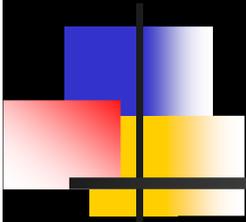
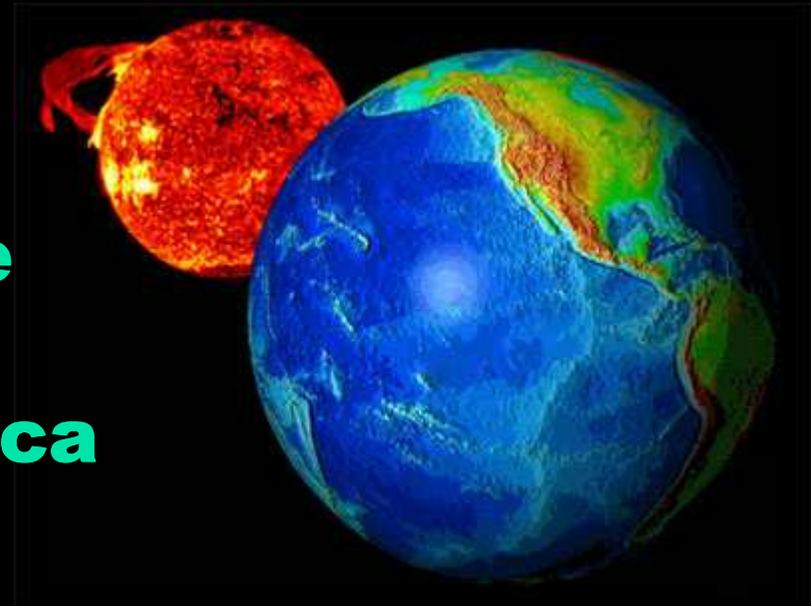
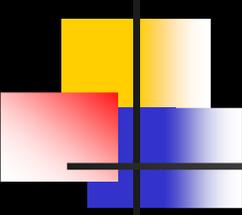


Utilizing e-commerce and m-commerce applications to address the effect of Global Warming



**Keshnee Padayachee
School of Computing
University of South Africa
Unisa, South Africa**



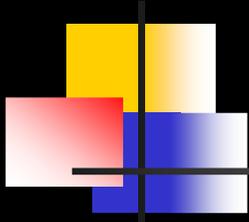


The impact of global warming

- particularly significant to African countries with growing economies:
 - reducing emissions will impact significantly on their emergent economies.
 - will be most affected by the consequences of global warming - droughts and the spread of infectious diseases.

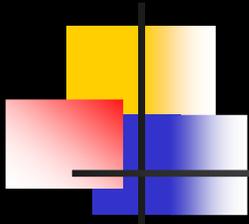


Using Technology to Reduce carbon emissions



In this paper, the relationship between the use of e-commerce and m-commerce technologies relative to the reduction carbon emissions is investigated. However using technology does not fully reduce the problem and the technology itself needs to be used in an energy conserving manner.

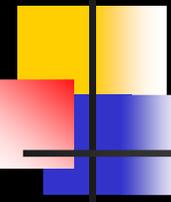




Global Warming

- Refers to the effect on the climate of human activities, - the burning of fossil fuels (coal, oil and gas) and large-scale deforestation, which cause emissions to the atmosphere of large amounts of greenhouse gases', of which the most important is carbon dioxide.'
- There is evidence asserting that global warming is a real threat - consequently there is a need to port to low-cost, carbon-free energy systems
- It is evident that increased climate variability will have major repercussions on the ability of Africa to alleviate poverty .
- Aside from ecologists, information technology communication specialists need to urgently consider how to apply their skills and knowledge towards minimizing carbon emissions.
- South Africa has signed the Kyoto Protocol on Climate Change, an indication of the government's commitment to carbon emission reduction - however rallying support from the private sector will guide the process.



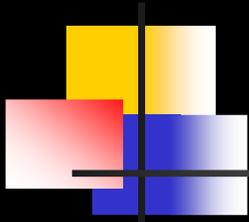


E-commerce and m-commerce

The process of buying, selling and promotion of information, services and products via computer networks is commonly known as **e-commerce**. Whereas **m-commerce**, is a special area of e-commerce, where mobile devices are used for buying, selling or advertising.



INTERNET USAGE IN SOUTH AFRICA



- The number of internet users in South Africa grew to 3 million in 2002 and is serviced by over 200 competing Internet Service Providers.
- In 2005, 10.75 out of every hundred South Africans have internet access and approximately 10 per 100 have a fixed land lines.
- Interestingly 71.6 % of South Africans have mobile phones .
- With options such as 3G (Third Generation) and GPRS (General Packet Radio Service) which offer access to the internet, it implies that more than 70% of the population have the potential to access the internet or the very least perform basic business transactions using their mobile phones.
- The growth in the number mobile telephone users is significant as it implies that m-commerce could be used for buying and selling goods and services for transactional and business-related communications among individuals and companies.
- For instance, Mobile Banking is currently performed using SMS (Short Message Service).
- Unlike fixed line internet access, these wireless mobile devices are ubiquitous, affordable, portable and have location-awareness.



The Positive Effects of E-commerce and M-commerce on the Environment

- Reduces the number of commuters.
- Encourages businesses to go virtual.
- Reduces reliance on paper-based mediums.
- Consumers also benefit financially from virtual businesses.
- Encourages recycling.

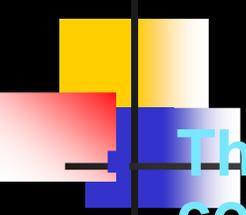


Counteracting the Negative Effects of Technology on the Environment

- Computers and mobile phones are fairly energy efficient.
- Need for green computer design.
- Recycle waste products produced by e- and m-commerce



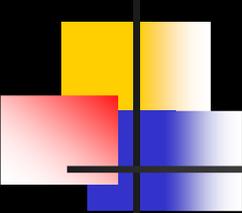
CONCLUSION



The environment does not have to suffer at the cost of the economy - web technologies result in businesses actually reducing costs.

- The survivability of business may very well be dependent how well they can balance profit against reducing carbon emissions.
- As more organisations go online there is the potential to share business strategies and resources and thereby further increasing the incentive to go online.
- South Africa has a unique of opportunity as a developing nation to move in this direction as it is evolving rather than a developed nation that has to function within the current infrastructure. With wireless protocol the gap of the digital divide is lessening.





CONCLUSION

- In the future, as consumers become more sentient of the devastating effects of global warming, they may demand to conduct business with organisations that enforce an ethical stance to reducing carbon emissions.
 - Further there could be fiscal implications such as fines and taxes which may be imposed on businesses that are negligent - in fact, the survival of a business may depend on embracing strategies for reducing carbon emissions.
 - The biggest obstacle to growth of e-commerce and m-commerce in South Africa is the speed of Internet access, and more specifically lack of affordable access to broadband.
- 