

EQUIPMENT PLANNING

Drawing a blueprint to break barriers

Supply chain involvement should be forethought, not afterthought

by Rick Dana Barlow

The boom in hospital construction and renovations in the last two years (during a recession no less!) invites a pertinent question: How is supply chain management involved, particularly when it comes to equipment planning?

Responses run the gamut. Typically, supply chain professionals aren't tapped for assistance until the clinical staff issues their preferences for equipment that must be brought in. At that point, they expect supply chain managers to negotiate the best contracts with their pre-selected vendors.

Yet forward-thinking supply chain professionals, justified by unnecessary cost overruns and bloated budgets, contend they should be targeted for tips much earlier in the process, such as when the blueprints and plans are being drafted, doorways and hallways sized and to match clinician requests with any existing contracts, product standardization and value analysis projects.

In previous years, *Healthcare Purchasing News* has explored supply chain management's role in equipment planning from more of a 20,000-foot perspective. *HPN* highlighted the fiscal and organizational benefits of supply chain's participation as well as the inherent dangers of its exclusion.

This year *HPN* sought to plunge right into one of the fundamental issues for supply chain management – getting its foot in the door and making the case for contributions. So *HPN* reached out to a handful of experts to share their insights and recommendations about how supply chain management can insert itself into the equipment planning process.

Breaking the ice

Making an effective argument for supply chain's early participation in equipment planning activities can be half the battle – one that's fought long before the C-suite and project managers circle the wagons, experts urge.

Ted Hood, senior vice president and COO, Gene Burton & Associates, Franklin, TN, recommended that the



Ted Hood

careful planning."

In fact, the best, and simplest, way for supply chain leaders to "break the ice" is to not let it form in the first place.

"The supply chain leader needs to imbed himself or herself in the forefront of the minds of the key organizational leadership – the CEO, COO, CFO, CNO, vice president of support services and facilities – so that no discussion of any potential project takes place without the presence and direct participation of the supply chain leader," noted Tom MacVaugh, principal, Healthcare Strategic Resource Solutions Inc., Lancaster, PA. "You need to be an automatic integral player regardless of the size or scale of the proposed project. If the supply chain leader is not already a de facto member of the senior leadership team or 'inner circle' than you are at risk and not just for equipment planning projects."

James Dickow, president and CEO, Dickow Consulting Group LLC, Mequon, WI, concurred.

"The supply chain manager should be a key ingredient in the organization's approach to any project involving procurement/design of systems or equipment," Dickow indicated. "Since most initiatives in healthcare facilities' design and operation involve these aspects, the supply

supply chain leader "engage the project team leadership by indicating that your involvement and knowledge of facility standards and contracts can expedite the planning process as well as bring cost savings to the budget through

chain manager should be an integral part of the team."

Specifically, supply chain managers should develop collegial, not competitive, relationships with aligned goals, and become a resource and problem solver, not a controller, according to Dickow.

"The supply chain manager is not merely an acquisition cost reducer, but also a Six Sigma-related total operational cost and efficiency facilitator," he added. "Most new facilities are designed and built to both function many years and elevate the organization to the future 'state of the art' – best done by leaders that know and understand what that 'art' really means."

Still, supply chain managers must understand how projects work and how their contributions can positively impact the project's outcome, according to Nik Fincher, vice president, analytics, VHA Inc., Irving, TX.

"Two of the biggest obstacles to the successful outcome of a project are time, due to project delays, and cost overruns or change orders," Fincher said. "A supply chain manager needs to position their value to a project in terms that position them as an effective resource to help manage the project timeline and prevent cost overruns or change orders. For example, if [the supply chain manager] can prevent 20 change orders at an industry average cost of \$3,500 per change order on this project, [he or she will] have a minimal positive financial impact of \$70,000. That could be the difference between eliminating or keeping four defibrillators from the project budget."

That's how Mike Rush, director, materials resource management, Carolinas Health-Care System, Charlotte, NC, approaches it.

"Our 'sell' in getting involved with project planning as soon as possible is to reduce rework, improve equipment standardization, save money on the equipment procurement, as well as reducing the architect

fees associated with equipment planning," Rush said. "We work very closely with an in-house facilities group that manages



James Dickow

"Capital equipment spending can rapidly take on a life of its own, and the farther the process goes without [supply chain] input, the more limited the options and the more cemented are mistakes."

Anil Singhal, M.D., vice president, supplier programs, Attainia Inc., Mountain View, CA

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construction projects for the organization. It is in all of our interests to minimize scope creep and change order requests." Carolinas HealthCare represents more than 30 affiliated hospitals and more than 600 nonacute care locations in North and South Carolina.

"Capital equipment spending can rapidly take on a life of its own, and the farther the process goes without their input, the more limited the options and the more cemented are mistakes," said Anil Singhal, M.D., vice president, supplier programs, Attainia Inc.,



Anil Singhal Mountain View, CA.

"Because of the politics of these situations, the supply chain manager is most effective if they come in as an enabler early in the process," Singhal continued. "As soon as the supply chain manager is aware that either a project is being considered or budget timing is coming up, they should make the teams aware of their expertise in 'helping' to build the desired equipment into a Web-based and collaborative equipment planning app. Once in an environment replete with supplier product choices, pricing information and group contracts, the audience becomes connected to the decision requirements that drive the supply chain processes, such as sourcing, selecting, budgeting, planning, purchasing and tracking." Attainia develops software for healthcare capital equipment lifecycle management.

For Ric Goodhue, CMRP, principal/owner, Goodhue Planning Services Inc., Lincolnton, NC, an equipment planning-skilled former supply chain executive now serving as an equipment planning consultant, if the plans are drawn it may already be too late – but not lasting.

"I believe they need to be involved before there is a project," Goodhue insisted. "Communication with their customers through frequent, consistent and positive interaction is critical to the success of their day-to-day operation and just as essential to educating customers of their value during the 'one off' events, in advance.



Ric Goodhue

"Although they may have a relationship with their clinical peers, in a lot of cases their mindset is typically more of 'SCM is a necessary evil. However, given the opportunity, I can do their job better because I know what I want/need and (to quote a few of my clinician friends), I'm pretty good at negotiations

myself,'" Goodhue continued. "SCM needs to have the relationships that cause their customers to automatically pick-up the phone and say, 'I have a project I would like to talk to you about.'"

Engaging supply chain managers early on also helps external third-party planners work with internally integrated operations and vendor relationships.

"Supply chain has a large role in procuring the equipment for the new building or expansion effort so from the start, the supply chain director should be involved in the selection of the equipment planner to assure a fit with supply chain – their process, resources, GPO-contracted vendors, etc.," said Jennifer L. Myers, vice president, SELECT Health Technology Service, ECRI Institute, Plymouth Meeting, PA. "Supply chain should emphasize to the C-suite the cross-functionality of equipment planning and supply chain so that the ice is broken early on."

If an equipment planner is helping with equipment identification and procurement, then the equipment planner should be very receptive to supply chain's participation, according to John J. Skreenock, MBA, HEM, senior associate, Applied Solution Group, ECRI Institute.



John J. Skreenock

"This upfront involvement will ensure that the GPO contracts are honored and that preferred vendors are used in the upfront selection of the desired equipment," he added.

Who to target

Once supply chain develops its convincing message it needs to identify someone influential to convince. Recipients range from all members of the C-Suite to other senior-level vice presidents in facilities and strategic planning, as well as department heads and the key leaders on the project management side.

"They need to know who normally coordinates the selection/make-up of the design team for projects," Goodhue noted. "That decision may be at a level equal to their own, but it very well may be in the C-suite, which means they have to have a presence in the administrative hierarchy that knows and understand the value SCM can add to a project. Again, ongoing and constant visibility – in a proactive way – is key because operating in stealth mode creates an automatic barrier to getting SCM involved by invitation."

Think over and throw passivity out the window, Myers insisted. "Supply chain needs to aggressively emphasize



Jennifer L. Myers

the value of their role in expansion efforts," she said. "There are many key stakeholders involved in these sorts of projects: The C-suite, architects, consultants, clinicians, facilities management, project leaders/directors. Supply chain needs to get to know all of them, needs to be proactive and needs to stay on top of the high-level direction of the health system in order to anticipate upcoming planning and expansion."

The top may be the most expedient and prudent places to start.

"There are two members of the leadership team who are always in the know at the earliest point of the planning process – the CEO who has the vision and the CFO who has the gold," said Tom MacVaugh, president, Healthcare Strategic Resource Solutions Inc. "Invariably these two are responsible for hatching any renovation construction plan." But he acknowledged that other senior leaders must be addressed, too.

Singhal agreed that the executive and department head swath should be wide and that "all should be made aware that the SCM team can make their planning easier/smooth, while keeping stakeholders in the loop and part of the process."

Fincher recommends following the money. "Whoever has ultimate responsibility for delivering the project on time and on budget is who the supply chain manager should approach," he said. "This may appear to be the responsibility of an outside consultant like the architect, construction manager or equipment planner, but generally someone in the healthcare organization has the ultimate responsibility. More than likely, that would be the CEO, COO, CFO or whoever's in charge of the healthcare organization's physical plant."

What to say

Supply chain's message to the key decision-makers and stakeholders, according to Hood, is to "explain how your team can support the project in maintaining preferred standards and maximizing equipment procurement discounts through bundling equipment and leveraging existing vendor relationships."

But the message also must include the notion that "clinical expertise should be augmented with the right tools for accessing the most comprehensive choices and to yield the greatest cost savings for the choices being made," Singhal insisted.

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Rush emphasized supply chain's "value add" to the equipment planning service in terms of cost savings, standardization and reduced errors and rework should be stressed.

"The supply chain manager should be prepared to discuss ways that they will contribute to having the project stay on time or on budget," Fincher noted. "They should also point out opportunities to ensure the project continues to be viewed positively long after the project is finished and the consultants have all gone home."

Fincher cited the following five examples: Making sure that selected materials/equipment are standardized on current purchasing patterns to minimize post installation support costs, using their GPO as a cost efficient source of pricing, looking for opportunities to combine project spending with non-project related annual spending to increase volumes and negotiating leverage, providing a perspective on what's best for the healthcare organization rather than just what's best to get the project completed, and using their in-depth knowledge of how to get things procured in a timely manner.

Communicating with the C-suite on strategic planning and service line expansion can feed into equipment planning if you "emphasize that supply chain and equipment planning processes need to be in sync, and the importance of working well together in order to meet tight deadlines," Myers noted.

"The interaction has to address what SCM can bring to the project and not what they must be allowed to bring," Goodhue said. "Like with food, if you're force fed something, most people tend to regurgitate in a very negative way. Instead, adding a little seasoning will usually help."

Most SCM directors keep a list of their successes that they should share in a way that will communicate and show the value that SCM and the design team can achieve together to support the project and its normal constraints, including budgets, time and standards, according to Goodhue. "It is critical that SCM present their case in a manner that emphasizes collaboration and flexibility, as opposed to 'in your face' delivery," he added.



Nik Fincher

Supply chain leaders have to be at the table, MacVaugh insisted, because they know about institutional standards for equipment sources and specifications, contractual obligations, product and equipment standardization efforts and have the responsibility for vendor communication and negotiations and the fiscal obligation for prudent purchasing. "Even if some of the other senior leaders don't think of it or perhaps even object to your being there, insist upon it," he said. "If you do not there are bound to be deficiencies in the processes and you can bet that you will be called in to clean up the mess!"

Hitting a wall

Should the supply chain leader's participation in equipment planning message fail to persuade the powers in charge of any given project, he or she should "always proceed cautiously, but firmly ahead," Dickow emphasized.

The game plan should include customizing responses to a specific issue and organizational environment and above all be "coaching and collaborative," he continued.

"Try your best to convince the obstacle that your involvement will not hinder progress, but will enhance outcomes," Dickow noted. "Prove yourself with an early success. Do not be confrontational, but instead be collaborative and a team player. Rather than ask for permission, assume you have it and force the obstacle to say 'no,' rather than invite you into the action."

Singhal concurred that supply chain managers should be educated, informed and trained on key tools before going to senior management. "With the right tools the SCM can make a strong case for efficiency, cost savings, and timely processes, which are hard to turn down," he said.

"The supply chain manager should present their value in a non-threatening way that reinforces their ability to assist the successful completion of the project," Fincher advised. "Offer suggestions for how you might still move things along even if from a peripheral perspective. And ultimately, without threatening to do so, remind the team that more than likely the procurement process will come through your department. Including you from the beginning would certainly reduce the potential for questions and/or delays once the procurement process begins."

Goodhue strongly advised "against throwing a temper tantrum," which will do more harm. "I believe the SCM director needs to choose their

battles wisely," he continued. "Although they may fight and win a battle, they could possibly lose the war. In today's value-driven healthcare, they don't need to add to the cost of a project by demanding they be placed in the driver's seat of a project. I suggest they request a meeting with their senior-level administrative staff to present their case. If forced to do so, they need to proceed with caution. They need to ensure they present only the facts, such as total cost of ownership, GPO contracts, value-added benefits, etc. They need to address the elements they feel are guaranteed benefits. Creating a sense of collaboration will carry a lot of weight in the decision making process and influence the decision makers on when and if SCM will be allowed to participate."

To win that war may require sitting out one battle and laying groundwork for the next one with the C-suite and project administrators.

"Encourage them to discuss your involvement during the next project team meeting providing a list of benefits," Hood said. "Many project team members will be an advocate for your involvement when they understand the value you offer to the project."

It worked for Carolina HealthCare's Rush.

"The administrative level of the organization is the key audience," Rush said. "If support can be gained from that level, the implementation comes quickly and the results speak for themselves.

Once we had a couple of projects under our belts, the barriers seem to dissipate quickly."

ECRI Institute's Skreenock and Myers both advocated finding an ally to promote supply chain's incremental participation either for certain meetings or key startup meetings, such as identifying approved suppliers for equipment.

"Insist that they are seeking involvement to streamline the process and be of help and that in no way is it an attempt to take over," Myers noted.

"If all else fails, approach the CFO and explain the importance of having the SCM at the table for at least the major projects if not all," Skreenock said. "This should get you an invite to the team meetings. After that it is up to the SCM to prove that their contributions are creating value and cost savings and moving the project forward more efficiently." **HPN**



Mike Rush



Tom MacVaugh

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EQUIPMENT PLANNING

Understanding total cost of ownership

TCO can ensure accurate performance trending and cross-facility benchmarking within equipment lifecycle management

by Dale Hockel and Terry Hamilton

The total cost of ownership, or TCO, approach for your healthcare organization's capital equipment planning enables you to effectively boost your bottom line by planning for all lifecycle costs and options related to capital equipment.

TCO is a methodology used to ensure that all associated costs over a given time period are considered when acquiring an asset. These costs may include purchase price, installation costs, financing costs (including the option to lease or rent), energy costs (or savings), repair costs, upgrades, maintenance, downtime, productivity, training and disposal.

Let's examine how the TCO model may work for your organization, and in turn may save you thousands – even millions – of dollars in equipment purchases.

TCO's limitations

First, it's important to note that TCO is not a perfect model. While it's the best method we have for evaluating equipment lifecycle costs, keep in mind:

- **It requires extra effort.** Completing a TCO analysis does take time to complete, and therefore will drive costs up just a little. In spite of this, it's still very important and worth those few extra dollars.
- **There is no agreed-upon formula.** Do a Web search for "TCO model" and you'll find a dozen or more different formulas.

That's why it's important to find the one formula that works for your organization and stick to it.

- **It's not useful for assessing risks.** Will your physicians use the model for planning? What about accounting for all those "what if" scenarios? There's really no way to tell for sure.
- **It's not helpful when aligning investments with strategic goals.** TCO planning does not take into account a healthcare organization's desire to have the leading-edge equipment, or to be the number one bariatric medicine provider, for example.

Using the TCO method

When developing your organization's TCO grid, think of it as a three-step process: 1. Acquisition and procurement; 2. Operations and maintenance; and 3. End-of-life management.

Consider the TCO grid (Table 1). Remember that TCO looks at total cost of ownership, not just acquisition costs, so across the top of the grid you'll see first-year costs, second-year costs and so on. You may wish to coordinate your TCO timeline with your organization's fiscal year – it's easier for the finance department to coordinate costs if you put things in terms of fiscal year.

Along the side you see rows, each representing a department or input entity in TCO. Within Excel you'll be able to expand

detail in certain categories by adding tabs. For example, if you're planning for an upcoming renovation, you can add detail on the bids you received, who provided them, etc.

One often-overlooked area is disposables. Typically we think of TCO in terms of big, expensive pieces of equipment. Consider IV pumps, for example. When you order IV pumps you're typically getting hundreds at a time, and your TCO decisions around them can make a huge difference in what becomes most cost effective.

Real-life examples

Breast MRI machine: A busy breast surgeon decided to purchase a new breast MRI machine due to an increasing number of patients requiring operations. The surgeon and his hospital entered into a joint agreement, and more partners were added. They purchased the breast MRI machine and then realized that the space in which it was to be installed was inadequate. To accommodate the new machine, lead-lined walls and additional points of egress, they needed an extra \$700,000. Because the capital approval was \$2 million, and the project was now more than \$2 million, they needed new approvals. The project was delayed several months – TCO planning would have been very useful here. (See Table 2-page 17)

See **TCO** on page 16

Table 1 - Total Cost of Ownership: CT Scanner

Item:	CT Scanner	Anticipated Purchase Date:				6/30/2006				
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Year of Ownership	Purchase	2nd year	3rd year	4th year	5th year	6th year	7th year	8th year	9th year	10th year
Purchase Price	\$1,500,000	Renovation Costs	\$250,000	Installation Costs	\$200,000					
Productivity Costs	\$6,000	\$(12,000)	\$(12,000)	\$(12,000)	\$(12,000)	\$(12,000)	\$(12,000)	\$(12,000)	\$(12,000)	\$(12,000)
Financing Costs	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-
Energy Costs	\$-	\$10,000	\$10,300	\$10,609	\$10,927	\$11,255	\$11,593	\$11,941	\$12,299	\$12,668
Upgrade Costs				\$150,000				\$200,000		
Maintenance Costs		\$50,000	\$51,500	\$53,045	\$54,636	\$56,275	\$57,964	\$59,703	\$61,494	\$63,339
Repair Costs		\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
Downtime Costs	\$25,000	\$5,000	\$10,000	\$25,000	\$5,000	\$10,000	\$25,000	\$5,000	\$5,000	\$10,000
Disposal Costs										\$50,000
Total Annual Costs	\$1,981,000	\$103,000	\$109,800	\$276,654	\$108,564	\$115,531	\$132,556	\$314,643	\$116,792	\$174,006
Total Cost of Ownership:		\$3,432,546								