



About us



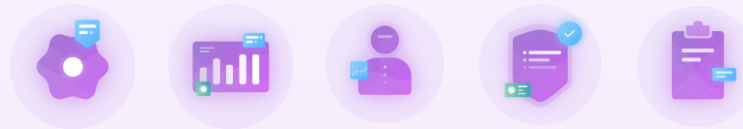
# Hello Barbenheimer

Hello, we are Barbenheimer  
Serios yet fashionable.

Start

## Roles of Information Technology

What are the roles of Information Technology in addressing critical Global Challenges?



**What are the roles of Information Technology in addressing critical Global Challenges?**

**Information Technology (IT) plays a significant role in addressing critical global challenges by providing tools, data, and solutions that can help mitigate these challenges. Here are some of the key roles of IT in addressing critical global challenges**



## Opportunities of IT



**What are the opportunities for Information Technology to tackle/mitigate these challenges/difficulties?**

**Information Technology (IT) offers numerous opportunities to tackle and mitigate critical global challenges and difficulties**

Start

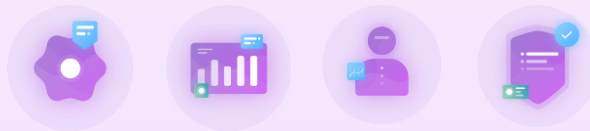


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# Roles of Information Technology

What are the roles of Information Technology in addressing critical Global Challenges?





# Roles of Information Technology

Here are a few of the major roles that IT plays in tackling important global challenges:

- Data Collection and Analysis
- Communication and Awareness
- Modeling and Simulation
- Remote Sensing
- Environmental Monitoring
- Healthcare Solutions
- Education and Training
- Blockchain and Digital Identity
- Financial Inclusion
- Cybersecurity
- Disaster Management
- Supply Chain Optimization
- Energy Efficiency



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## Addressing Challenges

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## Opportunities of IT

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**Addressing**  
Challenges

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# Different Challenges





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# Addressing Challenges

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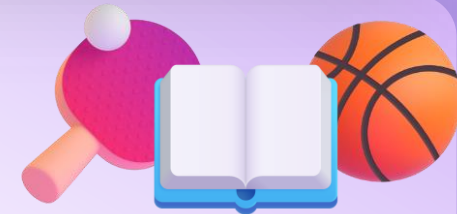
Environment,



For common  
people



Education



Jobs/livelihood



# Environment,

**Energy consumption** - Huge amounts of energy are used by data centers and IT infrastructure, which has an impact on the environment and increases carbon emissions.

Energy consumption in IT has far-reaching effects, including;

- Environmental degradation
- Straining power grids
- Depleting valuable resources
- Significant financial costs



# Environment,

According to an article Chapter 16 - Swiss 2000-Watt Society: A Sustainable Energy Vision for the Future by Roland Stulz, ... René Sigg, in. Energy consumption and its associated environmental side-effects pervade all aspects of our personal and public life to the point where we have become oblivious to it.

<https://www.sciencedirect.com/science/article/abs/pii/B9780123851369100166>

# Environment,

## Pollution

- ***Data Collection and Monitoring in Information technology (IT)*** - to gather up-to-the-minute data
- ***Environmental Compliance and Reporting*** - technology helps organizations and industries follow the rules about protecting the environment.
- ***Environmental Information Sharing*** - technology makes it easy for different countries and organizations all around the world to exchange data about the environment.



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# Addressing Challenges

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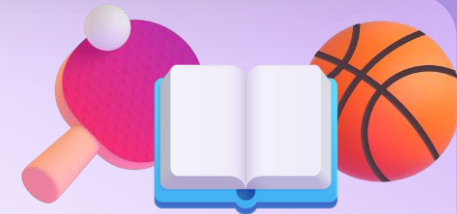
Environment,



For common  
people



Education



Jobs/livelihood



# For common people

**Lack of digital literacy** - Lack of digital literacy, often seen as a digital divide, means not having the skills to effectively use technology for tasks.

# For common people

According to an article about Many students still lack digital literacy by Kate Schimel published in 2015, “students’ lack of training in how to get reliable information from the Internet and conduct research leaves educators with the same task they’ve had for decades.”

# For common people

## Online Scams

- ***Security Measures*** - using security tools such as firewalls and encryption to protect online platforms and data from scams and cyber threats.
- ***Collaboration and Reporting*** - the sharing of information about scams among law enforcement agencies and organizations worldwide.





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# Addressing Challenges

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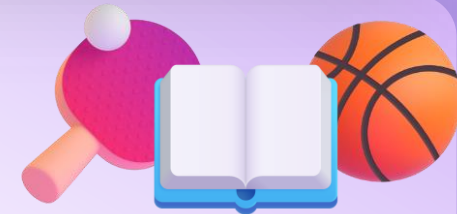
Environment,



For common  
people



Education



Jobs/livelihood



# Education

**Infrastructure and connectivity** - Gadgets and the internet are essentials to our generation since we are more dependent on technology. The issue with this is that not all parts of the world have internet connection which is a hindrance to what is supposed to be helpful to the learners.

- The digital divide
- Reliability
- Cybersecurity threats
- Interoperability and privacy concerns
- Compliance
- Cost
- Geopolitical tensions

# Education

Hakkun Elmunsyah reports that it was discovered that Wi-Fi (via antennae or mobile phones) or fixed phones had been frequently used to access information in all six counties. The mobile phone operators, Internet Service Providers (ISPs), and telecommunications firms that provided fixed phone services provided the technology for internet access in the Malang suburbs.

# Education

## Internet Connectivity

- *Digital Learning Platforms* – IT helps create and manage online learning platforms and resources, allowing students from around the world to access educational content through the internet.
- *Remote Learning Tools* – IT offers tools for remote learning
- *Secure Educational Environments* – IT makes sure that online educational platforms are safe and private.
- *Feedback and Improvement* – IT sets up systems for students and educators to share their thoughts



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# Addressing Challenges

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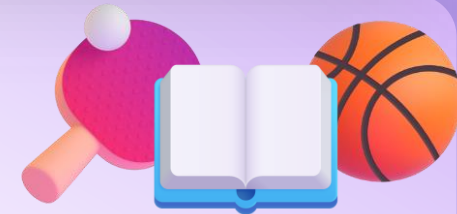
Environment,



For common  
people



Education



Jobs/livelihood



# Jobs/livelihood

**Work-life Balance** - Work-life balance is a pressing issue in the IT industry, where professionals often/grapple with a range of challenges that disrupt their equilibrium.

- Burnout
- On-call responsibilities
- Difficulty of maintaining balance
- Time zone differences



# Jobs/livelihood

Ines Hardoy, Pal Schone (2006), emphasized that changes in technology, values, and demographic trends contributed to the emergent relevance of work-life balance in industrialized societies. It is supplemented by other factors which include increasing the complexity of work, change in nature of family and the extended number of entering the workforce.



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# Addressing Challenges

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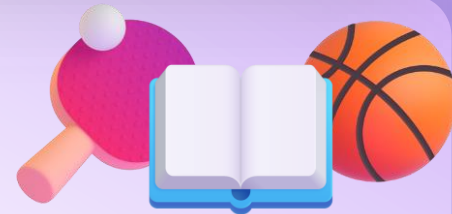
Environment,



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people



Education

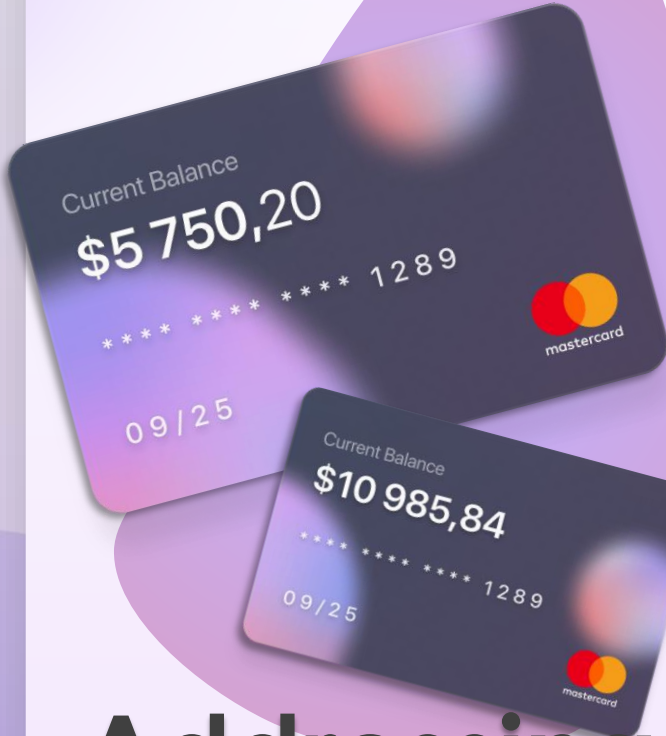


Jobs/livelihood





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**Addressing  
Challenges**



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# Health



# Smart Appliances and Gadgets



# Health

**Sedentary lifestyle** - Extended periods of sitting at computers or using digital devices can contribute to a sedentary lifestyle, which is associated with various health issues.

# Health

A blog entitled The Effects of a Sedentary Lifestyle on Your Health, According to research, inactive people have a 50% higher death rate than those who exercise consistently. Sedentary behavior had a significant negative influence on people's health, independent of other characteristics, according to the study, which looked at 17,000 people over the course of 12 years.

# Health

## Tech Addiction

- **Digital Wellness Tools** - IT can develop digital wellness applications and features that help individuals monitor and manage their screen time.
- **Device Usage Tracking** – IT allows individuals to keeping track of how much time you spend on your devices.
- **Research and Data Analysis** - IT-based data analysis can assist researchers and policymakers in gaining insights into how common and impactful technology addiction is.

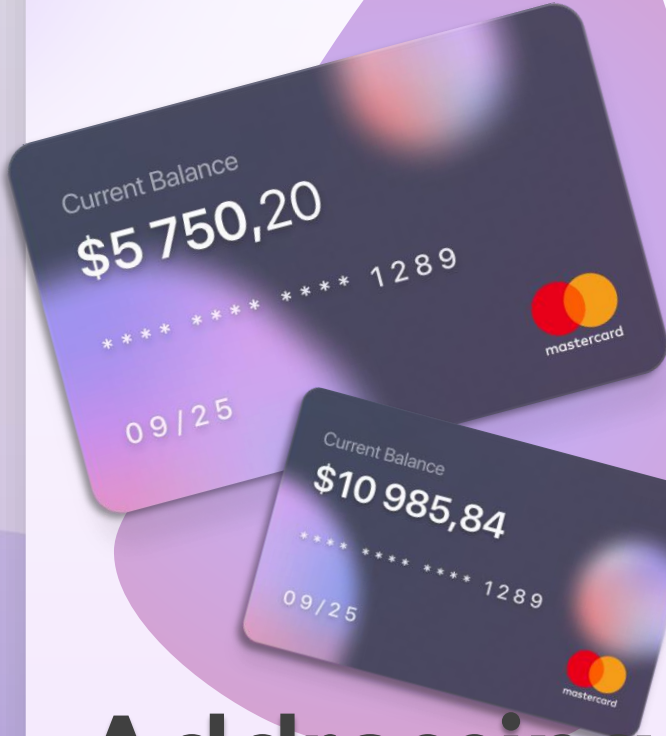


# Health

A study entitled Internet Addiction: A Brief Summary of Research and Practice by Hilarie Cash, Cosette D Rae Ann H Steel, and Alexander Winkler (2012) said that It is accompanied by changes in mood, preoccupation with the Internet and digital media, an inability to regulate how much time is spent using technology, the need for more time or a new game to create the desired mood, withdrawal symptoms when not using technology, and a persistence in the behavior despite conflict with family members, a dwindling social life, and negative work or academic consequences.



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**Addressing  
Challenges**



more



# Health



# Smart Appliances and Gadgets



# Smart Appliances and Gadgets

**Reliability** - Reliability is a crucial aspect of smart devices and gadgets in the realm of Information Technology (IT).

- Software bugs and glitches
- Compatibility issues
- Hardware failures
- Privacy concerns
- Network reliability

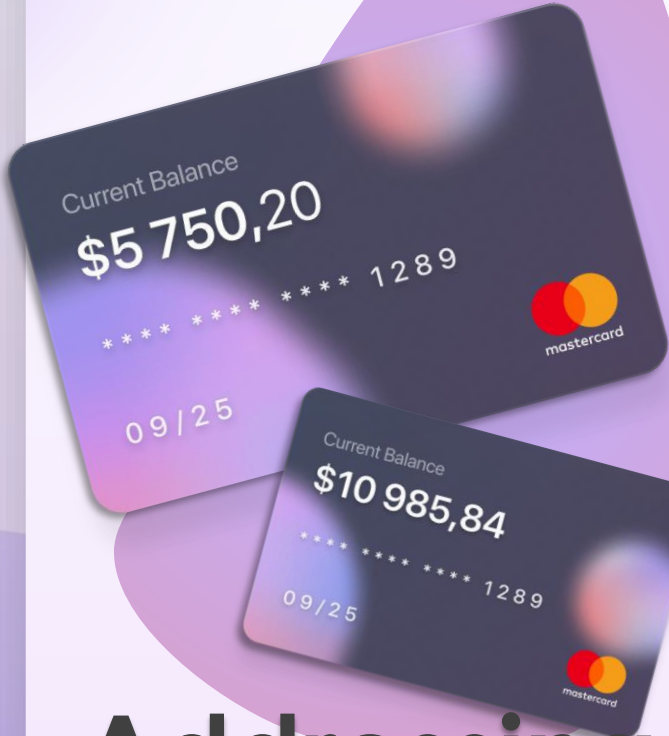
# Smart Appliances and Gadgets

According to the Article of Steve Johnson, The more decisions we delegate to the devices, the more they will become our personal confidants and consultants, dictating everything from when we wake up to what we wear to work to what music we listen to and how we get there.

<https://www.google.com/amp/s/www.dailydemocrat.com/2015/01/20/gadget-reliance-continues-to-grow/amp/?bshm=rime/2>



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**Addressing  
Challenges**



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# Health



# Smart Appliances and Gadgets





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**Opportunities**  
of IT

more

# Different Challenges





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# Opportunities of IT

more



Environment



Common  
People



Education



Jobs/Livelihood



Health



Smart appliances  
and gadgets

A purple funnel-shaped graphic with five horizontal bars of varying lengths and three small circles at the bottom. The word "Environment" is written in bold black text across the middle of the funnel.

# Environment

# Environment

Numerous opportunities exist thanks to information technology (IT) to address and reduce energy consumption and pollution in numerous industries.

## **ENERGY CONSUMPTION**

- The use of smart grids
- It-driven energy management systems
- IT solutions
- Real-time monitoring of energy usage
- Internet of things (IoT)

## **POLLUTION**

- Data Analysis and Machine Learning
- Clean Energy Solutions
- Public Awareness and Engagement



# Common People

To protect the health and general well-being of IT professionals, it is crucial to reduce the sedentary lifestyle and online scams that is so pervasive in this industry.

## **SEDENTARY LIFESTYLES**

- Promoting flexible work
- Arrangements
- Providing ergonomic workstations
- Wellness initiatives
- Scheduled breaks
- Encouragement of active transportation options
- Stress management

## **ONLINE SCAMS**

- User Authentication
- Email Filtering
- Education and Awareness Platforms
- Secure Online Transactions



**Education**



# Education

For equal learning opportunities to be realized, infrastructure and connectivity issues must be reduced. The following are:

- Creating equitable learning opportunities
- prioritize investment in physical infrastructure
- expanding internet connectivity
- To bridge the digital divide
- Teachers' digital literacy and pedagogical training
- Community engagement and flexible learning modalities
- Low-Cost Connectivity Solutions
- Mobile Learning Apps
- Content Offline Access
- Public-Private Partnerships

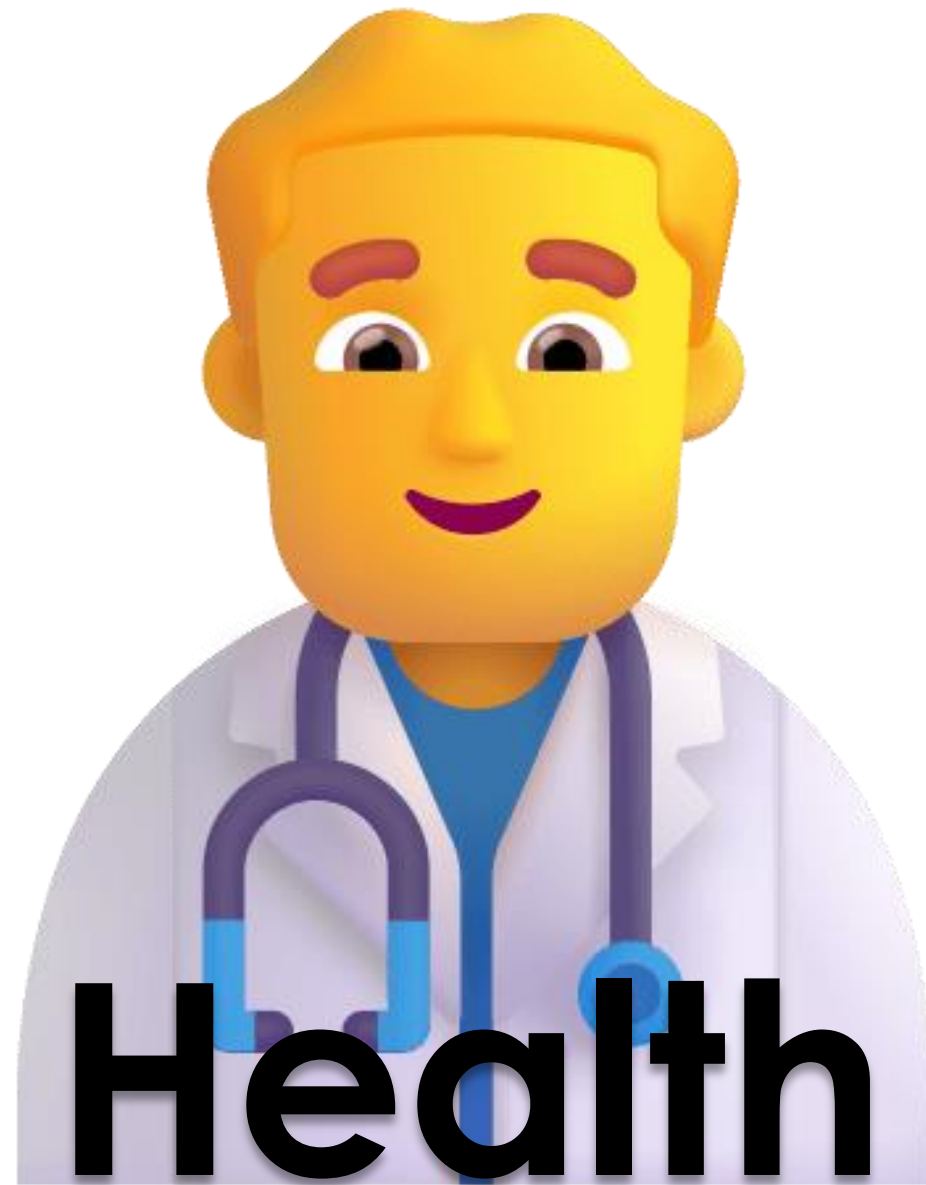


**Jobs/Livelihood**

# Jobs/Livelihood

By addressing these issues, the IT industry as a whole can become more resilient and productive. It can also improve the quality of life for IT professionals, increase employee retention, creativity, and job satisfaction.

- Flexible Work Arrangements
- Clear Boundaries
- Time Management Training
- Mental Health Support
- Regular Breaks
- Teamwork and Delegation
- Overtime Policies
- Technology Tools
- Supportive Culture
- Employee Feedback



# Health

The IT sector faces challenges due to a sedentary lifestyle, which can lead to musculoskeletal issues and other health issues.

- Ergonomically designed workstations
- Regular breaks
- Tailored fitness Programs
- Flexible work arrangements
- Access to fitness facilities
- Wellness programs
- Encouraging active commuting options and education about the health risks of a sedentary lifestyle
- Fostering a workplace culture that values health and well-being
- Proper nutrition, hydration, and mental health support
- Wearable fitness trackers and apps



**Smart appliances  
and gadgets**



# Smart appliances and gadgets

A combination of preventative measures, quality control, and ongoing maintenance is required to mitigate the reliability issues with smart devices and gadgets in IT. The following steps will help you do that:

- Rigorous Testing and Quality Assurance
- Firmware and Software Updates
- Security Measures
- User Education
- Remote Diagnostics and Support
- Redundancy and Failover Systems
- Interoperability Standards
- Predictive Maintenance
- Warranty and Support
- Regulatory Compliance
- Environmental Considerations
- User Feedback



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## Addressing Challenges

On Environment, For common people Education etc

more



## Opportunities of IT

On Transportation, Smart Appliance

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**Thank you for  
your time**

