The Three Ethical Frameworks

---

1. Kantianism (Duty Ethics) – Focus on Intentions, Not Consequences

Core Idea: Actions are right or wrong based on **universal moral rules**, regardless of their consequences.

How It Works:

Kantian ethics is based on the **Categorical Imperative**, which has two key rules:

1. **Universalizability Principle:**
    - Act only according to rules that you would want to become universal laws.
    - **Example:** Lying to get out of trouble → If everyone lied, trust would disappear, so lying is wrong.
2. **Respect for Humanity:**
    - Treat people as **ends** in themselves, not just as **a means to an end**.
    - **Example:** Using someone for personal gain (manipulation, exploitation) is unethical.

Example: Plagiarism (Carla's Case)

Carla is a hardworking student but is overwhelmed, so she buys a paper and submits it as her own.

Kantian Analysis:

- If **everyone** plagiarized, reports would lose their value → Rule is self-defeating.
- She deceives the professor, **using them as a means** to pass the course.
- **Conclusion:** Plagiarism is **morally wrong**, no matter Carla's circumstances.

Strengths of Kantianism:

✅ Treats all people equally (moral fairness).
✅ Provides **clear and consistent** ethical rules.
✅ Respects **human dignity**.

Weaknesses of Kantianism:

❌ **Conflicting duties:** What if honesty (perfect duty) conflicts with protecting someone?
❌ **Strict and rigid:** No exceptions, even if breaking a rule could lead to better outcomes.

2. Act Utilitarianism – Maximizing Happiness

Core Idea: The right action is the one that **maximizes overall happiness** (pleasure, well-being) and minimizes suffering.

- **Developed by Jeremy Bentham & John Stuart Mill.**
- **Happiness = good, pain = bad.**
- **Principle of Utility:** An action is **right** if its benefits outweigh its harms.

How It Works:

1. Identify all affected parties.
2. Calculate the happiness and suffering caused by each action.
3. Choose the action that maximizes happiness.

Example: Building a Highway

A state wants to replace a curvy road with a straight highway.

Pros:
✔ Shorter route → saves time and fuel.
✔ Reduces accidents.
✔ Saves drivers $39 million in costs.

Cons:
❌ 150 houses will be removed.
❌ Environmental damage → lost wildlife worth $1 million.
❌ $30 million in compensation & construction costs.

Utilitarian Calculation:
Total Benefits: **$39 million**
Total Costs: **$31 million**
Net Happiness: **+$8 million → Project is ethically good.**

Strengths of Act Utilitarianism:

✅ **Practical and flexible.**
✅ **Real-world applications** (business, politics, law).
✅ Encourages decision-making based on **real impact**.

Weaknesses of Act Utilitarianism:

❌ **Difficult to predict outcomes** accurately.
❌ **Justifies harmful actions** if they increase total happiness (e.g., sacrificing one person for many).
❌ **Too much work**—calculating happiness for every action is unrealistic.

---

3. Rule Utilitarianism – Improving Act Utilitarianism

Core Idea: Instead of judging individual actions, we create **moral rules** that, if followed by everyone, lead to the greatest happiness.

- Unlike Act Utilitarianism (which evaluates **each** action), Rule Utilitarianism focuses on **general moral guidelines**.

How It Works:

1. Propose a rule (e.g., "Do not steal").
2. Imagine a society where **everyone follows the rule**.
3. If that leads to more happiness, the rule is good.

Example: Anti-Worm Computer Virus

A hacker creates a virus to **delete harmful malware** from infected computers.

Possible Rule: "I should release good viruses to fight bad ones."

Pros:
✓ Helps people who don't update their software.

Cons:
❌ Invades personal computers without permission.
❌ Might crash systems and cause more harm.
❌ Network admins now have to deal with two viruses instead of one.

Utilitarian Calculation:
Total harm > total benefit → **Rule is rejected.**

Strengths of Rule Utilitarianism:

✅ **Simplifies decision-making** (no need for complex calculations).
✅ **Prevents harmful exceptions** (e.g., murder is always wrong, even if it benefits others).
✅ Reduces **bias** and **self-justification**.

Weaknesses of Rule Utilitarianism:

❌ **What if a rule leads to injustice?** (e.g., should we always obey unfair laws?)
❌ **Still requires measuring happiness**, which is subjective.

Comparison Table: Kantianism vs. Act Utilitarianism vs. Rule Utilitarianism

Ethical Theory	Key Idea	How It Works	Strengths	Weaknesses
Kantianism	Morality is based on universal **rules**.	Follow only moral rules that can be **universalized**.	✅ Treats all people fairly and equally. ✅ Clear and logical.	❌ Strict, no exceptions. ❌ Struggles with conflicting duties.
Act Utilitarianism	**Maximize happiness** with each action.	Choose actions that produce **the greatest overall happiness**.	✅ Practical and flexible. ✅ Works well in real-life cases.	❌ Hard to predict future consequences. ❌ Can justify unethical actions.
Rule Utilitarianism	**Follow moral rules** that maximize happiness.	Establish rules that **benefit society** in the long run.	✅ Easier to apply than Act Utilitarianism. ✅ Prevents extreme cases of harm.	❌ What if a rule leads to unfair outcomes? ❌ Still requires calculating happiness.

Final Thoughts: Which Theory is Best?

- **If you value fairness and universal rules → Kantianism.**
- **If you focus on results and maximizing happiness → Act Utilitarianism.**
- **If you want ethical rules that work for society → Rule Utilitarianism.**

Each framework has its place, depending on the situation. 🚀

Real-World Examples for Each Ethical Framework

---

1. Kantianism (Duty Ethics) – Follow Universal Moral Rules

Example 1: Whistleblowing (Revealing Company Secrets for Public Good)

- Imagine you work at a tech company that collects **private user data without consent**.
- You consider exposing this unethical practice, but your contract says **you must keep company secrets**.

Kantian View:

- **Truth-telling is a universal moral duty.**
- **You cannot make exceptions for yourself.** If hiding the truth is wrong for others, it is wrong for you too.
- **Conclusion:** You should expose the wrongdoing, **even if it harms your job**.

---

2. Act Utilitarianism – Focus on Consequences

Example 2: Self-Driving Car Decision

- A self-driving car **malfunctions** and must choose between:
    1. Swerving left, hitting **one pedestrian**.
    2. Staying straight, hitting **five pedestrians**.

Act Utilitarian View:

- The action that minimizes harm and maximizes happiness is **swerving left** (since 1 life lost is better than 5).
- **Conclusion:** The car should **swerve left** to reduce total suffering.

🚨 **Criticism:**

- This approach might **justify sacrificing innocent people** if it benefits the majority.

---

3. Rule Utilitarianism – Follow Rules that Maximize Happiness

Example 3: Mandatory Vaccination Policy

- The government debates **whether to require vaccines for all citizens**.

Rule Utilitarian View:

- If **everyone follows the rule**, society **achieves herd immunity**, reducing illness and death.
- **Conclusion:** Mandatory vaccination is ethical because **it maximizes long-term happiness**.

🚨 **Criticism:**

- **What about individual freedom?** Rule Utilitarianism sometimes **ignores personal rights** if the general rule benefits society.

Comparison of Real-World Applications

Scenario	Kantianism (Follow Rules)	Act Utilitarianism (Maximize Happiness)	Rule Utilitarianism (Good Rules for Society)
Whistleblowing	Always tell the truth, even if it harms you.	Leak information only if the benefit outweighs harm.	Society should have **whistleblower protection laws** to encourage truth-telling.
Self-Driving Car	Do not intentionally harm anyone (no killing is justified).	Choose the option that saves the most lives.	Follow a rule like "minimize loss of life" to guide AI decisions.
Vaccination	Forced vaccination violates **individual rights**.	Mandate vaccines because it **prevents suffering**.	Society should have vaccination policies **with exceptions** for medical reasons.

Final Takeaways

✅ **Kantianism** → Good for personal integrity and fairness, but **too rigid**.
✅ **Act Utilitarianism** → Good for decision-making based on results, but can **justify harm**.
✅ **Rule Utilitarianism** → More practical, but **still struggles with fairness vs. majority benefits**.

Intellectual Property (IP) and Key Topics

1. What is Intellectual Property (IP)?

Intellectual Property refers to creations of the mind, such as inventions, literary and artistic works, designs, symbols, and trade secrets. These are legally protected to give the creator exclusive rights.

Ethical Reasons to Protect IP:

- Encourages innovation by rewarding creators.
- Ensures that individuals and businesses benefit from their ideas.
- Prevents unauthorized use and exploitation.

---

2. Benefits and Limits of IP Protection

Benefits:

- Provides exclusive rights to creators.
- Encourages innovation and creativity.
- Helps businesses maintain competitive advantages.
- Protects revenue streams.

Limits:

- Can be expensive to enforce.
- Time-consuming application process.
- Some IP rights (e.g., patents) expire, allowing competitors to use the ideas.

---

3. Types of IP Protection

a) Copyrights

- Protects original works of authorship (books, music, software, movies, etc.).
- Grants the creator the right to distribute, display, perform, and reproduce their work.
- Lasts the lifetime of the author + 70 years (in many jurisdictions).

Pros: ✓ Protects creative works.
✓ No need for registration (automatic upon creation).

Cons: ✗ Limited to specific types of creative content.
✗ Does not protect ideas, only the expression of ideas.

b) Patents

- Protects inventions and processes.
- Prevents others from making, using, or selling the invention without permission.
- Typically lasts **20 years** from filing.

Pros: ✓ Provides strong protection against copying.
✓ Encourages technological advancements.

Cons: ✗ Expensive and time-consuming application process.
✗ Once expired, others can use the invention freely.

c) Trade Secrets

- Protects confidential business information (e.g., Coca-Cola formula).
- No expiration as long as secrecy is maintained.

Pros: ✓ No expiration if properly protected.
✓ No registration required.

Cons: ✗ Once disclosed, no legal protection.
✗ Employees can leak or steal secrets.

---

4. Fair Use Doctrine

Allows limited use of copyrighted material without permission under certain conditions:

- **Purpose & character:** Non-commercial, educational, or transformative use favors fair use.
- **Nature of work:** Factual works are more likely to be fair use than creative works.
- **Amount used:** Small portions are more likely to qualify as fair use.
- **Effect on the market:** If it harms the copyright owner's revenue, it's less likely to be fair use.

Examples of Fair Use: ✓ Quoting in research papers.
✓ Parody and satire.
✓ Educational use.

Limits of Fair Use: ✗ Full reproduction without modification.
✗ Commercial use that competes with the original work.

---

5. Key Issues in IP

Plagiarism

- Using someone else's work without proper credit.
- Common in academia, journalism, and digital content.

Reverse Engineering

- Analyzing a product to understand how it works (e.g., software, hardware).
- Courts allow it for **interoperability**, but many software licenses prohibit it.

Open Source Software

- Software made freely available for modification and distribution.
- Encourages collaboration and innovation.

Cybersquatting

- Registering domain names similar to well-known brands to sell them at a high price.
- Prevented by trademark laws.

---

6. Case Study: US vs. Aaron Swartz

Aaron Swartz, an activist and computer programmer, was charged for:

- Downloading millions of academic papers from JSTOR without permission.
- The US government pursued harsh legal action, charging him with **wire fraud and violating the Computer Fraud and Abuse Act (CFAA)**.
- Faced up to **35 years in prison and a $1 million fine**.
- Tragically, Swartz died by suicide in 2013, raising debates over **excessive punishment for digital activism**.

Conclusion

Intellectual Property laws help protect innovation and creativity but come with ethical and legal challenges. Understanding the balance between **protection and fair use** is crucial in the digital age.

Ethics and Privacy in Information Technology

What is Privacy?

- **Definition**: Privacy is the right to control access to personal information. It includes both physical proximity and knowledge about an individual.
- **Ethical Justification**: Privacy preserves human dignity, personal autonomy, and individuality. It allows people to develop trust, focus, and creativity.
- **Challenges**: Balancing individual privacy with societal trust and security needs.

Problems with Too Much Privacy

- Can be used to hide illegal or immoral activities.
- Limits the ability to monitor dysfunctional or criminal behaviors.
- Reduces societal connections, leaving marginalized people unnoticed.

How Governments and Companies Collect Data

- **Public Records**: Birth certificates, property deeds, criminal records.
- **Private Companies**: Credit card purchases, loyalty programs, mobile apps, cookies, social media tracking.
- **Government Surveillance**: GPS tracking (e.g., OnStar, 911 services), facial recognition, and implanted chips.

Data Mining and Its Ethical Issues

- **Definition**: Searching through data to find patterns and create profiles.
- **Concern**: Companies and political campaigns use data mining without user consent.
- **Example**: Google tracks searches and browsing history to personalize content.
- **Secondary Use of Data**: Information collected for one purpose is often used for another (e.g., marketing, surveillance).

Spamming

- Sending unsolicited bulk messages via email or social media.
- Used by both legitimate businesses and malicious actors.
- Ethical concerns arise when recipients cannot easily opt out.

Identity Theft

- **Definition**: Stealing personal information (e.g., name, SSN, bank details) to commit fraud.
- **Methods**:
    - **Phishing**: Deceptive emails to steal login credentials.
    - **Spyware**: Software that records keystrokes and passwords.

Case Studies

Target Predicting Pregnancy (Slide 37)

- **What Happened?** Target used purchase data to predict pregnancies and sent targeted ads to expecting mothers.
- **Ethical Issues**: Customers did not consent to such analysis, and private medical conditions were inferred without explicit permission.

Cambridge Analytica Scandal (Slides 45-47)

- **What Happened?** The company collected Facebook data through a survey app and created psychological voter profiles.
- **Impact**: Influenced political campaigns, raising ethical concerns about data misuse.
- **Response**: Facebook faced lawsuits and congressional hearings.

FBI-Apple Encryption Dispute

- **What Happened?** The FBI wanted Apple to unlock an iPhone linked to a terrorist attack.
- **Ethical Dilemma**: Privacy vs. national security. Apple refused, citing the risk of creating a security backdoor.
- **Outcome**: The FBI found alternative methods to access the phone.

Safety

The **Ford Pinto Exploding Gas Tank** case is one of the most infamous examples of corporate negligence in automotive safety.

Ford Pinto Exploding Gas Tank Case

Background

- In the late 1960s, Ford wanted to compete with small, fuel-efficient cars like Volkswagen Beetle and Japanese imports.
- The **Ford Pinto** was rushed into production within **25 months** instead of the usual **43 months**, prioritizing speed over thorough safety testing.

The Safety Issue

- The Pinto had a **dangerously designed fuel tank**, positioned **just behind the rear axle**.
- In **rear-end collisions**, the gas tank was prone to:
  - **Rupturing** and leaking fuel.
  - **Igniting** due to sparks, leading to **explosions and fires**.
- Tests showed the tank would **explode in crashes as low as 20-30 mph**.

Ford's Decision: Cost vs. Safety

- Engineers **identified the issue** before production and proposed a **$11-per-car fix**.
- However, Ford executives used a **cost-benefit analysis**:
  - Estimated **180 deaths, 180 severe burns, and 2,100 vehicles lost** in accidents.
  - Calculated legal costs at **$49.5 million**.
  - Fixing all Pintos would cost **$137 million**.
  - **Ford decided not to fix the issue**, prioritizing profits over human lives.

The Consequences

- **Lawsuits and Public Outrage**:
  - The most famous case: **Grimshaw v. Ford (1978)**.
  - A jury awarded **$125 million in punitive damages** (later reduced to $3.5 million).
- **Government Investigation**:
  - National Highway Traffic Safety Administration (NHTSA) forced a recall in 1978.
- **Reputation Damage**:
  - Ford suffered major **ethical and financial backlash**.
  - The case became a landmark example of **corporate irresponsibility**.

Ethical Lessons

- **Corporate Responsibility**: Profit should never outweigh human safety.
- **Whistleblower Importance**: Employees should speak up against unsafe practices.
- **Legal and Moral Duties**: Companies are legally and ethically obligated to prevent foreseeable harm.

Key Takeaways

- The Ford Pinto case is a classic example of **why safety should never be compromised for profit**.
- It led to **stricter automotive safety regulations**.
- It remains an important case in **business ethics, engineering ethics, and risk management**.

Case studies – slides

1. Cambridge Analytica Scandal

- **What happened?**
  Cambridge Analytica harvested Facebook users' data through a third-party app without proper consent. The data was used to create detailed profiles, including users' interests, political views, and personalities, which influenced political campaigns (e.g., the 2016 US Presidential election).
- **Impact:**
  - Facebook lost $115 billion in value.
  - Facebook was fined $5 billion.
  - Cambridge Analytica faced legal action.
  - Public awareness increased about data privacy.
- **Ethical Issues:**
  - Privacy violations: Data was collected without clear consent.
  - Manipulation: Data was used to influence political opinions.
  - Corporate responsibility: Facebook's failure to protect user data.

---

2. FBI vs. Apple Encryption Dispute

- **What happened?**
  After the 2015 San Bernardino terrorist attack (14 killed, 22 injured), the FBI recovered the attacker's iPhone but couldn't access its data due to encryption. The FBI asked Apple to develop software to bypass security, but Apple refused, citing privacy risks.
- **Arguments:**
  - **FBI's View:** Public safety should come first; access could prevent future attacks (Act Utilitarianism – prioritizing the greater good).
  - **Apple's View:** Creating a backdoor would set a dangerous precedent, risking global user security (Kantian Ethics – upholding privacy as a moral duty).
- **Impact:**
  - Sparked a global debate on privacy vs. security.
  - Raised concerns about government overreach and digital rights.
  - Highlighted the need for clearer legislation on law enforcement access to encrypted data.

---

3. Target Data Mining Controversy

- **What happened?**
  Target used data mining to predict customers' future purchases. In 2012, the company sent pregnancy-related ads to a teenager before her family knew she was pregnant, leading to outrage.
- **Ethical Issues:**
  - **Privacy Violation:** Customers weren't aware their data was being used this way.
  - **Transparency:** Target didn't disclose its data mining practices.
  - **Security Risks:** Storing large amounts of customer data increases the risk of breaches.
- **Ethical Perspectives:**
  - **Kantian Ethics:** Wrong because it treats people as means to an end without consent.
  - **Act Utilitarianism:** Beneficial for marketing and customers, but privacy risks outweigh the gains.
  - **Rule Utilitarianism:** If all companies did this, privacy violations would become widespread, so it is ethically wrong.
- **Impact:**
  - Target faced backlash and had to regain customer trust.
  - Increased awareness about ethical data mining practices.

Key Takeaways from All Cases

1. **Privacy vs. Convenience:** Companies collect user data to improve services, but without transparency, it leads to ethical concerns.
2. **Security vs. Public Safety:** Encryption protects privacy, but governments argue they need access to prevent crime.
3. **Regulation & Corporate Responsibility:** Stronger laws and ethical guidelines are needed to balance innovation and consumer rights.

4. U.S. vs. Aaron Swartz

Overview of Aaron Swartz

Aaron Swartz (1986–2013) was a programmer, entrepreneur, author, and activist who advocated for an open and free internet. He was instrumental in developing RSS, Markdown, and co-founding Reddit. Swartz was deeply committed to making knowledge accessible and fought against restrictive copyright laws.

The Case Against Swartz

- **Violation of the Computer Fraud and Abuse Act (CFAA)**: Swartz was charged with unauthorized access to JSTOR's academic database through MIT's network in 2010. He used a script to download millions of journal articles, violating JSTOR's terms of service.
- **Arrest and Legal Consequences**: Arrested in January 2011, he faced severe charges, including wire fraud and computer fraud. If convicted, he faced up to **35 years in prison and $1 million in fines**.
- **Prosecutorial Overreach**: The U.S. government aggressively pursued the case, increasing the charges to 13 felonies, despite JSTOR dropping its civil claims and expressing regret over the situation.

Swartz's Activism and Opposition to SOPA

Despite legal battles, Swartz led a campaign against the Stop Online Piracy Act (SOPA), which would have restricted online freedom. His activism was successful, contributing to the bill's defeat.

Tragic Outcome and Aftermath

Swartz struggled with the pressure of his legal case and died by suicide on January 11, 2013. His death sparked debates on:

- **Ethics of prosecuting internet activists**
- **The need for legal reforms in digital rights**
- **Balancing copyright with open access**

Following his death, "Aaron's Law" was proposed to amend the CFAA, aiming to prevent excessive penalties for non-malicious computer-related offenses.

Key Arguments and Ethical Debate

Supporters' Perspective:

- **Information Should Be Free**: Swartz believed knowledge, especially taxpayer-funded research, should be freely available.
- **Civil Disobedience for a Just Cause**: His actions were compared to historical movements that challenged unjust laws.
- **Encouraging Innovation**: Open access would benefit researchers, students, and the public, driving scientific progress.

Critics' Perspective:

- **Legality Matters**: Swartz knowingly violated laws by bypassing JSTOR's security.
- **Financial Sustainability of Academic Publishing**: Unauthorized downloads could undermine the business model supporting research dissemination.
- **Security and Ethical Concerns**: Unauthorized access sets a precedent for hacking and data breaches.

Utilitarian Analysis

- **Potential Benefits**:
  - Free knowledge could accelerate education and research globally.
  - More transparency in academic fields.
  - Reduction of inequality in access to knowledge.
- **Potential Harms**:
  - Financial losses for publishers and research institutions.
  - Breach of security and privacy in digital spaces.
  - Erosion of copyright protections.

The case raises the question: **Should access to knowledge outweigh legal and business interests?** While Swartz's goals were noble, his approach had legal and ethical consequences.

Key Takeaways for Study

1. **Legal Implications**: Understand the **Computer Fraud and Abuse Act (CFAA)** and its role in prosecuting cyber-related offenses.
2. **Ethical Considerations**: Weigh the moral dilemma of **civil disobedience vs. the rule of law**.
3. **Activism and Policy Impact**: Recognize the role of activism in shaping internet freedom and copyright laws.

4. **Systemic Issues**: Consider how legal frameworks sometimes **disproportionately punish tech activists**.
5. **Alternative Solutions**: Reflect on whether Swartz could have **pushed for open access legally** rather than through hacking.