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Part I: Overview of Business

- John Deere is a world leader in providing advanced products and services and is committed to the success of those linked to the land—those who cultivate, harvest, transform, enrich and build upon the land— to meet the world’s dramatically increasing need for food, fuel, shelter, and infrastructure.
- Working with satellite-based global positioning technology, the Intelligent Solutions Group designs operator stations, displays, receivers, guidance systems, field and crop management programs, and information and logistics systems that our customers rely on as they build, feed and clothe the world.

Part II: Job Specifics

- John Deere Intelligent Solutions Group (ISG) brings enhancements to equipment through advanced, customer focused technologies. ISG aspires to improve our customers’ productivity, efficiency, and profitability, so our customers can feed, fuel, and clothe the world. ISG’s products and services are focused on connecting operators with their machines using innovative technology, allowing for greater control and automation through data. ISG employees are developing and delivering these technologies for our Ag & Turf and Construction & Forestry divisions, all around the world.

Part III: Introduce the Problem

- We want to understand which system has greater usability, the iPhone or the Galaxy. Students are asked to discuss an analysis process that will statistically analyze the usability of the smart phones. Students will need to decide what is measured, how it is measured, what the expected outcomes will be, and how the outcomes will be presented and analyzed.

Part IV: Background

- Students need knowledge of some statistical applications, such as measures of central tendency, percentile ranks, t-tests, ANOVAs, chi-square tests, etc., as well as developing data analysis tools in Excel such as graphs, tables, pivot tables, slicers, conditional formatting, etc.
- John Deere specifically needs a usability measurement tool. To meet this need, the company has employed the widespread use of the SEQ questionnaire to be the basis of the data.

Part V: Business Solution

- John Deere uses a widely touted user experience questionnaire as part of the analysis on products. This questionnaire is asked after a customer, manufacturer, internal worker, etc. works with the product or application for a given period of time following specific instructions. The tester is then asked to rate the machine based on a variety of aspects, which is then converted using an internal matrix to develop a usability score. John Deere has a standard score that has been derived through research that is used as a benchmark for the product. Once the score is found, break down analysis can occur, such as separating ratings based off of internal vs external data, percentile ranking comparisons, expertise level, etc.

Part VI: Student Solutions

- Students will initially have to devise what data is to be collected, how the data should be organized, sorted, and compiled. They will then have to decide how the scores will be compiled and calculated. What computations will occur and how the students know they are reliable as well as mathematically sound is a crucial step. Students will then want to look at the calculations, find inconsistencies, and understand what the data seems to be implying. The students will look at the break down groups using Excel pivot tables and graphs. This will help them get visual representation of the mass data they are collecting. Finally, students will develop a presentation for the class to display and communicate the findings of the research.