Medical Informatics 408   Web Group
Assignment 3: Vendor Selection
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One slide on any changes in the political environment
  o See also Assignment_3_Web_Group_Presentation.pptx – attached
- Our first step was to look at the problem as it was defined. We agreed to use our assets to begin addressing the problems presented by others. The 3 primary parties who would be helpful were the Marketing Chief, CMO and Chief Informaticist. The 3 parties with strong concern were the CEO, CNO and CIO. The marketing chief provided the greatest strength and breadth of support, so we began by helping him to focus his efforts on the CIO by aligning strategy skills with a new vision, and his relationship to the CEO to encourage support.
- The Chief Informaticist agreed that his supportive role was key, but could not be pushed. He needed to help the CIO feel the idea was 'from within' and that the Chief Informaticist could manage the problems of this new system. The Informaticists role would create new connections to decision makers that would help in the future.
- The CMO was able to provide a clinical and service perspective that the CNO could relate to, and was able to temper his fanaticism for technology as he learned about all the other aspects of the project.
- Using these resources, the CEO was the first to be persuaded. This was the result of his personal relationship with the CMO, and the growing value of the project to the organization. He remains unsure but agreed to support based on the numbers.
- The CNO was next to be brought on board, as the money spent here would be money for recruiting and there no other expected source of funds.   Demonstrating the changes the younger generation of nurses were bringing to the workplace, and how they sought employment were also convincing. The CNO's value to the organization was emphasized, and the value of a multifunctional website to nursing, as a temporary alternative to cash, was emphasized.
- The most difficult party to garner support from was the CIO. By limiting the effects of the system on the IT department, and carefully listening to all the concerns expressed, as well as appealing to personal strengths (e.g. strategy related to vision), the CIO was willing to proceed with the project but still considered to be a potential liability to effective implementation.

One slide on a change management plan to deal with the changes and any changes to the selection criteria as a result.
  o See also Assignment_3_Web_Group_Presentation.pptx – attached

The change management plan was used to deal with several issues as the project developed.   In particular, a mechanism for documenting the changes was decided on using existing technology. Some elements of the Change Control plan itself were revised early on to align the process with other Change Management plans already in place at LUHC.   There were some vendor induced changes that required a change in evaluation. It was discovered during the RFP process that there were vendors with capabilities not previously known to the Selection Team. As a result, after discussion with the intended audiences, some additional criteria were added to the process. This required an addendum to the RFP that was added with a letter to the vendors. The list below outlines the key elements of change that were addressed.

- LUHC will use its enterprise PM application to automate process
- Components of the Change Control plan will include:
    o Version history (implemented by, revision date, approved by, approval date, reason)
    o Flow requirements (generate CR, log CR status, evaluate CR, authorize, implement)
    o Change request form/change management log (date, CR#, title, description, submitter, phone, email, product, version, priority)
    o Evaluation
        ▪ Priority – high/med/low.
        ▪ Type of change – scope, time, duration, cost, resources, deliverables, product, processes, quality.
        ▪ Status – open, WIP, in review, testing, closed
    o CCB members (role, name, contact, description) in this case informaticist, core team, steering committee
    o Responsibilities (role, name, contact, description) for each step of process
    o Change request approval (signature, print, title, role, date)
    o References key, key terms key
- Vendor influenced changes
    o More responses were received than expected
    o Some vendors had unexpected capabilities
    o Criteria and scoring were enhanced as selection pool increased
    o Small, start-up companies were cheap, but had difficulty meeting all requirements

Provide an analysis of vendors' responses to the Assignment 2 RFP.

        o   See also Vendor_Responses.xls – attached

        A spreadsheet of capablites of the vendors was made based on the analysis of the responses to Functionalities.xlsx.   This summary provided a dashboard of available functions. The remainder of the responses were analyzed based on the selection tool that follows. The details of these responses on within the attached spreadsheet, but this snapshot provides a key comparison of the finalists, presenting a clear view of the difference in breadth of service available.

	Functionality	company	Vital Element, Inc.	Medical Web Design	Practis, Inc.
1	Functionality	company	Vital Element, Inc.	Medical Web Design	Practis, Inc.
2	History		extensive portfolio	substantial portfolio	substantial portfolio
3	Functionality				
4		animation			
5		content	X	X	
6		design	X/ALL IN ONE	X	X
7		e-mail	X		
8		event manager/class sign-up			X
9		hosting	y/n	X	
10		images/video	X	X	X
11		medical device integration	X		
12		online bill pay/E commerce	X	X	X
13		online HR	X		X
14		online patient forms	X	X	X
15		patient education	X/Healthwise		X/Healthwise
16		portals (PHR, EMR)	X	x	
17		redesign/renovate existing site		X	
18		referrals	X		
19		search engine - specialty	X	X	physician by name/specialty
20		section 508 compliance	?		
21		secure messaging	X		
22		social networking	X		X
23		patient survey/reporting	X		X
24	Services				
25		business tools	X		
26		copy write	?		
27		IT staff	X		
28		manage	X	X	X

Develop, illustrate and describe the methodology and reasoning behind the criteria by which you evaluated vendors who responded to the RFP developed in Assignment 2. The criteria should be both specific to the product you are evaluating and general about what type of vendors your organization wants to do business with.

        o   See also Web_Vendor_Selection.docx – attached

The Selection Committee was responsible to develop an effective tool based on the Functionalities.xlsx contained in the RFP. Each section of the tool must receive a passing grade. Failing a section results in disqualification. Certain elements were identified as 'Must Haves'. Failure to pass these elements also results in disqualification .

The Selection tool is defined in the 6 sections. Sections A,B, & C are used during the preliminary screening.   After the finalists are determined, Sections D,E &F help to further delineate the characteristics of the products and allow for feedback from the constituents.

- Section A
  - Enterprise Overview – 5 points
  - Financial Stability – Must Pass – 5 points
  - Conflict of Interest – Must Pass – 5 points
  - Legal/Risk Management – Must Pass - 5 points
  - Background and Experience – 7 points
  - 15/22 Minimum Qualifying Score
  - Failure to pass Section A results in disqualification
- Section B – Technical Qualifications
  - Split into 4 subsections – patient interactive, professional interactive, administrative, and public interactive
  - Each subsection has a Minimum Qualifying Score for its functionality, but failing one subsection does not disqualify vendor
  - Failure to meet Minimum Qualifying Score overall will disqualify vendor
  - MQS 90/135
- Section B1 - Interactive website, patient
  - Includes patient home, PHR, billing/payment, appts, user testing, expertise in-house
  - Passing score 30/45
- Section B2 - Interactive website provider
  - Includes pt data, PHR, POE, OR/clinic scheduling, user testing, expertise in house
  - Passing score 25/35
- Section B3 - Administrative Website (Phase 2)
  - Reporting, bulletin board, call schedules, user roles and acceptability testing
  - MQS 15/20
- Section B4 - Public Interactive Website
  - EE recruitment, gen info, ask the expert, specialist search, user testing, expertise in house
  - MQS 25/35
- Section C – Project Management
  - Project manager assigned - 5pt
  - Timelines and resource needs clearly identified – 10 pt
  - Software licensure/certifications, auditing functions, training needs outlined – 10 pt
  - Phase 1 timely - 5 pt
  - Phase 2 timely - 5 pt
  - User acceptance checkpoints -5 pt
  - 30/40 Minimum Qualifying Score

As noted, the above sections are used for preliminary screening. The process for using this information was setup so that a well versed team would sort out the details of the RFP responses and provide a more limited list of options for more in depth evaluation and review by constituents and the Selection Committee.

- Preliminary Screening
  - Members of the Core Team screen responses for missing elements.
  - Failure to include and pass 'Must Have' elements will result in disqualification
- Selection Committee
  - Representatives of impacted constituencies were chosen for the selection committee
  - Legal, regulatory, and financial representatives were also included
  - Participants receive copies of each Response prior to committee with scoring tools for each
  - Participants bring all materials to the meetings
  - All materials remain the property of LUHC
- Committee Process
  - Through group discussion, a consensus score is reached for each response. This becomes the 'official' score.
  - Failure to meet Minimum Qualifying Score for a section results in disqualification with no further evaluation.
  - Those who pass Sections A-C are considered finalists and go on to D-F
  - Final selection is submitted to LUHC Steering Committee for approval
- Finalists will present a model website to the committee
  - Potential Web hosting requires a site visit to confirm adequate facilities, security and safeguards
  - Bids are deemed by the committee to be 'acceptable' or 'unacceptable'.
  - Selection is based upon highest score plus acceptable bid.

The finalists would be notified of their status, and given the opportunity to present more detailed information about their capabilities and a model of their product. This would be evaluated by the Selection Committee and specified numbers of individuals from each constituency. This will represent the final selection criteria.

- Section D – Model Website and Site Visit
  - Model Website
  - Presentation professional, organized – 5
  - Functionality demonstrated – 5
  - Appearance, user interface – 5
  - Website Hosting – all 3 are Must Haves
  - Server size, environment – 5
  - System backup, catastrophe plan – 5
  - Facility and server security, encryption - 5

- o Minimum Qualifying Score 10/30 and 25/30 for Web Hosting submissions
- Section E – References
  - o 3 References provided – 6 pt
  - o References are favorable – up to 10 points per reference
  - o Minimum Qualifying Score 20/36
- Section F – Bid
  - o Bids are opened in committee and rated as 'Acceptable' or 'Unacceptable'
  - o Final Selection is based upon the highest score plus an acceptable bid.

Final selection will be by the Selection Committee, but they will take into account the comments from each of the constituencies, the evaluation data from all sections of the Selection Tool, and their own opinions.

Provide preliminary budget estimates based on the RFP response and other costs associated with the implementation.
- o See also Budget.xlsx – attached

Item	Implementation	Monthly	Quarterly	1st Year Total	2nd - 5 Year Total	5 Year Total
Functionality	193,000	25,000	6,400	393,000	1,302,400	1,695,400
Services	14,000	2,500	44,750	34,000	836,000	870,000
Labor	20,000	36,000		308,000	1,728,000	2,036,000
Total	227,000	63,500	51,150.00	735,000	3,866,400	4,601,400

Describe the role each of the constituencies (e.g. clinical, IT, finance, and legal staff) had in the decision.

       o See also Assignment_3_Web_Group_Presentation.pptx – attached

Based on initial screening of the committee based on responses to the RFP, the top three vendors were asked to provide some mockups representing their usual work, and examples of workflow/dataflow from similar projects. These were molded into a simple website without any data links.   Each of the identified audiences was solicited for input through beta testing with small groups over a 1 week period. The goal was to help determine what seemed most intuitive and effective. The results of this were incorporated into a product proposal that was presented to the IT department for an assessment of their ability to maintain security, assure function including interoperability with existing systems, and provide then necessary staffing to accomplish these items. The final proposal was then presented to the C-level administration for review.   Based on the scoring system established, the reviews of the constituencies, and the consideration of the committee, a single product was chosen for presentation to the board.

Constituency	Input Sought	Outcome toward decision
Patients	Focus groups for functionality; focused beta testing of mockups (30 users)	Desirability and usefulness of features
Professional	Requests for ideas and concerns, interviews as requested; focused beta testing of mockups (10 users)	Consensus on features
C-level Administration	Interviews and discussions; review of workflows/dataflows & costs	Final determination of scope and budget
General Administration	Requests for ideas and concerns, interviews as requested; review of workflows/dataflows; focused beta testing of mockups	Consensus on features
General Staff	Focus groups for functionality; focused beta testing of mockups (20 users)	Consensus on features
General Public	Focus groups for functionality; focused beta testing of mockups (30 users)	Desirability and usefulness of features
IT	Requests for ideas and concerns, interviews as requested; review of design/interfaces/costs; beta testing of mockups (4 users)	Interoperability, level of function, security standards, staffing capabilities

How will the size of the vendor (small startup, established niche, or large comprehensive) influence the decision?

- This was addressed in section A of the Selection tool to a large extent. The criteria do not specifically exclude smaller companies, but any company considered needed to have appropriate strength to provide the

necessary development and support.   Key elements as well included the demonstrated integrity of the company and other elements that define the risk that LUHC would be accepting in working with the company.

Section A
- o Enterprise Overview
- o Financial Stability
- o Conflict of Interest
- o Legal/Risk Management
- o Background and Experience

Describe the role of acceptance testing.

In general acceptance testing is intended to accomplish 3 things:
- Ensures product will meet business requirements
- Final quality check, define defects
- Upon satisfactory conclusion final payment to vendor may occur

In order to accomplish this, the Selection Committee developed the plan outlined below. This would be implemented during the early development of the product.

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What role will acceptance testing play in the selection?
- Vendors must be willing to comply with user acceptance testing requirements
- Responses are graded higher if user identification and testing steps are clearly outlined

How will acceptance testing be performed on the product?
- Phase 1 Planning
  Prepare a Test Plan
  Review the Test Plan with participants and stakeholders
  Arrange sign off of the Plan
- Phase 2 Preparing Tests, Test Data, and Training
  Prepare the tests (Test Cases)
  Prepare the Test Scripts (or Test Scenarios)
  Prepare the Test Data
  Conduct training for the participants
  Establish the Test Environment
  Confirm the availability of personnel and resources
- Phase 3 Executing and Controlling
  Run the tests (Test Scripts and Test Cases)
  Record the results
  Log problems and monitor their resolution
  Fix problems and re-test
- Phase 4 Closure
  Arrange for formal acceptance of the system
  Hand over the system, the documentation and test records

When will it be performed?
Acceptance testing itself will be performed initially with the beta product, and then again after the product is considered ready for publication. This will be completed prior to completion of the initial payments to the vendor.

What results would you find unacceptable for the product, during acceptance testing?

Additional info on Testing Web-Based Systems

When the system is 'web-based' or has web components, testing effort should be increased to allow for full usability testing and for testing against different browser versions and platforms. Web pages are subject to many types of web interfaces and require more extensive usability testing than standard structured and controlled graphical user interface screens. Web-based systems have a number of characteristics that necessitate additional care during testing:

- There is less (or no) control over the environment in which the system will run. Generally, the environment for an Intranet based system can be controlled

to some extent, whereas for a system on the World Wide Web, there is no
control;

- The system may need to run using different browsers and under a number of
  different versions;
- There is little opportunity to train end-users and their actions and logic are not
  easily predicted;
- There is no capability of controlling the sequence of events that an end-user
  may invoke.

Consequently, testing of web pages is often less structured, allowing the testers
free reign in their (test) use of the system, possibly with an observer or recording
mechanism to monitor events. Test Plan preparation will need to allow for this.

http://www.thewebsiteclinic.com/category/acceptance-testing/

RESOURCES for Acceptance Testing

Test Environment already established by LUHC. Technical/physical requirements
will include PCs, printers, interfacing with EMR, PHR, financial system,
workspace within LUHC IT department. Human resources include current IT
staff, external consultants if needed. Financial Resources: referred to in
budgeting section.

DOCUMENTATION

Testing documentation will include test scripts/cases, recommendations, test input
and output information and test results (both detailed and summary). Data
collected will include test case ID, date, process name or code, test case
description, data input, expected result, actual results description, result code,
problem number if test not accepted.

http://www.egovernment.tas.gov.au/__data/assets/pdf_file/0011/77816/Template_acceptance_kit_plan.pdf

**Select the best vendor from their RFP responses and your requirements; explain
why they were chosen; and discuss those that you decided not to choose.**
- 7 vendors RFP's passed the initial screening:

- MedNet Technology
- Vital Element, Inc.
- Medical Web Design
- Practis, Inc.
- Aurora Information Technology, Inc.
- Badger Healthcare Marketing
- MDNetlink.com

The financial representative on the committee reviewed the functions that the vendors could perform compared to what we could do in-house or needed to outsource. He provided the internal budget that would be added to the vendor budget. If the combined totals was within our target budget, and the committee felt that the estimates appeared accurate based upon their experience, the bid was deemed 'acceptable'.

- 2 vendors were competitive and asked to provide model websites
  - Vital Elements, Inc
  - Medical Web Designs
- Comparisons included
  - Cost
  - Functionality

The selection committee chose **Vital Element, Incorporated** based on the substantial breadth of their response and the reasonable cost of their product.

Is the vendor the least costly vendor? If not, what it the justification for the selection?

- Vital Element is in the 80th percentile of cost based on the range of products available. The value provided by the product, as well as the vendor strength in support were key factors in the decision to accept their bid. The less expensive vendors have significant deficits in strength and breadth that would have required additional (likely multiple) vendors to complete the project as planned. (please see vendor criteria discussion below) The decision to continue with the complete project, based on it's importance to the organization, defined the need to use the most comprehensive solution. Options for cutting sections from the original plan were considered and dismissed by the Project Team based on discussions with the constituencies.

Why were others rejected?

- Homestead Portal Vendor – No in-house expertise. Claims to have web design partners and experience with back end systems integration. Section B incomplete.
- Star Financial specializes in banking websites with a stellar reputation for security. Never built a healthcare site, but has hired healthcare consultants . No healthcare references given.
- Genuflect Inc. recently fined large sum for release of PHI file via unsecured email. Litigation pending on similar case. Disqualified per Section A.
- Harry Horton – Son of CEO who received web-design software for Christmas. Did not sign conflict of interest attestation.
- Largesse Enterprises: Former LUHC employee's start-up web development company. Recommended by board member. No information on financial stability for Section A, a required element.

Attachments:
        Assignment_3_Web_Group_Presentation.pptx
        Web_RFP Assessment Form Template.docx
        RFP_Responses.xlsx
        Vital Element Inc RFP Assessment Form
        MDNetLink.com RFP Assessment Form
        Budget.xlsx