How to Effectively Use Consultants

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Apart from a few pioneering medical centers, most medical organizations lack the internal knowledge and technical expertise to develop a comprehensive digital imaging business plan, create medical imaging architectures, select vendor(s), and implement picture archiving and communication systems (PACS) and other information systems. Many of these processes are only done once (eg, vendor selection and initial implementation) and developing such one-time expertise in-house is wasteful and inefficient. It is highly unlikely that an inexperienced hospital-based group undertaking their first and only PACS project will be able to match the experience and depth of a well-organized consulting group with prior experience. Organizations therefore are looking to consulting groups to fill their internal resource gaps. This report presents the benefits of engaging consultants, guidelines for selecting a consulting group, and insight on effectively using the consultants. The presentation is based on actual experiences using consultants for planning, selecting, and implementing a PACS at Children's Hospital Medical Center, Cincinnati. Copyright © 2000 by W.B. Saunders Company

A PART FROM A FEW pioneering medical centers, most medical organizations lack the internal knowledge, resources, and technical expertise to develop comprehensive digital imaging business plans, create medical imaging architectures, select vendor(s), and implement picture archiving and communication systems (PACS) and other information systems. Many of these processes will only have to be done once (eg, vendor selection and initial implementation) and developing such one-time expertise in-house can be wasteful and inefficient. It is highly unlikely that an inexperienced hospital-based group undertaking their first and only PACS project will be able to match the experience and depth of a well-organized consulting group with prior experience. Organizations therefore are looking to consulting groups to fill their internal resource gaps. We present the benefits of engaging consultants, guidelines for

selecting a consulting group, and insight on effectively using the consultants. The presentation is based on actual experiences using consultants for planning, selecting, and implementing a PACS at Children's Hospital Medical Center, Cincinnati (CHMC).

CHMC is a regional pediatric hospital that is among the top three pediatric facilities in the United States in terms of patient beds (294), annual inpatient admissions (17,000), and annual outpatient visits (389,254). The Department of Radiology at CHMC performs approximately 125,000 examinations per year and offers a full complement of radiology services (eg, computed tomography, magnetic resonance imaging, ultrasound, nuclear medicine, angiography and interventional, and diagnostic modalities). The Department of Radiology also provides imaging services via teleradiology at five outpatient sites. CHMC secured Board approval for a PACS in advance of vendor selection in October 1998. CHMC engaged consultants in December 1998 to assist in the planning, selection, preimplementation planning, and implementation management of a PACS. CHMC selected General Electric Medical Systems (GEMS) to be its preferred PACS vendor in July 1999.

PACS technology and industry alliances are constantly changing and the amount of effort required to remain current is almost endless. Consultants can energize a project by providing deep expertise, a methodology for fast-tracking the initiative, and extensive industry contacts. Consultants should be able to provide a PACS team with insight into the vendors' architectures, technologies employed, vendor's prior track record, project management, and emerging trends. They should also provide a framework for accomplishing specific objectives and possess strong communication and facilitation skills to help build consensus for critical decisions. The following highlights a process to effectively use consultants.

ASSESSING INTERNAL RESOURCES

Assessing and aligning internal resources before engaging a consulting group is key to the successful and effective use of its services. There are a number of resource-based items to consider before

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selection:

- **Project Management Experience**—what level of experience does the organization have with managing similar processes?
- **Leadership Commitment**—where does the project leadership reside within the organization, ie, radiology or information services? The process of planning, selecting, negotiating contracts, and implementing a PACS is time- and resource-intensive. Is the organization prepared for the amount of time that its leaders will have to devote to the PACS process? It is critically important not to underestimate the amount of time and commitment required to have an effective and efficient project. The interface with consultants can be intensive depending on the scope and scale of the engagement. This applies to all levels of staff, from the project lead to the department secretary.
- **Human Resources**—an organization moving forward with PACS will see a fundamental change in how many of its staff will do business in the future. New roles and responsibilities will emerge, ie, management, education, administration, and support roles will be redefined. The organization must be prepared to pull resources away from its current operations to dedicate towards the initiative and ensure that the consultants are working with the right individuals. It is important to note that PACS stretches beyond the radiology department's clinical and administrative environment to impact the hospital's patient care environment, application and network services, and facilities. Specific areas must be identified where a consultant can be leveraged to provide support or leadership.
- **Technical Resources**—these can apply to both technology and workflow processes. How well does the organization know its current workflow and supporting technologies? To what degree is the organization dependent on vendors to provide technical expertise and development work?
- **Finances**—what resources does the institution have for writing a detailed business plan? Will the business plan have sufficient allocation for additional resources, including consultants? What are the financial limitations of the PACS project?

SELECTING A CONSULTANT

It is important to evaluate experience, project approach, and client references when selecting a consulting group. This information can be obtained by requiring a formal, detailed proposal and initial work plan. The proposal should include the following sections:

- (1) **Background and Understanding**—a brief dialogue by the consultant that shows they are familiar with the site and the boundaries of the engagement.
- (2) **Objectives and Scope**—the proposal should clearly state the objectives of the project and specify areas of involvement. Objectives should be clearly defined as formal deliverables such as a financial analysis for PACS; request for proposal (RFP), or processes such as the development of strategies for image archival, workflow review, and revisions for PACS; and security, confidentiality, and integration issues associated with image distribution across the enterprise. There should be a clearly stated scope and objectives for each phase of the consultant's engagement.
- (3) **Engagement Approach**—a description of how the consultants expect to achieve the objectives, and who needs to be involved from the organization. The consultant should state their planned project approach or methodology that will lead to results. The consultant should also state how they will work with the organization's project team to complete a project plan describing the tasks, task deliverables, assigned responsibilities, and schedules, including specific planning points permitting flexibility to handle future requirements (eg, long-term archive and technology migration). The major steps within the Engagement Approach are the details associated with the contracted-to deliverables.
- (4) **Professional Resources**—in the proposal, the consultant should clearly state who will be performing the work and in what capacity. Consultant resumes should be provided along with client references for each associate. The organization should review closely the proposed project team and determine whether the consultant team brings the desired experience and perspectives to the facility.

- (5) **Engagement Timing**—a description of how long the project will take and the critical success factors or milestones for achieving the specified goals with the understanding that the organization will have sign-off on the final schedule.
- (6) **Professional Fees and Expense**—consultants bill by the hour. In the proposal, the consultant should clearly state the expected number of hours and payment per hour per level of consultant required to complete each phase of the project or major deliverable. The proposal shall also include an estimate of out-of-pocket expenses per project phase. Not-to-exceed hours or pricing can be used as described in the Letter of Engagement or Proposal. If using hourly billing, this can help minimize risk for the facility. Determine with the consultant exactly what information and supporting documentation should appear on the monthly invoice (eg, hours per consultant, dollar amount per consultant, and an itemized list with amounts of all out-of-pocket expenses).
- (7) **Project Workplan**—the consultant should submit a detailed work plan outlining the tasks to be performed, resource allocation, amount of effort, and project milestones. The consultant *and* organization should manage project scope, deliverables, and timing using the final workplan. The workplan is a living document subject to changes during the implementation phase. Be flexible.

WORKING WITH A CONSULTANT

Once consultants are engaged, an organization will want to maximize the effectiveness of the consultant group and minimize the overall expense. Project leadership and the consultant should review the seven sections of the proposed letter of engagement before beginning work. Leadership should clearly dictate the consultants' mandate and roles such as information resource, team leadership and coordination, staff augmentation, and facilitator. Each major objective will require close cooperation between the consultant group and the organization—the organization must clearly state in writing its expectations of the consultant group before work on each objective begins.

The following are engagement tools used by

CHMC and its consultant:

- **General Status Reports**—on a weekly basis, the consultant team provides the client with status reports to measure and track progress against deliverables, to ensure timely and effective objective completion, and to identify and elevate any issues requiring leadership attention.
- **Skills Transition**—one clear benefit of employing a consultant is to transition the knowledge and skills, technical or management-focused, to the client project team. Formally recognizing the transfer of technical and leadership skills to associated client staff can ensure that the successful transfer of skills will help build the organization's internal competencies. In planning for its PACS, CHMC asked its consultants to work side-by-side with its staff to develop project management and technical skills needed to successfully manage the PACS implementation project after the consultant engagement expired. CHMC reviewed the transition progress on a regular basis, often asking its staff to evaluate consultant performance.
- **CHMC Leadership Team**—CHMC established a leadership team consisting of the project leader (in CHMC's case, this is the Associate Director of Radiology), clinical project leadership (Chief Technologist), and the Radiology Administrator to work with the consultants to discuss and refine project progress through workplan review, to address major issues, and to strategize on how to maximize consultant effectiveness while minimizing cost. This regularly scheduled meeting has provided the medium for open and honest discussions of the consultant-client relationship, and a forum for the exchange of ideas.
- **Project Documentation**—the consultant maintains soft-copy and hard-copy collections of all pertinent project documentation. This would include formal project deliverables, status reports, meeting notes, and workplan revisions. The consultant provides selected hard-copy documentation at various meetings as directed by CHMC Leadership Team.
- **Project Quality Assurance**—in addition to Leadership Team meetings, a facility should request (or the consultant should initiate) a project quality assurance review that looks at

how the consultant team is achieving and managing project objectives and scope, aligning professional resources, and executing the project workplan. A quality-assurance review can serve both as a status check and an opportunity to realign resources or fine-tune efforts to address a previously understated or unknown objective.

- **Billing and Accounting**—it is very important that the organization clearly understands the consultant billing process. Depending on the length of the engagement, monthly or quarterly reviews should be in place to ensure that a mutual understanding is achieved. Careful review of the consultant's payment policies could result in certain discounts being applied for prompt payment. Always request a formal accounting of all transactions from the consultant and your facility accounting department for reconciling all expenses.

CONCLUSION

A consultant can provide additional perspectives and methodologies to your digital imaging endeavor. From assisting with business planning and

managing vendor selections, and from pinpointing technical expertise in network design to staff development, the effective use of a consultant can enable an organization to realize goals and objectives beyond what its internal resources can attain. It is important for any organization considering the use of a consultant to assess its internal resources and business strategy to determine the best fit for the consultant within the organization's efforts.

The selection of a consultant, and the subsequent definition of the consultant's scope and objectives, requires careful planning and detailed information exchange. How well the consultant understands the organization's environment and its ability to build needed flexibility to accommodate the changes and adjustments necessary over the life of the project will depend on how well the organization prepares for the engagement and communicates its expectations. Lastly, there are a number of tools that can be used to manage the consultant. While reports and status checks can verify project status, committed internal leadership and well-aligned resources will allow for a successful PACS implementation and ongoing support.