L13: Enterprise Technology Integration Assignment

**Company 1: Apple**

* **Industry:** Consumer Electronics  
  **Technology Integration:** Apple’s use of in-house designs for their M processors found in Macs and iPads and A17 Bionic processors found in iPhones create a system on chip that is optimized for Apple’s first party operating systems allowing for performance and battery improvements unmatched in the industry.
* **Advancements in Operations:** The use of machinery automates the manufacturing process and has increased efficiency and reduced production errors. Apple’s vertical integration allows for optimized performance and seamless use for its customers.
* **Profit Impact:** The gains in performance achieved and commitment to features such as design and software have made Apple the largest company in the world by market cap.
* **Organizational Improvement:** Internal tools and platforms enable efficient management and communication among global teams.
* **Overall Benefit:** Apple is the leader of the consumer electronics industry where the iPhone holds the majority of market share in America and especially in the younger demographics. Their products are used by nearly everyone at Penn State including myself.

**Company 2: Microsoft**

* **Industry:** Information Technology
* **Technology Integration:** Microsoft uses tools it has created such as Azure, Microsoft 365, and Cloud to manage operations in the company such as Word for documentation and Azure Blob for storing files on the cloud.
* **Advancements in Operations:** Azure cloud allows for seamless use for data from employees no matter their location. This makes file sharing, documentation, and hosting meetings effortless and fast.
* **Profit Impact:** The ability to sell software that is widely available and also sold to customers allows for low expenses and increase productivity. Allowing employees to join a Teams call rather than an in-person meeting room saves money on building costs.
* **Organizational Improvement:** Microsoft uses tools like Teams and OneDrive for collaboration enhancing productivity. Being a technology company, the company is organized to have departments for separate products and services.
* **Overall Benefit:** The use of technology that Microsoft sells to consumers and other companies allow them to lower costs, increase productivity, and create new products. These products are also used by people everyday including myself who is using Word to complete this assignment.

**Company 3: Tesla**

* **Industry:** Automobile
* **Technology Integration:** Tesla uses machines to automate physical labor such as welding and moving heavy objects that are needed in the car. They also use data from drivers to train the self-driving models shipped in vehicles.
* **Advancements in Operations:** Using AI and machinery has drastically sped up the assembly line in factories and reduced costs of the vehicles. It also allows for tasks that are dangerous and impossible for humans to do naturally such as testing for fire and crashes.
* **Profit Impact:** automation has drastically reduced operating costs for Tesla as less employees are needed trading off an operating cost for a fixed cost. This also allows for faster production so increasing the number of vehicles shipped and lower the cost allows for a larger profit margin.
* **Organizational Improvement:** The company has distinct departments for types of workers such as software engineers and assembly line teams. Automation technology allows for a blend of human and machine in the production as people work with the machines and the data collected from drivers; this means that man and machine work together.
* **Overall Benefit:** Tesla is able to reduce the production costs and produce their cars faster than without technology allowing them to be more affordable for everyone else. Their collection of data further improved self-driving models which pushes us further into the future where self-autonomous driving is the norm.