MIS2501 – Enterprise IT Architecture
Flash Research Assignments

One of the most important skills a young business professional needs to develop is the ability to quickly and efficiently analyze a situation, understand the situation, and be able to explain the situation in clear and concise terms. Flash research assignments will help you develop this skill in the context of analyzing, understanding, and explaining digital products and services.

Each flash research assignment will require the creation of a paper. The intended audience of this paper is the CIO of a company. Assume that the CIO understands technology at a very, very high level. Assume that the primary focus of the CIO is leveraging technology to create business value for their organization, not the technology itself. Executives are very busy people; time is precious for your typical CIO. Learning how to articulate your ideas in a clear and concise manner is essential. As such, the body of each flash research paper will be **no more than 1 page in length**. This limitation on the length of the body of the paper will be strictly enforced. Each paper may have additional pages for diagrams as well as references. Each paper must have at least three references. **It is absolutely essential that you list all works that have been referenced in the creation of the flash research paper.** Failure to do this will result in a failing grade for the flash research paper!

The body of the text for each flash research assignment will include the following components:

1. **The Hook** – Tell me why I just have to read the rest of this paper!
2. **Tech Summary** – What are the <u>key capabilities</u> of this technology that make it so compelling?
3. **Business Case** – What is the core premise of the business case you would use to justify investing in this technology?

Flash research assignments will be evaluated using the following rubric:

Item	Unacceptable	Below Average	Average	Excellent
The Hook – How well did you engage the reader and entice them to read more?	0	1	2	3
Tech Summary – How well did you identify and summarize the key capabilities which make the technology so compelling?	0	1	2	3
Business Case – How well did you articulate the business case for making investments in this technology?	0	1	2	3
Writing – Grammar, spelling, punctuation, organization, sentence structure, etc.	0	1	2	3

$$3 = 100\%, 2=70\%, 1 = 50\%, 0=0\%$$

As part of this class you will work on a series of flash research papers. You are strongly encouraged to work with your classmates both inside and outside the classroom, collaborating on research and strategies for developing your individual papers. You will typically start doing the research for these papers in class. Drafts of these papers are due in class as described in the schedule in the syllabus. In class when drafts are due, you will be partnered up with another student and you will critique each other's papers. Students will then be selected at random to share their updated papers which will be critiqued by the class as a whole.

Flash research papers written for class will not be graded. However, please note that the exams for this class will be flash research assignments. The only way to get good at doing flash research is practice. If you fail to develop these skills through these assignments, you will find the exams for this class will be very challenging!

Extra credit can be earned by having your flash research papers critiqued by a tutor from the Business Communications Center. Please see the syllabus for details.

Module by Module Flash Research Assignments

Flash Research Assignment: Data Centers and Networking

You are the CTA of a small but rapidly growing manufacturing company. Over the past year your organization has experienced 10 outages to its ERP system. The vast majority of these outages have been caused as a result of inadequate facilities in your existing, primitive data center. When this system is down your organization cannot process orders, cannot make product, and cannot ship product! Outages cause serious operational problems and impact both the top and bottom line of the income statement.

Prepare a paper for the CIO in which you propose building a "Tier III" data center. Describe the key capabilities of a tier III data center and describe the business case for making this investment. Crude estimates indicate that building this data center will take 1 year and cost approximately $35,000,000. Assume that you are currently running a "Tier I" data center with 99.67% availability. You are proposing building a "Tier III" data center with 99.98% availability. Assume that downtime costs your organization $14,800 per minute. Assume that the organization looks at all investments in technology over a period of three years.

The maximum length of the body of this paper is 1 page. Additional pages may be used for optional diagrams and required references.

Flash Research Assignment: Virtualization and Cloud Computing

You are the CTA for a small but rapidly growing manufacturing company. You have approximately 1,000 servers in your datacenter. The average server costs $8,000 to purchase (including system software). You also spend approximately $2,000 per year per server for hardware maintenance, software maintenance, technical support, power and cooling.

You believe that there are considerable opportunities for savings by utilizing virtualization to consolidate server workloads. You believe that 80% of your servers could run as virtual machines under VMware and that, on average, you could consolidate 10 physical servers onto a single virtual machine server. These would be higher end servers costing approximately $16,000 each (including system software). In addition, they will cost more to run, approximately $3,000 (each server) per year for hardware maintenance, software maintenance, technical support, power and cooling.

Prepare a paper for the CIO that describes virtualization and focuses on the benefits of server consolidation. Describe the business case for making investments in this technology. This organization always looks at investments over a 3-year period. Assume that you are at the start of a hardware refresh cycle and you will be replacing all 1,000 servers in the next year.

The maximum length of the body of this paper is 1 page. Additional pages may be used for optional diagrams and required references.

Flash Research Assignment: SharePoint

You are the CTA of a small but rapidly growing consulting firm that specializes in IT project management. You have a team of 10 PMPs who are currently billing out 75% of their time (1,500 hour/year out of a 2,000 hour work year) at an average rate of $175 per hour. Business is good and you actually have a considerable backload of work.

The bulk of the time your PMPs are not billing they are working with prospective clients selling and negotiating new business. While doing this your PMPs spend a lot of time struggling with the management of documents related to their project proposals. From sharing documents with the client and each other to managing multiple versions of the same document, your PMPs are spending a lot of time managing documents and not creating value for your clients. You do not bill you clients for this time! You believe that an investment in SharePoint will increase the productivity of your team of PMPs and enable them to increase their billable hours by 400 hours per year (each PMP will bill out another 400 hours per year) which will enable you to just about eliminate your backlog of work and increase your revenue.

One of your PMPs is actually also an expert in SharePoint. He has worked up an estimate of $100,000 for the purchasing of hardware and software plus an additional 18% for annual hardware/software maintenance. In addition, this person will need to spend 10% of their 1900 billable hours administering and supporting this system and will not be able to generate revenue as a PMP for this portion of their time.

Prepare a paper for the CIO which describes this technology and describes the business case for making investments in this technology. This organization always looks at investments over a 3-year period.

The maximum length of the body of this paper is 1 page. Additional pages may be used for optional diagrams and required references.

Flash Research Assignment: WordPress

Prepare a paper for the CIO which describes this technology and describes the business case for making investments in WordPress based on the following scenario:

You are the IT Development Manager for a midsized financial services organization. You have a dozen developers on your Web Development team. The average annual cost for these developers (salary plus benefits) is $125,000 per year. All of these developers are experts with traditional web based development tools but have never used WordPress.

Based on your research you believe that 75% of the work currently being done by the Web Development team could be done much more efficiently using the WordPress platform. You decide to split your Web Development team in two (not in half) with one team continuing to

focus on the applications which will require traditional web based technologies and a second team that will focus on the applications which will be developed on the WordPress platform. Again, based on your research, you believe that you can realize an 77.8% improvement in the efficiency of your web developers by using the WordPress platform instead of traditional web platforms (what I mean by this is, if it takes a developer 100 hours to complete a task using traditional technologies, it would only take 22.2 hours to complete this task using WordPress.)

You will need to purchase some hardware and system software (Windows Server operating system and Microsoft SQL Server). You will need both a development and a production system. The total cost for the hardware and system software is $100,000. In addition, you will need to purchase hardware and a software maintenance agreement for these systems which will cost you an additional $18,000 per year. Finally, the developers will need some training and will experience a loss in productivity during the time it takes them to learn how to use WordPress. This training and lost productivity will cost you approximately $10,000 per developer.

This organization evaluates all investments over a period of three years.

The maximum length of the body of this paper is 1 page. Additional pages may be used for optional diagrams and required references.