's IT organization as well. According to Mercy's CIO, Will Showalter, a key challenge IT faced in supporting the new model of care was that the IT organization and its systems were still organized around the old model of care. The capability model enabled the IT organization to envision what the new business would look like so it could better support the transformation (see "Business Capability Modeling Brings Clarity and Insight to Strategy and Execution" (https://www.gartner.com/document/code/246286?ref=grbody&refval=2349715)).

A series of diagnostic deliverables (see Note 2) was developed out of the capability-

modeling effort, and these deliverables are very useful to the IT organization. One example, shown in Figure 7, is a mapping of capabilities to data types. This mapping reveals which types of information are used by the highest number of capabilities — this can be used to prioritize master data management (MDM) efforts.

Figure 7. Diagnostic Deliverable Example: Business Capabilities Mapped to Information

	y-b-m-b-m-f-sm-f-sm-f-sm-b-m-b-m-b	Capabilities				
Capability	Disease Management	Utilization Management	CRM	Nurse Triage	Count	
		Data				
Clinical Activity	X	X			2	
Clinical Incidents		X	Х	X	3	
Clinical Measure	Statistic	X		X	2	
Clinician	×	X		X	3	
Diagnosis	×			X	2	
Discharge Data	X			X	2	
Health Risk Asses	sment X			X	2	
Location				X	1	
Patient	×	X	X	X	4	
Payer			X		1	
Pharmacy	X				1	
Prescription	X			X	2	
Referral	X				1	
Registry - Patient	X		X	X	3	
Registry - Diseas	e X				1	
Satisfaction Ratin	g X		X	X	3	
Schedule		X		X	2	
Service Offering	X	X	X	X	4	
Specialty	X		Х	X	3	
Supplier				X	1	
Supply (item)	X	X		X	3	

Result: Prioritize MDM Efforts

Source: Mercy

Other uses of capability modeling in the IT organization included creating application inventories and road maps aligned with the capabilities needed to support the new model of care, as well as supporting the development of an enterprise-standard business rule repository. The IT organization also modeled many of its own capabilities — for example, capabilities within its business process management (BPM) and data management centers of excellence (see Note 3) provide a list of capability-enabled deliverables that are used by Mercy's IT organization to support its business process, information, application and technology planning efforts.

#### **Links to Other Disciplines**

Showalter noted that capabilities don't offer value in isolation; rather, their usefulness lies in their link to planning processes and other methodologies and disciplines. For example, the capabilities are closely aligned with Mercy's EA discipline, where they serve as the construct used by the EA team to "connect the business through multiple EA layers of business processes, information, applications and IT infrastructure."

The capability model is also closely aligned with Mercy's BPM discipline. Process modeling is a major focus for Mercy, since the move to the new One Mercy strategy is focused heavily on process integration. Modeling the key processes that support one or more business capabilities is part of the Mercy's defined capability management life cycle, and this process modeling work, in turn, feeds into the requirements for managing the data and business rules used in the tools that support processes and capabilities. This link between capabilities and other methodologies helps the EA team and IT planners "take a very holistic approach in how we service the customer," Showalter said.

#### Results

As of mid-2012, this initiative had achieved the following results:

- Business capability models were (and are continuing to be) used to reduce redundant capabilities, which allowed them to streamline the business. A repeatable capabilitymodeling process was defined for potential use elsewhere in the organization, and "capabilities" became a common language in the business.
- Managers in the service lines associated with the VCC now use the capability models for business design and strategic planning, and to help them better understand how to design their business under the new model of care. Moreover, these service lines have taken ownership of the models in terms of evolving and updating them.
- New, trusted partnerships between EA and the business were developed. Albers is now called on regularly to participate in strategic planning sessions with the business.
- Insight was gained into the technologies and other requirements to support the new model of care. This insight is now used to drive technology planning, design and development.

The effort won management praise as well. Sock was pleased with the modeling effort's

results in support of the VCC initiative, and praised its "structured approach to businesscentric strategic planning as the means to evolve our new model of care."

#### Critical Success Factors

Among the factors that were important to the success of the initiative, Albers and Helmering cited the following:

- An executive-level business champion is critical. Helmering noted that the support from Sock and Showalter was critical to ensuring that the effort stayed on track.
- Encourage the business leaders you work with to define capabilities as they choose and to use the terminology that makes the most sense to them. Focus on facilitating the modeling process for the business, rather than dictating model designs or terminology to the business leaders.
- Be ready to drive initial efforts in enough detail to produce project-level designs and ensure successful delivery. Ensuring that the initial capability model is detailed enough to be useful will help build credibility and ensure future success.
- Experienced business architects or senior business analysts are essential to conducting effective and productive discussions with the business.

## Lessons Learned

For the benefit of other practitioners embarking on a capability-modeling effort, Helmering and Albers shared the following lessons learned from their own experience:

- Define working relationships and handoffs with solution delivery early in the process. When the modeling efforts get down to the level of designing technology solutions, be sure you have the development resources on board and are ready to ensure a smooth handoff between business and IT participants in the process.
- The message, "we need these capability models for technology planning," more easily opened doors with the business than, "we're here to design the business." Although the goal of the effort is to help business leaders design business plans and strategies, that message isn't always well-received at first. Helmering and Albers found that they made better inroads by starting with, "we need this information for technology planning," and then by letting the businesspeople with whom they met discover the power of the

capability models on their own as the process unfolded.

- Train business and IT resources early to ensure sustained growth of the capability-modeling process. Start building your capabilities so you can deliver when you get the call.
- Find a seat at a table, get started and learn as you go. "With good work," said Helmering, "you'll get more opportunities at other tables."

# Note 1 Mercy Profile

ER Patient Visits: 596,046

Outpatient Surgeries: 102,269

Births: 21,506

Licensed Beds: 4,571

Assets: \$5.2 billion

FY12 Operating Revenue: \$4.2 billion

# Note 2 Diagnostic Deliverables

Diagnostic deliverables are the result of the combination and analysis of enabling deliverables. They include models, requirements and analysis tools that are designed to enable IT and business leaders to understand the impact of different decisions made in response to business disruptions or business opportunities. This makes them very interesting to business and IT managers, program and project managers, and enterprise architects who are trying to analyze an opportunity or threat. This is because diagnostic deliverables do not cover only one perspective or dimension (such as technology, process, solution, investment, portfolio and so on); rather, they look at multiple perspectives.

Diagnostic deliverables combine different views of a problem or opportunity to address a

#### specific need. They may include:

- Assessments of current-state business, information, technical or solution architectures
- Analysis of redundancies and duplications in business capabilities, information, technologies or solutions

# Note 3 Summary of Technology Deliverables Derived From Business Capability Modeling

#### **Business Process:**

- Process swim lanes to support business operations design
- Enterprise business process inventory
- Business rule repository, enterprise standard
- BPM center of excellence capability model

#### Information:

- Enterprise information inventory
- MDM prioritization
- Enterprise registry (clinical data marts) project design, enterprise standard
- Data management center of excellence capability model

#### Application:

- Application inventory
- Application road maps
- Dashboard project design, reference architecture, enterprise standard

Business rule repository project design, enterprise standard

#### Technology:

- Strategic technology platform for service lines
- Innovation grant proposals
- IT capability modeling

# Recommended by the Author

Eight Business Capability Modeling Best Practices Enhance Business and IT Collaboration (https://www.gartner.com/document/2267515?ref=ddrec&refval=2349715)

Starter Kit: Business Capability Modeling Workshop (https://www.gartner.com/document /1528228?ref=ddrec&refval=2349715)

Use Business Capability Modeling to Illustrate Strategic Business Priorities (https://www.gartner.com/document/1827115?ref=ddrec&refval=2349715)

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