**Emerging Technologies (C850) Steps to Success**

**Overview** The Emerging Technology course examines theories of technology diffusion and adoption, identifies the importance of conducting needs analyses prior to investigating technology solutions, evaluates the benefits of technology adoption, investigates the potential outcomes of implementing technological solutions, provides students the means to evaluate technologies, stresses the importance of fitting technology to the organization, analyzes barriers to technology adoption, and examines strategies for overcoming said barriers. This course supports the assessment for C850. The course covers two competencies and represents two competency units.

**Getting started** 1. Read and complete the entire learning resource found in your Course of Study.

2. Click the “Preview” button in the course of study to review the task and rubric.

3. Contact your course mentors (cmlinux@wgu.edu) if you have any questions regarding the

course or tasks.

4. Your paper should be at least 4-8 pages to meet the requirements of the rubric.

Note: Attempt to submit your first attempt of each task on your own. If your task is returned by the grader just let us know and we will meet to review and update your task.

**C850 Task**

**Scenario:** TechFite makes medical devices for the space program. They are in Houston, Texas, near the Johnson Space Center. Security is a top priority for TechFite, partly because the company works with NASA, but also because the proprietary technology that TechFite is creating allows humans to work longer in space. TechFite has an IT department that currently consists of 4 employees: two entry-level specialists, a senior security specialist, and an IT security manager. TechFite has a two-firewall system in which the outside firewall protects TechFite and its partners and the inner firewall protects the TechFite intranet. The two-firewall system creates a three-ring network where the innermost ring is the most secure and the outermost ring connects directly to the Internet. Each one of these firewalls creates a log of all the network traffic that passes through each of the firewalls. The TechFite CIO has notably

raised concerns about current infrastructure security implications, but she wants her staff to propose inexpensive solutions to meet future demands. There is a lot of traffic that passes through these firewalls due to companies that want to securely collaborate with TechFite and the need government agencies have to access TechFite’s information. TechFite administrators have been researching solutions currently available to meet the growing demands of secure collaboration, and all suggested resources fall outside of TechFite’s IT budget of $250k per year, which also includes staff wages. Additionally, it is difficult to scan these logs manually, and TechFite has been exploring open source solutions to automate log correlation for both host-based and network appliances. However, the amount of storage space to keep these logs for at least a year is more than TechFite has onsite. One of the system administrators suggested using technology to not only review the logs but also store the log files. TechFite is being pressured to comply with FISMA, using NIST as a security framework, when the company works on government contracts. Other restrictions have been observed by TechFite’s competitors concerning the handling of data across international boundaries, namely in the European Union. The company is also being asked to ensure FISMA compliance, even as budgets are shrinking, which is happening in part because there are fewer space missions planned. TechFite is also looking to work with the space programs of other countries, such as the European Space Agency, the Canadian Space Agency, and JAXA, the Japanese space agency. The company is interested in collaborating with other institutions and companies to expand its business, which may result in opening subsidiaries in other locations domestically and overseas. This may force the company to store its information for longer periods of time, and more locations means more log data will need to be stored. Besides scanning the log data for potential attackers after systems have been compromised, the system administrators would like to be alerted by a new system that meets FISMA regulations when potential attacks are occurring on host and network systems. This means that real-time log scanning and behavior analysis of incoming network traffic will be needed to determine when a denial of service attack or advanced persistent threat is happening so the system administrators can catch the hackers. The system administrators also want to install honeypots to attract hackers, and the logs for those will also need to be stored even though these honeypots will not actually have real data on them. The system administrators will be busy keeping up with the technology they have, and they will not have time to research new technologies that might help them do their jobs better.

**Task:** Propose an emerging technology solution that will benefit the organization in the case study. You will need to discuss the impacts of this technology within the context of the organization.

A. Write a response (e.g., proposal, letter) to the TechFite adoption plan proposal by doing the

following (each section below should be a section in your paper):

a. Summarize an organizational need in the case study, including the scope of the need.

(What is the organization asking for and why are the asking for it? Summarize the case study) b. Propose an emerging technology solution to address the organizational need from

the case study. Provide justification that classifies this technology as emerging. (Will this new technology solve the problem TechFite is currently experiencing?).

Remember you have to research and find an emerging technology as well as find a vendor that provides it. You cannot just name the technology, you have to find a supporting vendor/provider for it. The solution can be more than one technology to solve the scenario. c. Explain the steps of the adoption process that you recommend the organization use to integrate the new emerging technology, including a description of why each step is necessary and how each step relates to people or current processes in the organization. (Gartner STREET process from uCertify materials) d. Describe both a positive and a negative impact that your emerging technology solution could have on the people or current processes in the organization, providing examples for how to address the negative impact. (also what are the risks of using this new technology, if any?) e. Compare your emerging technology solution to an alternative technology solution,

providing at least two advantages and two disadvantages that each technology may have for the organization. (there may be other technology options out there for this scenario, but what makes yours different and better? To be on the safe side select TWO alternative technologies) f. Recommend a method that can be used to determine whether adoption of the

proposed emerging technology solution will be successful or unsuccessful, based on the needs of the organization. (how are you going to determine if the technology is successful or a failure? What period of time are you going to test your technology?) What steps are you going to take if it is a failure? What’s the fallback plan? g. Summarize the information in the paper to close out your proposal. B. If you use sources, include all in-text citations and references in APA format.

a. Use www.citationmachine.net to properly cite your sources b. Use https://owl.english.purdue.edu/owl/resource/560/01/ for proper guidance for

APA formatting c. Example of an APA formatted paper:

https://owl.english.purdue.edu/owl/resource/560/18 C. Remember a few things when you are writing this paper:

a. The budget for the technology falls OUTSIDE the $250K budget. Don’t confuse the

$250K for what you have to find the solution. In other words, just disregard that number completely! b. Your technology solution has to have a vendor that provides it...you can name what

emerging tech you will use but you’ll have to also name some entity that provides that technology for the solution. c. Write this paper from the perspective you are presenting it to the CEO of the

company who may not be technically literate. Always write to the audience so it is understandable and clear to them what you are trying to convey.