# Mini-Case Study

Upton, Martin, Ulysses, & Clapper (UMUC) is a medium-sized financial analysis firm specializing in conducting independent economic and market assessments for banks, insurance companies, mortgage lenders, and government regulatory agencies. UMUC also provides independent verification and validation (IV&V) services for assessments and reports that were developed internally by these entities. The firm is highly respected for its unbiased, politically neutral, objective, and accurate financial/economic products and services.

You are a Senior IT Specialist & Systems Analyst at UMUC. One of your responsibilities is to identify and recommend computer equipment for technology refreshes and new initiatives. The Senior Manager, Revolving Debt Analysis (RDA) has come to you because it is time for a technology refresh and there is a new initiative to conduct more complex, national-level analysis of credit card fraud, default, and write-off data. Specifically, banks, credit card companies, and some law enforcement entities want to see if this analysis will assist in targeting identity thieves.

The Senior Manager explains that RDA will need to refresh 35 desktop personal computers (PC). The new PCs will need to run complex calculations based on statistical models that use large amounts of data. Due to the unique nature of the datasets, data models, queries, formulas and equations and the individuality of the financial analysts and economists (many hold a PhD), the actual compute power needs to be in the desktop machine. Your task is to assess and identify the hardware needed that will allow the financial analysts and economists (collectively the users) to complete their work. The Senior Manager, RDA provided a table of requirements (see below), which shows the activities and software the PC hardware needs to support.

# Table of Requirements

| **ID** | **Attribute** | **Type** | **Comments** |
| --- | --- | --- | --- |
| RDA001 | Windows 10 Professional (64bit) | Software | Used as standard operating system |
| RDA002 | MS Office Professional Plus 2013 | Software | Used to create documents, presentations, complex workbooks/spreadsheets, and to develop local datasets and databases. Daily activities involve using:   * Access * Excel * Word * PowerPoint * Outlook * OneNote * Publisher * Lync |
| RDA003 | Adobe Acrobat X Suite | Software | Used to create PDF documents; combine audio, video, and presentation slide; develop media from multiple types of input; and create interactive documents and presentations. |
| RDA004 | SAS 9.4 | Software | Used for financial, fraud, and related data analytics work. |
| RDA005 | MatLab R2014b | Software | User for programming and algorithm development, data analysis and visualization, and numeric computations. |
| RDA006 | Stata 13 (Stata/MP) for Windows | Software | Used for forecast, multiple mixed-effect and linear models, linear and non-linear combinations, generalized predictions, and statistical and data tests. |
| RDA007 | R for Windows | Software | Used for data manipulation, calculation and graphical display. |
| RDA008 | MS Outlook 2013 | Software | Used to connect with MS Exchange for emails, calendar, contact lists, address books, and reminders. |
| RDA009 | McAfee Endpoint Protection – Advanced Suite | Software | Used for antivirus, firewall, email and data protection. |
| RDA010 | Connect to network data marts, data warehouse, databases, and datasets | Activity | Analysts and economists need to conduct data mining, compile and analyze data, and produce complex reports. |
| RDA011 | Participate in online, real time conferences and training | Activity | Used for professional development and gather information on market trends. |
| RDA012 | Write complex queries to run jobs and calculations on local and server based datasets and databases | Activity | This is a regular and normal work activity for this organization’s users.  Once started, some jobs may take hours to complete. |
| RDA013 | Create, edit, and manage audio and video files | Activity | This is a regular and normal work activity for this organization’s users. |
| RDA014 | Import, edit and manage digital photos | Activity | This is a regular and normal work activity for this organization’s users. |
| RDA015 | Create local datasets and databases | Activity | This is a regular and normal work activity for this organization’s users. |
| RDA016 | Develop and manage complex multi-media documents, spreadsheets, and presentations | Activity | This is a regular and normal work activity for this organization’s users. |
| RDA017 | Consolidate complex multi-media documents, spreadsheets, and presentations to develop interactive Web-based reports | Activity | This is a regular and normal work activity for this organization’s users. |

# The Assignment & Deliverable

This is an individual assignment. You must work on your own.

The assignment is to analyze the mini-case and table of requirements to assess and identify the hardware needed that will allow the financial analysts and economists (collectively the users) to complete their work. The focus must be on the internal hardware components (motherboard, CPU, RAM, bus, hard drive, connectors & ports, etc.). Do not simply visit a PC/Workstation manufacturer’s site (Dell, HP, etc.) and select a machine. This will not be successful. You must identify each component; determine its size, capacity, speed, etc.; and show how each requirement will be met.

The deliverable is an MS Word document based on the template embedded in this document. *The audience for the deliverable is the Senior Manager, RDA; other RDA managers and supervisors; and selected RDA users.* The expectation is RDA will be able use the report and work with Procurement to develop a Request for Quotation (RFQ).

**Here is what you need to do:**

1. **Click on icon to launch the template and save it to your desktop.**

**(TEMPLATE ATTACHED)**

1. **Please do not deviate from the formatting contained in the report template.**
2. **Follow the content instructions in the various sections of the document to complete your work.**
3. **All narrative content must be single spaced, Arial 12 point.**
4. **All table content must be single spaced, Arial 10 point.**
5. **Review and use the Evaluation & Scoring Rubric below to ensure the report contains an appropriate level of information.**
6. **External research and a References page are required.**
   1. **You must use of at least three (3) external sources. This is in addition to any course materials from assigned readings and videos.**
   2. **You should use scholarly, vendor, and industry materials.**
   3. **Do not simply copy and paste information from the Web or copy information from the readings or other sources.**
   4. **Provide the appropriate APA formatted citations on the References page to avoid the perception of plagiarism. This includes citing all external sources including the vendor Web sites, assigned readings and videos, the mini case, and other sources, as appropriate.**
   5. **Wiki sites such as Wikipedia and authorless sites/blogs are NOT acceptable references.**
   6. **If you are not familiar with the APA style and citations, there are also several links under Webliography that can assist you.**
   7. **MS Word has a Citations & Bibliography feature located under the References tab. Select APA in the Style field and use the Manage Sources feature and MS Word will properly format the citations for you. When ready use the Bibliography drop down to insert citations.**
   8. **At all costs, avoid any hint or perception of plagiarism.**
7. **Be sure to check for spelling, grammar and format errors prior to submitting the report. These are all items that will be evaluated and scored.**
8. **Submit the report by the due date (See the Course Schedule) in MS Word format via the appropriate assignment folder as an attached document with your last name, first initial in the beginning of the filename. The filename should have the following format: Last Name\_First Intial\_HWER (For example: Wilson\_A\_HWER).**

# Evaluation & Scoring Rubric for the HWER

| **Attribute** | **Full points** | **Partial points** | **No points** | **Possible Points** |
| --- | --- | --- | --- | --- |
| Background | Description of the organization; explanation of the situation that precipitated the report; and demonstrates a sophisticated understanding of mini case and course and research materials. | Description of the organization and explanation of the situation that precipitated the report somewhat clear or lacks completeness; or does not fully demonstrate an adequate understanding of the mini case or course and research materials. | Background is not included. | 2 |
| Purpose of This Report | The purpose is clearly explained and shows why the report is being written. The purpose is complete, uses sophisticated writing, and correctly relates to the mini case; demonstrating a high level of understanding of course concepts, analysis, critical thinking, and synthesis. | The purpose is partially complete, somewhat explained or may be somewhat related to the mini case; or may not demonstrate an adequate understanding of course concepts, analysis, critical thinking, or synthesis. | Purpose is not included. | 2 |
| Evaluation Methodology | The explanation of the evaluation method is complete, clearly explained, uses sophisticated writing; and correctly relates to the mini case and course and research materials; demonstrating a high level of analysis, critical thinking, and synthesis. | The explanation of the evaluation method is partially complete, may be somewhat clearly explained or may somewhat relate to the mini case and course and research materials; or may not demonstrate an adequate analysis, critical thinking, or synthesis. | Evaluation Methodology is not included. | 3 |
| Report Summary | The summary is complete, clearly explains the recommended hardware from a business perspective, uses sophisticated writing, and correctly relates to the mini case and course and research materials; demonstrating a high level of analysis, critical thinking, and synthesis. | The summary is partially complete, may be somewhat clearly explained or may somewhat correctly relate to the mini case and course and research materials; or may not demonstrate an adequate level of analysis, critical thinking, or synthesis. | Summary is not included. | 3 |
| Evaluation & Recommendation Matrix | The matrix content is complete and goes beyond the standard internal hardware components. The attributes are clearly defined and the justification and comments are specific to the mini case. The requirements satisfied are fully listed. Sophisticated writing is evident and demonstrates a high level of analysis, critical thinking, and synthesis. | The matrix content is partially complete and some key hardware components are missing. The attributes are somewhat defined and the justification and comments are not specific to the mini case. The requirements satisfied are partially listed. The writing does not demonstrate a high level of analysis, critical thinking, and synthesis. | Matrix is not included. | 6 |
| References | More than three (3) sources other than the course required readings and videos are incorporated and used effectively, contextualized, appropriately researched and supported, and synthesized with original arguments. Sources used are credible, relevant, and timely. References page and citations are appropriately incorporated and cited using the APA style. | Three (3) or fewer sources other than the course readings and videos are used; may or may not be properly incorporated or used to support arguments; may rely too heavily on the reporting of external sources, and/or are not effective or appropriate; and/or are not credible, relevant, or timely. References page and citations are partially incorporated or the APA style is not used. | No external research is incorporated. | 2 |
| Report Format, Spelling, & Grammar | The report reflects effective organization and sophisticated writing; correct structure, grammar, and spelling; presented in a professional format using the accompanying MS Word report template. | Report is not well organized or may be somewhat clear and concise; or contains grammatical or spelling errors; or is not in the accompanying MS Word report template. | Report is extremely poorly written and does not convey the requisite information. | 2 |
| **Total Points** | | | | **20** |