Group 1 Vendor Selection

Rebecca Algren, Heather Ball, Gary Brown, Cathy Denny,

William Marella, Daniel Runt, and Kazi Russell

Northwestern University

Selection Criteria

Sunt Community Physicians sent out their RFP to five different vendors for potential software solutions. Selected criteria will be used to evaluate the three vendors who have responded to the RFP to determine which would be the best fit for Sunt. The purpose of such evaluations is multifold:

- To assess vendor performance with a view toward rewarding vendors who meet expectations with Sunt.

- To provide accurate feedback to vendors through the eyes of Sunt.

- To help minimize subjectivity in judgment and make it possible to consider all relevant criteria in assessing vendors (John, Yeldho Baby & Mangalathu, 2013).

The evaluation criteria will be broken down into four major categories outlined below, each with its own weighted value and a point system within each category. Pricing and system design and operation are of the utmost importance to Sunt. For that reason these two categories are weighted the highest, but Sunt recognizes the importance of all categories when selecting a vendor. A more detailed list of the criteria, including sub-categories, can be found in Appendix A.

1. Pricing – 40%. Having just undergone a merger, Sunt's budget is modest. Therefore, price is the most important factor when evaluating potential vendor solutions. Overall costs, including initial and ongoing, must be factored in to the evaluation. Financial stability of the vendor as well as their rank among industry standards will also be considered. Sunt realizes that price is not the only goal, but it will be heavily factored in with the vendors' system design, services and cultural fit.

2. Functionality – 30%. This area represents another high priority for Sunt when evaluating vendors. It encompasses many aspects, including but not limited to usability,

scalability, performance, and user analysis. Sunt is seeking the best fit technically for their company's individual needs.

3. Services – 20%. Initial and ongoing services represent an essential criterion for Sunt. Vendor support after implementation is critical to ensure success of the software solution. Swift response and resolution times are expected as Sunt's newly merged practice will be producing a high volume of laboratory testing, approximately 63 tests per hour, after implementation.

4. Vendor History and Cultural Fit – 10%. It is important to Sunt to develop a long-term partnership with the chosen vendor. Sunt wishes to partner with someone they trust and have confidence in. The vendors' references will be examined as well as their knowledge and responsiveness to the RFP. It is Sunt's mission to select the vendor whose mission and vision align closely with their own.

Change Management Plan

While Sunt Community Physicians have a change management team in place, it is necessary to think of the entire organization when considering the change that will be experienced. Sunt has a Change Management policy in place to deal with any changes to a given process, any changes required of staff, or at times when a new piece of equipment has been placed in service. The Change Management process team will understand the impact to the organization, to the unit, and to any specific individual roles involved and create training. If necessary, new policy definition will be identified and produced, to incorporate the change into the organization in a seamless manner.

Sunt will expect that our staff will be considered in the implementation of the new interfaces. Sunt will want to be familiar with any proposed change to the staff and workflow, and

be able to plan ahead to train necessary staff to accept the change process. The change management steps will be outlined and the current workflow, as well as the future state workflow, will be mapped out on flowchart diagrams. This will give the Sunt change management team the opportunity to do the gap analysis and develop any anticipated training. The training team will then develop and produce the needed training materials for the Sunt staff while, at the same time, allowing our communication team to develop the communication process, derived from the change management team, for our organization.

Sunt anticipates the need for change management in some areas of the organization due to the interface implementation. Areas that may have faxed results or transferred results in other ways should be able to see those results through accessing the system now. Sunt will require time to develop the training and anticipate any changes so that training and communication can take place appropriately.

Vendor Selection

The political environment in any organization will influence the vendor selection process. Resistance to change is part of human nature, implying that past relationships with vendors may give them some advantage in a selection process. For example, Sunt's CFO has experience working with two offshore vendors for software development. The team has discussed the possibility of using one of those vendors. This idea was rejected based on the lack of specificity of our requirements. Offshore partnerships work better when the project is well defined.

Another pitfall to avoid is placing too much emphasis on demos and the personalities of salespeople. Developing a good rapport with a vendor early in the process can be helpful, but care must be taken to avoid this being a distraction. The best provider for Sunt should be determined

by the pre-established criteria. Additional care must be taken to clarify all unknowns. When a salesperson says, "Yes, our software or team can do that", you need to ask follow up questions like, "Out of the box?", or "How much time/money will it take?" Demos can also be impressive. The vendor may show you lots of "cool stuff" that may or may not be applicable. This is common when a vendor knows that their product stacks up comparably to the competition so he or she knows that it is these extras that drive the decision. "Business managers can be sidetracked by the latest technology du jour" (n.a., 2014).

The vendor selection team is composed of several senior members of Sunt's organization. Each team member will complete an anonymous vendor evaluation for each participating vendor. Prior to submission, the team will have open discussion about the various vendor solutions, which allows the opportunity for any member to influence other members. This could cause an imbalance in favor of a strong personality that pushes their agenda, but the anonymity of the ballot helps balance the vote.

The makeup of the team was carefully chosen for proper balance as well. This project has a large IT component and as such, our team has strong representation from IT giving that area significant voting power. Sunt's General Counsel doesn't have a vote, but she has been heavily involved with the SOW and RFP process and will be used to negotiate, review, and approve contracts once we choose a vendor. The second largest component of the selection team has a clinical background, due to their role as the primary users of the solution. Administration and finance have direct and significant representation via the involvement of the CEO, CFO, and CMIO. Sunt does not have a Quality Department; however, the CEO has created a culture where quality is at the core of all we do. Each team member will consider the quality considerations of each vendor's proposal, especially around patient safety concerns.

Sunt is a small but growing health care organization. This project is one of several future projects being initiated to develop base capabilities for this growth. The vendor we choose for this project will have a competitive advantage when bidding on future work. We are truly interested in developing a long-term partnership. The vendor we choose must have the same interests and will be assessed on their longevity. A small startup vendor may look great in terms of capabilities and willingness to partner with us but Sunt will give significant preference to established practices that have been around for several years, have 100+ employees and revenues above $20 million per year. Studies have shown the larger the business, the greater the chance of survival (Lee, Masuo, & Malrou, 2005).

Sunt is very cost-conscious. Our recent merger activities have created a short-term cash flow concern. This project, once operational, will go a long way towards relieving these current financial constraints. The best solution for Sunt will be the one that best meets our evaluation criteria, of which cost is just one factor. If multiple vendors are rated similarly overall, Sunt will favor the lowest cost provider; however, unlike government agencies, we do not have a mandate to choose the lowest cost vendor. In the unlikely event that multiple vendors have similar costs and are rated equivalently, the team will likely choose subjectively based on the vendor that "feels" like the best fit.

Budget

Whether the vendor response falls within our budget is still a significant factor when judging the proposal. With our modest budget, we must be very selective as to how our limited funds will be used. All of the following expenses will be considered, in addition to the vendor's proposal, and cannot exceed that which the executive board has approved.

There will be other expenses above and beyond that which the vendor proposes. We will need to take time to train our existing IT staff on the new system. During that time, normal day-to-day operation will be interrupted and could cause a potential backlog of IT issues. Overtime may need to be approved to alleviate the stress on the remaining staff. On top of that, another FTE may have to be acquired to support the LIFE system, adding to ongoing expenses.

Any new hardware and licensing will need to be purchased. Sunt is requesting the detailed price to develop and implement the necessary interfaces from each of the prospective vendors. Vendors that can configure their products to run on existing hardware will be preferred. New services will most likely need to be acquired from service providers, Internet connections, domain hosting, etc. These ongoing costs will need to be included in the support amounts.

The executive board has approved $500,000. This must be divided between capital cost and operational cost. A roughly 85/15 split between implementation and maintenance, respectively, is expected. A detailed budget is shown in Appendix B.

Acceptance Testing

The role of acceptance testing in software development is to determine if the solution as delivered meets the functional specifications as presented to the development team. Miller and Collins (2001) argue that "acceptance tests represent the customer's interests," and while developers' unit tests verify correct function of short sets of code, acceptance tests verify correct function of the system from the perspective of the end user. The focus of acceptance testing is on functionality and usability and is usually directed at ensuring the application conforms to the user stories or functional requirements identified by those purchasing or commissioning it.

In the context of software acquisition (as opposed to in-house development) acceptance

testing is a major contractual milestone. It likely represents a fulcrum in the contract life cycle in which the leverage in the relationship may switch from customer to vendor. Once the customer accepts the software, additional development effort likely incurs substantial additional cost.

In our project, acceptance testing will not play a significant role in vendor selection, unless one of the vendors proposes a unique approach to the testing phase of the project. Acceptance testing will need to be performed by Sunt staff regardless of which vendor is selected; therefore, we don't expect this to be a differentiator among vendors.

Acceptance testing will be performed at the end of the development effort, after the interface is installed in production. Sunt does not have a robust testing or staging environment that might be typical in a large hospital. The lab interface also does not involve modifications to the existing LIS or EHRs. Therefore, testing the interface in production, using fictitious patient accounts, involves minimal risk. Names used for test patients will be clearly sham names (e.g., "ZZZ Test") to avoid accidentally posting fictitious results to real patient records.

Sunt will develop a library of simulated test orders and results. For each test parameter that has reference ranges, normal, abnormal-high, and abnormal-low values will be tested as applicable to determine that alerts are triggered in the EHRs. For test parameters with critical values (e.g., a white blood cell count greater than or equal to 100 cells/mcL) (Mayo Medical Laboratories, 2014), these will be simulated to ensure that they trigger email alerts to the providers' inboxes.

Orders will be entered from the two newly interfaced EHRs, acknowledged by the Sunt LIS, and fictitious results reported back through the LIS and received in the Sunt EHRs, directed to the correct ordering provider and triggering expected alerts and notifications in the EHRs. Deviations from these expectations will result in non-acceptance and will be recorded and remedied. After any defects are corrected, the acceptance testing procedure will be repeated until

the system passes without errors.

Acceptance testing will also simulate the expected order volume post-implementation. Tables 1 and 2 show the expected number of different types of orders on an average day and the volume of orders expected to be processed by the lab based on an analysis of peaks and valleys in their current workflow.

Table 1. Laboratory Test Volume (Daily)   Table 2. Labs Processed by Hour

Test	Average number ordered/day
Blood	
Complete blood count (CBC)	89
Lipids/cholesterol	58
Glucose	44
Glycohemoglobin (HbA1C)	32
Prostate specific antigen (PSA)	15
Other blood tests	89
Urinalysis	61
Pap test	21
Chlamydia	5
HIV test	4
Pregnancy test	3
HPV DNA test	3
	423

Hour	% of Labs Processed	No. of Labs
8-9 AM	5%	21
9-10	12%	51
10-11	12%	51
11-12	15%	63
12-1 PM	2%	8
1-2	15%	63
2-3	15%	63
3-4	12%	51
4-5	12%	51

Based on this analysis, after implementation of the interface, the Sunt lab will be processing up to 63 labs per hour. If our acceptance testing is conducted in the space of one hour, we can load test the newly interfaced systems by entering 150% of the expected load, or 95 tests.

Appendix A

Category	Weight %	Factor	Score (1-4)	Vendor A	Vendor B	Vendor C
Pricing	40%	Overall cost				
		Software license				
		Support and maintenance				
		Hardware costs				
		Upgrade costs				
		System development				
		Financial stability				
		Rank among industry				
		Total Points for Pricing				
Functionality	30%	System usability				
		Custom functions				
		Scalability				
		Reliability				
		Risk management				
		User reporting				
		Performance				
		Total Points for Functionality				
Services	20%	Implementation				
		Training				
		Maintainability				
		Security				
		Support				
		Total Points for Services				
Vendor History and Cultural Fit	10%	Stability				
		References				
		Knowledge and experience				
		Certifications				
		Personnel				
		Responsiveness				
		Total Points for Vendor History and Cultural Fit				
Totals	**100%**	**Points Totals**				
		Percentage Totals				

Scoring/Points Scale
1 – Unavailable
2 – Unacceptable
3 – Acceptable
4 – Excellent

Appendix B - Detailed Budget

LIFE Project Budget

Budget Summary	6M	Year 1	Year 2	Year 3	3.5 Y Total Cost
Implementation	$ 420,160	0	0	0	$ 420,160
O&M	0	$ 19,912	$ 20,509	$ 21,125	$ 61,546
					$ 481,706

Implementation (6 months)

Cost Category	Unit Cost		Quantity	Extended Cost	
Direct Labor					
Project Manager	$	70	240	$	16,800
IT Developer	$	84	320	$	26,880
Lab Director	$	160	80	$	12,800
Lab Technician	$	56	120	$	6,720
Subtotal				$	63,200
Overhead				$	18,960
Other Direct Costs					
Vendor Costs	$ 320,000		1	$	320,000
Hardware (Servers)	$	7,000	2	$	14,000
Legal	$	400	10	$	4,000
Subtotal				$	338,000
Implementation Subtotal				$	420,160

Operation & Maintenance (Annual)

Cost Category	Unit Cost		Quantity	Extended Cost	
Direct Labor					
IT Infrastructure Engineer	$	84	100	$	8,400
Lab Director	$	160	10	$	1,600
Lab Technician	$	56	40	$	2,240
Subtotal				$	12,240
Overhead				$	3,672
Other Direct Costs					
Interface software maintenance fees	$	4,000	1	$	4,000
O&M Subtotal (Year 1)				$	19,912
Year 2 (+3%)				$	20,509
Year 3 (+3%)				$	21,125

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