Individual Assigment

Operating System

Student Name   ID

ALEM MENGESHA   1600871

SUBMITION DATE:06/05/18 E.C

SUBMITION TO Lec.Wendmu

Assignment Task 2 – Evaluation Table for ASUS PC Brand

1: Hardware Quality & Performance (ASUS PC Brand)

Sub-Category	Evaluation Factor	ASUS PC Brand Evaluation
Core Components	CPU Performance	ASUS uses the latest **Intel Core (12th–14th Gen)** and **AMD Ryzen (5000–8000 series)** processors across its lineup (VivoBook, ZenBook, TUF, ROG). CPUs offer high efficiency, strong multi-core performance, and good thermal optimization depending on model.
	GPU Performance	ASUS provides both **integrated GPUs** (Intel Iris Xe, AMD Radeon) for everyday tasks and **dedicated GPUs** (NVIDIA RTX 3050–4090) for gaming, creative, and workstation use, especially in **TUF, ROG, and ProArt** series.
	RAM Type & Speed	Supports **DDR4 and DDR5 RAM** depending on model. High-end ASUS laptops offer **DDR5 with higher speeds** and some models allow **RAM upgradability**, while ultrabooks may have soldered RAM.
	Storage Technology	ASUS primarily uses **NVMe SSDs** with **PCIe Gen 3 and Gen 4** speeds. High-performance models support fast read/write speeds, while budget models may offer smaller SSD capacities.
Thermals & Noise	Cooling System Quality	ASUS is known for advanced cooling designs such as **dual-fan systems**, **liquid metal thermal compound (ROG)**, and **heat pipe optimization**, especially in gaming and performance laptops.
	Fan Noise Under Load	Under heavy load (gaming/rendering), fans can be loud on performance models, but **ASUS offers performance profiles** (Silent, Balanced, Turbo) to control noise levels.
	Thermal Throttling Behavior	Minimal throttling in mid-range and high-end models due to efficient cooling; however, thin ultrabooks may throttle slightly under sustained heavy workloads.

Sub-Category	Evaluation Factor	ASUS PC Brand Evaluation
Build Materials & Durability	Chassis Material	ASUS uses **aluminum chassis** in premium lines (ZenBook, ProArt) and **high-quality plastic** in budget models (VivoBook). Build quality is generally solid.
	Hinges & Structural Strength	Many ASUS laptops feature **reinforced hinges** and ergonomic hinge designs (ErgoLift) that improve airflow and typing comfort.
		Several ASUS models meet **MIL-STD-810H military-grade durability standards**, ensuring resistance to shock, vibration, humidity, and temperature changes.
	Durability Certifications	

---

2. Design & Ergonomics (ASUS PC Brand Evaluation)

Aspect	Evaluation Point	ASUS PC Brand Assessment
Portability	Weight & mobility	ASUS offers lightweight designs, especially in **ZenBook and VivoBook series**, making them easy to carry for students and professionals. Gaming models are heavier due to cooling and GPU requirements.
Keyboard Quality	Key travel & layout	ASUS keyboards provide **good key travel**, well-spaced layouts, and are comfortable for long typing sessions. Most models include **white or RGB backlit keyboards**.
Typing Comfort	Ergonomic support	The **ErgoLift hinge design** slightly raises the keyboard angle, improving typing posture and airflow for better comfort.
Trackpad Quality	Accuracy & smoothness	ASUS trackpads are **smooth, responsive, and precise**, with some models featuring the **ASUS NumberPad** integrated into the touchpad for productivity.
Hinge Design	Flexibility & stability	ASUS provides **traditional hinges, 360° convertible designs**, and **2-in-1 laptops** depending on the series. Hinges are generally firm and durable.

Aspect	Evaluation Point	ASUS PC Brand Assessment
Screen Stability	Wobble resistance	Displays remain stable during typing and movement, especially in premium and business-focused models.
Aesthetics	Visual design	ASUS follows a **modern, clean, and professional design philosophy**, while gaming models (ROG, TUF) feature bold, aggressive styling.
Brand Identity	Design consistency	ASUS maintains a strong identity by separating designs clearly: **minimalist for business**, **stylish for consumers**, and **aggressive for gaming users**.

3. Display Quality (ASUS PC Brand Evaluation)

Aspect	Evaluation Point	ASUS PC Brand Assessment
Resolution Options	Screen clarity	ASUS offers Full HD (1080p), 2.8K, 3K, and 4K displays depending on model, providing sharp visuals for both basic and professional use.
Panel Type	Display technology	Uses high-quality **IPS**, **OLED**, and **Mini-LED** panels. OLED displays are common in ZenBook and VivoBook Pro series for superior image quality.
Brightness	Outdoor visibility	Brightness ranges from 250 nits in budget models to 500+ nits in premium and professional laptops, ensuring good visibility in bright environments.
Color Accuracy	Color coverage	Many ASUS displays support **100% sRGB, DCI-P3**, and **Pantone validation**, making them suitable for creative and design work.
Refresh Rate	Smoothness	Refresh rates vary from 60Hz in standard laptops to 144Hz–240Hz in gaming models, delivering smooth motion for gaming and multimedia.
Contrast Ratio	Image depth	OLED panels provide extremely high contrast with true blacks, while IPS panels offer balanced contrast for general use.
Touch Support	Interaction	Touchscreen options are available on selected ASUS models, especially 2-in-1 and convertible laptops.
Eye Care Features	User comfort	ASUS includes TÜV-certified low blue light technology to reduce eye strain during long usage sessions.

4. Reliability & Brand Reputation (ASUS PC Brand Evaluation)

Aspect	Evaluation Point	ASUS PC Brand Assessment
Brand Reliability	Track record	ASUS has a strong global reputation for producing reliable laptops and desktops across consumer, gaming, and professional segments.
User Feedback	Customer reviews	User reviews generally highlight good performance and innovation; occasional complaints relate to software bloat and fan noise in high-performance models.
Failure Rates	Hardware stability	ASUS PCs show moderate to low failure rates, especially in mid-range and premium models when properly maintained.
Quality Control	Manufacturing consistency	ASUS maintains solid quality control standards, with better consistency seen in ZenBook, ProArt, and ROG series.
Repairability	Ease of repair	Repairability varies by model; gaming and business laptops are easier to service than thin ultrabooks with soldered components.
Long-Term Performance	Performance over time	ASUS systems maintain stable performance over long-term use, supported by regular BIOS and driver updates.
Industry Recognition	Awards & rankings	ASUS frequently receives industry awards for innovation, gaming laptops, and overall product quality.
Brand Trust	Market confidence	ASUS is widely trusted by students, professionals, gamers, and enterprises worldwide.

5. Battery & Power Efficiency (ASUS PC Brand Evaluation)

Aspect	Evaluation Point	ASUS PC Brand Assessment
Battery Life	Real-world usage	ASUS laptops offer good battery life, typically ranging from **7–14 hours** depending on model, workload, and display type (OLED models consume more power).
Power Efficiency	CPU & system optimization	Efficient Intel and AMD processors combined with ASUS power management profiles help balance performance and energy consumption.

Aspect	Evaluation Point	ASUS PC Brand Assessment
Fast Charging	Charging speed	Many ASUS models support **fast charging**, reaching around **50–60% in about 30–45 minutes**.
Battery Health	Longevity features	ASUS provides battery health management tools that limit charge levels (e.g., 60% or 80%) to extend battery lifespan.
Power Adapter	Size & portability	Power adapters are compact and lightweight for ultrabooks, while gaming models use larger adapters due to higher power demands.
Thermal Impact	Heat vs. battery drain	Efficient thermal design reduces unnecessary power loss and helps maintain stable battery performance.
USB-C Charging	Flexibility	Many ASUS laptops support **USB-C charging**, allowing the use of universal chargers and power banks.
Standby Efficiency	Sleep & idle usage	ASUS systems show low power drain during sleep mode, improving standby time and overall efficiency.

6. Software & Ecosystem (ASUS PC Brand Evaluation)

Aspect	Evaluation Point	ASUS PC Brand Assessment
Preinstalled Software	Bloatware level	ASUS includes some preinstalled applications, but most are useful system tools and can be removed if not needed.
Operating System Options	OS flexibility	ASUS PCs primarily ship with **Windows**, and many models offer good **Linux compatibility**. ChromeOS is available on select ASUS Chromebooks.
System Utilities	Control & optimization	**MyASUS** software allows users to manage system updates, diagnostics, battery health, and performance profiles.
Performance Profiles	User customization	Users can switch between **Silent, Balanced, and Performance modes** to optimize power, noise, and speed.
Driver Support	Stability & updates	ASUS provides regular driver and BIOS updates to ensure long-term system stability and compatibility.
Ecosystem Integration	Device connectivity	ASUS supports seamless connectivity with smartphones and peripherals through built-in

Aspect	Evaluation Point	ASUS PC Brand Assessment
		utilities and third-party support.
User Interface Experience	Ease of use	ASUS software tools feature a clean interface that is easy for both beginners and advanced users.
Long-Term Support	Software reliability	Continued updates and optimization help maintain consistent performance throughout the device's lifespan.

7. Security Features (ASUS PC Brand Evaluation)

Aspect	Evaluation Point	ASUS PC Brand Assessment
Firmware Security	BIOS/UEFI protection	ASUS includes secure BIOS/UEFI features such as password protection and secure boot to prevent unauthorized system access.
TPM Support	Trusted Platform Module	Most modern ASUS PCs include **TPM 2.0**, supporting Windows security features and encryption.
Biometric Security	Fingerprint reader	Many ASUS laptops integrate fingerprint readers for fast and secure login.
Facial Recognition	IR camera support	Selected models include IR cameras compatible with **Windows Hello** for facial authentication.
Privacy Protection	Camera shutter	Physical or software-based webcam privacy shutters are available on several ASUS models.
Data Encryption	Storage security	ASUS systems support full-disk encryption through OS-level tools such as BitLocker.
Enterprise Security	Business-grade features	Business-oriented ASUS models offer enhanced security options suitable for corporate environments.
User Control	Security management	Security settings can be easily managed through BIOS and system software, giving users strong control over data protection.

8. Upgradeability & Repairability (ASUS PC Brand Evaluation)

Aspect	Evaluation Point	ASUS PC Brand Assessment
RAM	Memory	Many ASUS laptops allow RAM upgrades through

Aspect	Evaluation Point	ASUS PC Brand Assessment
Accessibility	upgrades	accessible slots, while thin ultrabooks often use soldered RAM.
Storage Expansion	SSD upgrade options	Most ASUS PCs include at least one **M.2 NVMe slot**, enabling SSD replacement or expansion.
Battery Replacement	Serviceability	Batteries are generally internal and require disassembly, but replacement is possible through authorized service centers.
Repair Restrictions	Manufacturer policies	ASUS does not heavily restrict third-party repairs, though warranty coverage may be affected if improper repairs are done.
Screw & Panel Access	Ease of opening	Bottom panels are usually secured with standard screws, allowing relatively easy access for maintenance.
Component Modularity	Replaceable parts	Storage, Wi-Fi cards, and batteries are modular in many models; CPUs and GPUs are typically non-upgradable.
Documentation	Repair guides	Service manuals are available for technicians, though consumer repair guides are limited for some models.
Overall Repair Score	Practical repairability	ASUS PCs offer moderate repairability, better in gaming and business models than in ultra-thin designs.

9. Connectivity & Ports (ASUS PC Brand Evaluation)

Aspect	Evaluation Point	ASUS PC Brand Assessment
USB Connectivity	USB-A & USB-C	ASUS laptops commonly include a mix of **USB-A and USB-C ports**, providing compatibility with both legacy and modern devices.
High-Speed Ports	Thunderbolt / USB4	Many mid-range and premium ASUS models support **Thunderbolt 4 or USB4**, enabling fast data transfer and external GPU or display support.
Display Output	HDMI / DisplayPort	HDMI ports are standard on most ASUS PCs, allowing easy connection to external monitors and

Aspect	Evaluation Point	ASUS PC Brand Assessment
		projectors.
Card Reader	SD / microSD slot	Selected ASUS models include **SD or microSD card readers**, useful for photographers and content creators.
Ethernet Support	Wired networking	Ethernet ports are available on some gaming and business models; others rely on USB adapters.
Wireless Connectivity	Wi-Fi standards	ASUS PCs support **Wi-Fi 6, Wi-Fi 6E**, and newer models offer **Wi-Fi 7** for faster and more stable wireless connections.
Bluetooth Version	Peripheral connectivity	Most ASUS laptops include **Bluetooth 5.2 or newer**, ensuring reliable connections with wireless accessories.
Port Placement	Usability	Ports are well-distributed on both sides of the chassis, improving cable management and ease of access.

10. Price & Value (ASUS PC Brand Evaluation)

Aspect	Evaluation Point	ASUS PC Brand Assessment
Price-to-Performance	Cost efficiency	ASUS offers a strong **price-to-performance ratio**, providing competitive specs for budget, mid-range, and premium segments.
Lifespan Value	Long-term investment	ASUS laptops maintain reliable performance over time, making them good value for long-term use.
Configuration Options	Customization	Many ASUS models allow different CPU, RAM, storage, and display configurations to suit varied budgets and needs.
Upgrade Path vs. Cost	Future-proofing	Gaming and business models offer upgradeable RAM and storage, increasing lifespan without high additional cost.
Discounts & Bundles	Offers & promotions	ASUS frequently provides student discounts, seasonal sales, and bundled accessories, enhancing overall value.
Budget vs.	Range coverage	From **affordable VivoBook models** to **high-end**

Aspect	Evaluation Point	ASUS PC Brand Assessment
Premium		**ROG and ProArt laptops**, ASUS covers a wide range of price points.
Cost Comparison	Competitor analysis	ASUS is generally competitively priced compared to Lenovo, Dell, and HP with similar specifications.
Value Proposition	Overall benefit	ASUS laptops deliver a solid combination of performance, design, and features for the price, appealing to students, professionals, and gamers alike.

11. Customer Service & Warranty (ASUS PC Brand Evaluation)

Aspect	Evaluation Point	ASUS PC Brand Assessment
Warranty Length	Standard coverage	ASUS laptops typically come with **1–3 years** limited warranty depending on region and model.
Repair Type	On-site vs. depot	Service options include **authorized service centers**; on-site service is limited in some regions.
Support Responsiveness	Customer service	ASUS provides email, phone, and chat support; response times are generally good, though regional differences exist.
Extended Warranty	Optional coverage	Extended warranty plans are available for purchase, adding extra years of protection.
Accidental Damage Protection	Protection options	Some ASUS models, especially in premium lines, offer optional accidental damage protection for drops and spills.
Service Network	Accessibility	ASUS has a wide global service network, ensuring repair and maintenance support in most regions.
Technical Assistance	Expertise	Technicians are trained for ASUS hardware, particularly gaming and business models, ensuring reliable service.
Customer Satisfaction	User experience	Customer reviews indicate generally positive experiences with warranty claims and service quality.

12. Special Use-Case Factors (ASUS PC Brand Evaluation)

Aspect	Evaluation Point	ASUS PC Brand Assessment
Gaming	Dedicated GPU tier	ASUS ROG and TUF series feature high-end NVIDIA RTX GPUs suitable for modern gaming at high settings.
	Cooling & thermal design	Advanced cooling systems with multiple fans and heat pipes maintain performance during extended gaming sessions.
	High refresh-rate panels	Gaming laptops offer **120Hz–360Hz displays**, providing smooth gameplay.
	RGB & customization	ROG and TUF laptops include **RGB lighting** and customizable software for aesthetics and key mapping.
Business	Security & durability	ASUS ExpertBook and ProArt laptops feature **enhanced security**, long battery life, and MIL-STD durability certifications.
	Quiet operation	Business models are designed for **low fan noise**, ensuring a professional environment.
Creative Work	Display & GPU	ProArt series provides **color-accurate displays** (Pantone validated), strong CPU/GPU, and Thunderbolt support for creative workflows.
Students	Portability & budget	ASUS VivoBook and ZenBook models are lightweight, have good battery life, and are priced competitively for students.