

***Introduction:***

The fact that the company has inherited a lot of old computer systems, and want to make use of the old computer systems, upgrading and maintaining the computer systems in an interest to reducing costs. They will use the computers for multimedia presentations, such as the ones the office workers will be working on, for developing multimedia presentations and updating the content of the company website. With the other office workers and the web developer coming in as new employees are accommodated into their company.

***The Benefits:***

**Business User:**

The benefits of upgrading and maintaining hardware: if they want improved data quality, replacing the old CPU (Central Processor Unit) and the old motherboard with new updated versions of the old company's computers'. For the business it could include customer files and for a home computer includes music files. If company's manager does have a history of upgrading computers, and is interested in the company developing their way to their newest set of computer technology, then they can acquire the equipment from certain wholesalers. For example, if the company were to call the suppliers of the remaining computer components that they have at the moment, the company's managers would ask if they have any of the newest technology equipment that they require. The CPU processes data and transitions it to the motherboard, here the motherboard not only transfers data, but power as well, from the PSU (power supply unit), which means the company would also require the PSU, if they want to improve processing of data. They could need to process transaction data, whereas a home computer would need to process word processor documents. With the 64 bit type of CPU, it is an extra improvement when it comes to improve the input and output speeds of the data on the motherboard to the hard disk drives and video specialist cards. RAM (Random Access Memory) will not only improve the quality of the graphics and the software programs, but it is also a benefit to be able to work on the programs for long periods of time. Ram would improve the company's computers by having several programs opened at the same time while multi-tasking. For a home computer you would be able to listen to music while you are doing projects. Having two matched pairs of RAM chips inserted on the RAM to improve the speed for certain applications that come with the computers. Another benefit is saving computers' usage of power by replacing the old hard drives with new low power hard drives, reducing and saving power energy with low amount solid-state drives, which would be because solid-state drives have no moving parts to have less power. Specialist cards: graphic, sound and network, improving each of the categories' quality would improve the computer, for example graphic cards for higher visualisation definition on a monitor screen. The benefit for the business of all of the specialist cards is being able to do media work and upload on the internet. A good graphic

Rosa Rawlings

Level 2 First Extended Certificate in Information and Creative Technology

Unit 14: Installing and Maintaining Computer Hardware

Assignment 1: Benefits and implications of installing hardware

card for a home computer is also beneficial for gaming. If the company wishes for more advanced graphical effects, then they would require two of the same type graphic cards with a powerful CPU, that can double the power for the advanced graphic effects. If the company would ever need access to a CD or DVD for work purposes and would want a disc drive that absorbs data more quickly, then they would have to require an actuator motor rotation disc drive. This is where the motor can spin very fast continuously with a feature that controls whenever the speed goes too fast to handle on the disc drive, which the laser would slow down the pace. This is better data use than a spindle motor rotation disc drive, where it just spins, continuously at the same slower speed rate. Using a CD drive for downloading software and for burning data onto for backup and a home computer requiring a CD drive for entertainment purposes. Lastly, if they would want a computer where it informs users any errors and what sort of errors, by referring to the systems' error codes, then they would require a PC Speaker which is also shortened and nicknamed as "beeper". A beeper can be connected to the pin headers of the Motherboard, depending on the type of computers your installing into, the type of beepers and the type of Motherboards you're about to use. It would be essentially important that you replace the fan if need replacing, to keep the computer systems cool, as they would overheat, overheating for long periods of time can damage the components inside.

### **Private User:**

For a private computer user that can do on their own at home with maintenance is that they can turn their computer system completely off, wear the ESD Wrist band connected to the metal casing of the inside of the computer, use a screwdriver and replace and install one component at a time before testing their computer out. Best for them to install one component at a time when they know the destination of where each component supposed to be to avoid a mess up with their computer systems. The benefit of doing it by yourself is that you get decide what type of component you want to install rather than in a business your giving the components to install that you would use differently and it reduces an user's savings. A disadvantage is that you may not be much as a specialist in the maintenance field and that you could have confusion with how the components work. Maintenance tasks a private user could do are installing run anti-virus software; run defragmentation and set restore points. How running the tasks regularly can improve it's efficiently.

### **Impacts:**

The prevention of potential faults of when installing these upgraded components is having a backup device to back up your files in case any faults are made, where you would accidentally lose your files if you replace or make any adjustments to the components by mistake, backup devices include a USB memory stick, portable hard disk, flash drive, memory card, etc. It is good to find discs that install the programs you have on your computer before you

Rosa Rawlings

Level 2 First Extended Certificate in Information and Creative Technology

Unit 14: Installing and Maintaining Computer Hardware

Assignment 1: Benefits and implications of installing hardware

decide to operate inside the computer system, in case you lose any of the programs that you installed before. The impact that this may make on the company is that the machines may not function and it may have loss of the company's savings.

You can prevent any components from being damaged by having the components avoid static electricity when working. By leaving the computers still plugged in but the outlets switched off. Be sure to have the computers completely powered off, by using the main power switch on the power supply. Wearing an ESD (electro static discharge) wrist band when operating on each of the computers provided, to avoid components being burnt out. Also including fan components in the computer systems to avoid the rest of the components damaged inside from being over exposed to heat.

The company could spend money to hire technicians whenever they are needed but the disadvantage is that they aren't always on time to complete necessary tasks, they also may not have a good knowledge of the business's systems. The advantage is that it is cheaper for business as they don't have to pay wages. They could also employ technicians to be in-house. An advantage of this that they can respond to problems faster and may have a better knowledge of the systems, it's more expensive for the company.

Disposing of components incorrectly can cause security problems and hacking into your private data. Disposing of old computer components correctly by placing them into anti-static bags, making sure they don't get exposed to magnets and liquids until it can be properly destroyed. Costs associated with upgrading are employing people to come to your company to carry out this work, the purchase of the equipment you wish to install in your set of computers, costs directly due to training and costs for any disruptions in the process of installing hardware. Your company may have to pay for the burn-in service and the re-delivery depending on the type of market or markets you would purchase from. The compatibility checks, making sure that the new components matches with the existing, the computers would usually attempt to detect the hardware in their systems during the installation process and loading the appropriate drivers for the upgraded components. It's always good to check the list of detected hardware and ensure that the components matches what is already in the machines.

### ***Strengths and Weaknesses:***

The strengths and weaknesses of replacing hardware, for given technology systems. One of the strengths and benefits of installing hardware is that if you ever come across a spindle motor rotation, which spins continuously throughout at the same speed, but doesn't read and write read ahead like I mentioned earlier. You can replace with a better motor, the actuator motor rotation. Where it picks up more data and improves quality of video and sound when a DVD or a CD is placed into the device. The weak point where leaving the

Rosa Rawlings

Level 2 First Extended Certificate in Information and Creative Technology

Unit 14: Installing and Maintaining Computer Hardware

Assignment 1: Benefits and implications of installing hardware

spindle motor rotation inside, to have slower data picked up and not so high quality in sound and video. How this is beneficial for the company when replacing the spindle motor rotation with the actuator motor rotation is being able to read customers' data like their details, sales and their clients' process of the estate on a CD as part of the business workload.

The strength of CPU is that it processes customer data, which is important for the estate business to carry out work for the clients' demands and needs. The weakness is that the CPU can be at times slow causing lag and delay in their work, which leaves customers to making complaints, so an updated CPU to be replaced with is required. A benefit of when the CPU is replaced leads to updated clients' data and informing their clients' of updates.

The strength of having RAM for the companies' PCs is it will be able to run many programs like database, word processor, image viewer etc. Companies can work in different forms to do the best for their companies. The weakness of RAM is that it can be easily damaged when installing the RAM and it has to be compatible to the existing RAM.

The strength of the graphics card is that it allows clearer pictures and house pictures for higher sales, customers' satisfaction for their old homes to be sold efficiently without any delay and giving an good impression for critics. The weakness of the graphics card is than it can be damaged easily like RAM during installation and that it is compatible with the motherboard. The strength of the network card is that it allows internet connection and to upload clients' data online allowing colleagues to working online documents, backup and video blogging overseas. The weakness of the network card is having viruses to affect the computer's data and risk to the data security. The strength of the sound card is improved sound quality for VOIP calling in video blogging to work overseas with the same company in different countries. The weakness of the sound card is that it can be damaged easily during installation like the graphic card and RAM and that it is compatible.