Case Study, Stage 3: EHR Technology Solution Proposal

Before you begin this assignment, be sure you have read the "UMUC Family Clinic Case Study", all class readings assigned to date, and feedback on your graded Stage 1 and Stage 2 assignments.

Purpose of this Assignment

This assignment gives you the opportunity to apply your analysis and research skills and your knowledge of technology solutions and EHR systems to evaluate technology solutions in the health care industry. You will identify and Electronic Health Record (EHR) system that would improve the processes and the quality of care at the UMUC Family Clinic. This assignment specifically addresses the following course outcomes to enable you to:

- Evaluate technology solutions in the health care industry to improve the quality of care, safety, and financial management decisions.

UMUC Family Clinic Medical Practice

In your Stage 1 Project, you analyzed the patient visit process and modeled the AS-IS process. You then optimized the process/workflow and modeled the TO-BE process.

For your Stage 2 Project for the Case Study, you examined the need for information exchange between the UMUC Family Clinic and other organizations.

For this Stage 3 Project, you will evaluate EHR system solutions and propose a technology solution that will improve the patient visit process you modeled in Stage 1 and improve the quality of care, safety, and financial management decisions for the UMUC Family Clinic.

INSTRUCTIONS for ASSIGNMENT 3

For this assignment you will:
Follow the same instructions as to client relations formality in assignment 1. Review the UMUC Family Clinic Case Study. As the EHR consultant to UMUC Family Clinic (Dr. Martin), you will write a paper to propose to UMUC Family Clinic which EHR system you recommend; what it will do; what hardware, software and telecommunications components he will need to acquire; whether the system will be hosted locally or in the cloud; and explain how the proposed technology solution will improve the patient visit process, and the quality of care, safety, and/or financial management decisions at the UMUC Family Clinic. Create a document that includes the following:

1. **Select and propose a specific EHR system for the UMUC Family Clinic**. The system should be one that would improve the patient visit process as described in the case study and as modeled in the Stage 1 assignment. You will want to propose a system that has been certified to perform certain functions, and is listed as a "complete" EHR system (vs. one that focuses on only one or two of the processes). Focus on a single EHR system solution that would help to improve the patient visit process.

   - To accomplish this, you will need to look up the up-to-date list of certified complete EHRs on the ONC (Office of the National Coordinator for Health IT) website at the following URL and then complete the steps that follow: http://oncchpl.force.com/ehrcert/

   - Select "View All Products" (located just under the search bar). On the page that comes up, you will want to search using the following search criteria:

      - Certification Edition: **2014**

      - Select Practice Type: **Ambulatory**

      - Select Classification: **Complete EHR**

      - Select one or more **Certification Criteria** to find EHR systems that support the patient visit process. (Note that not all EHR systems address all process areas.) Refer to the "Certification Criteria," in Content>Course Resources for a list that

corresponds to the numbers provided; or mouse-over the number to see the corresponding criterion.

- ○ You will then <u>provide</u> in your paper the following bulleted information on the certified EHR that you have selected:
    - ▪ Product:_____
    - ▪ Version:_____
    - ▪ Vendor:_____
    - ▪ CHPL Product Number:_____
- ○ <u>Describe the system</u> in one paragraph. Go to the vendor's website and research what the system does and some of its selling points. Your description should demonstrate that the selected system fits the UMUC Clinic's needs and will improve the patient visit process._____

2. List the <u>major</u> hardware, software and communications (including local connectivity and internet access, if appropriate) components that will be needed, and <u>the number of each</u> needed for the implementation at the UMUC Family Clinic. The vendor's website should list the major hardware/ software requirements for implementing the system. How many of each you list is dependent on the solution you propose, but the important components needed to implement your proposed solution should be included. For example, you may have one PC for the front desk and one for each of the three examination rooms, and they will have to connect to some system somewhere. Or you may decide to have one PC for the front office, and a tablet or laptop each for the doctor and the two nurses, also connected to some system somewhere. Your list should be applicable to your proposed solution, should improve the patient visit process, and be appropriate for the UMUC Family Clinic. (Remember, there is currently no information technology implemented at the clinic other than the outdated scheduling software on the single front desk PC.)

3. You will also need to <u>specify</u> whether your EHR system will be hosted (installed) on computer equipment to be located in the clinic or if it will run as "Software as a Service" (SaaS) via the Internet (i.e., "in the cloud"). (For a definition of SaaS, please see the note in the box below.) You will need to evaluate the clinic's needs and the vendor's offering. Some vendors offer only one or the other, some offer both methods of access. There are advantages to selecting SaaS for smaller clinics, like reducing the need for an IT staff, but it also comes with a price tag. You will need to <u>provide the reasoning</u> behind your selection.

4. <u>Explain</u> how the proposed technology solution will improve the patient visit process, and the quality of care, safety, and/or financial management decisions at the UMUC Family Clinic.   Note that a significant percentage of the overall grade is based on this explanation.

> **SaaS:** Software-as-a-Service (SaaS) is a software delivery model, where the actual software and the data are hosted at the location of the software provider. The users access the software or the data using a 'thin client' such as a web-browser. That way the actual users of the software do not need to install the entire software and save the data on their own hardware. The provider of the software is the one who incurs all the responsibility of making the software and data available, backing it up, and restoring from backup when needed. Hence, the users don't need to incur hardware costs or hire IT staff. This model is becoming more and more popular especially for small businesses when it is not in their business model to hire an IT staff. Software delivered in this way is said to run "in the cloud."
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> **Example:** An example of a common business accounting software that is offered in more than 1 delivery model is Intuit's Quickbooks. A small business owner can buy the software for a one-time fee (cost of purchase is about $300) at Office Depot, install it on his own PC and start entering his financial data. In this delivery model, the software and data reside on the PC. If the PC crashes, all the data is lost unless the entrepreneur was IT-savvy and backed up his data on a CD or USB. The data can only be accessed on that computer.
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> The other model is the SaaS, where the entrepreneur can decide that he prefers to pay a monthly fee (roughly $50) and access Quickbooks via an internet browser such as Internet Explorer or Firefox. In this model, the software and the data are stored at the software vendor, Intuit. An advantage of this model is that the business owner does not need to worry if his PC crashes or if he works from home or the office. He can access the system and his data from anywhere and Intuit takes care of securing and backing up the data, etc.

5. **Formatting.** As this is to be a formal document or deliverable to your client, it must include a full outline (see the rubric below for relevant sections), to include an Introduction or Background, and Conclusion. These are your opportunities to lead the thinking of your client. This is gradable under Report Format. For academic writing, the writer is expected to write in the third person. In third person, the writer avoids the pronouns I, we, my, our, you and your. The third person is used to make the writing more objective by taking the individual, the "self," out of the writing. This method is very helpful for academic writing, a form in which facts, not opinion, drive the tone of the text. Writing in the third person allows the writer to come across as unbiased and thus more informed.
   - Your paper should be about two pages, single spaced. Add a title page, and a reference page.
   - You should include <u>at least one</u> **external source**. These are sources other than those provided in the classroom. Sources should be scholarly or professional in nature, rather than random websites. Sources should include the vendor's website. **NOTE:** More than one external source is required to earn full points.
   - Use APA formatted citations and references for all external sources used.
   - Compare your final work to the rubric to be sure you have met content and quality criteria.
   - Submit your paper via your Assignment folder as a Word document, or a document that can be read in Word, **with your last name included in the filename(s) (LASTNAME_Stage3).**

Your paper will be evaluated on whether or not you correctly incorporated the course concepts from the textbook and readings, and have addressed all parts of the assignment. What, exactly, you propose as a technology solution will be evaluated as to whether it is appropriate for the UMUC Family Clinic and could actually improve the patient visit process, and whether it is fully thought-out and supported with application of course concepts and research. Remember, this is an information systems management

course, and your solution must be an information technology solution – specifically an EHR system. Use the Rubric below to be sure you have covered all aspects.

GRADING RUBRIC and EVALUATION CRITERIA:

Criteria	90-100% Far Above Standards	80-89% Above Standards	70-79% Meets Standards	60-69% Below Standards	< 60% Well Below Standards	Possible Points
Proposed Technology Solution	**18-20 Points** Proposed technology solution is identified and convincingly described in detail using course vocabulary, is appropriate to the case study and to improve the patient visit process; strongly demonstrates understanding of course concepts, analysis, and critical thinking.	**16-17 Points** Proposed technology solution is identified and well described using course vocabulary and is appropriate to the case study and to improve the patient visit process; and demonstrates understanding of course concepts, analysis, and critical thinking.	**14-15 Points** Proposed technology solution is identified and described using course vocabulary and is appropriate to the case study and to improve the patient visit process.	**12-13 Points** Proposed technology solution is not adequately identified or described, and/or not appropriate to the case study, and/or not appropriate to improve the patient visit process; may be lacking in demonstration of understanding of course concepts, course vocabulary, analysis, and/ or critical thinking.	**0-11 Points** Proposed technology solution is not included or not described; or is not appropriate to the case study and improving the patient visit process.	20

	23-25 Points	20-22 Points	17-19 Points	15-16 Points	0-14 Points	25
Solution Components	Major hardware, software, and telecommun-ications components needed to implement the proposed solution are fully listed and the number of each is specified; are highly appropriate to the proposed solution and clearly appropriate to the case study.	Major hardware, software, and telecommun-ications components needed to implement the proposed solution are fully listed and the number of each is specified; are clearly applicable to the proposed solution and appropriate to the case study.	Major hardware, software, and telecommun-ications components to implement the proposed solution are listed and the number of each is specified; are applicable to the proposed solution and appropriate to the case study.	Major hardware, software, and telecommun-ications components listed may be incomplete, number of each may not be provided; may not apply to the proposed solution and/ or may not be appropriate for the case study.	Component list is not provided or is lacking major components and/or number of each required.	

	9-10 Points	8 Points	7 Points	6 Points	0-5 Points	10
Explanation of SaaS vs. in-house solution	Explanation of SaaS vs. in-house implementation of the solution is clear and convincing.	Explanation of SaaS vs. in-house implementa-tion of the solution is clear and complete.	Explanation of SaaS vs. in-house implementa-tion of the solution is presented.	Explanation of SaaS vs. in-house implementatio n of the solution is incomplete or unclear.	Explanation of SaaS vs. in-house implementa-tion of the solution is not provided.	

	23-25 Points	20-22 Points	17-19 Points	15-16 Points	0-14 Points	25
Explanation of selection of certified EHR system	A clear and convincing explanation is provided for how the proposed certified EHR system will improve the patient visit process, quality of care, safety, and/or financial management decisions; demonstrates understanding of course concepts, sophisticated analysis, and critical thinking.	A clear and correct explanation is provided for how the proposed certified EHR system will improve the patient visit process, quality of care, safety, and/or financial management decisions; demonstrates understanding of course concepts, analysis, and critical thinking.	An explanation of how the proposed certified EHR system will improve the patient visit process, quality of care, safety, and/or financial management decisions is provided using course vocabulary and concepts.	The explanation of how the proposed certified EHR system will support the patient visit process, quality of care, safety, and/or financial management decisions is incomplete and/or not convincing; may be lacking in demonstration of understanding of course concepts, analysis, and/or critical thinking.	Explanation of how the proposed certified EHR system can improve the patient visit process, quality of care, safety, and/or financial management decisions is not provided or is incomplete or inadequate.	
External Research	**9-10 Points** **More than one** source other than the course material is incorporated and used effectively. Sources used are relevant and timely. References are appropriately incorporated and cited using APA style.	**8 Points** At least one source other than the course material is incorporated and used effectively. Source(s) used are relevant and timely. References are appropriately incorporated and cited using APA style.	**7 Points** At least one source other than the course material is incorporated correctly. Reference is cited using APA style.	**6 Points** A source other than the course material may be used, but is not properly incorporated or used; and/or is not effective or appropriate; and/or is not relevant or timely; and/or does not follow APA style for references and citations.	**0-5 Points** No external research is incorporated or reference listed is not cited within text.	10

Report Format	9-10 Points	8 Points	7 Points	6 Points	0-5 Points	10
	Report is very well organized and is easy to read. Very few or no errors; demonstrates correct sentence structure, grammar, and spelling; written in third person and presented in a professional and formal format.	Report reflects effective organization; may have few errors in sentence structure, grammar, and spelling; written in third person and presented in a professional format.	Report is organized and may have some errors in sentence structure, grammar and spelling. Report is written in third person.	Report is not well organized, and/or contains several grammar and/or spelling errors; and/or report is not written in third person.	Report is extremely poorly written; and/or contains many grammar and/or spelling errors; and/or does not convey the information.	
					TOTAL Points Possible	**100**