INFO5992: UNDERSTANDING IT INNOVATIONS

FINAL EXAM NOTES

[1] INTRODUCTION TO TECHNOLOGICAL INNOVATION

EXAMPLES

INNOVATION

- A new idea that is applied commercially
- An invention put to use
- New products, organisations or markets
- Relevance to careers: Enterprise IT (impact of new technologies and adoption), R&D, Start-ups

CREATIVE DESTRUCTION: waves that restructure entire industries and markets in favour of those who grasp and adapt to technological discontinuities faster

media industry – destruction of print newspaper advertising revenue

IMPORTANCE OF TECHNOLOGICAL INNOVATION

- Long term economic growth
- Improvements in productivity, GDP, standard of living
- Addressing issues e.g. environmental concerns
- Dimensions
    - Country
    - Organisation
    - Individual

ROLE OF IT

- General Purpose Technology – enables other technologies
- Pervasive, continually improving and generates innovation

software for analysing genomes, Smart traffic control

[2] INDUSTRY DYNAMICS OF TECHNOLOGICAL INNOVATION

SOURCES OF INNOVATION: established companies, start-ups, universities, research institutions and individuals

TYPES OF INNOVATION: can also have mutual relationships

- What type of thing is being innovated?
    - Product – outputs of organisations
    - Process – discovery or implementation of a new or improved production or delivery method
    - Business Model – new business models
- How different is it from what is already available? – radical or incremental
- Impact on consumer – life-changing or incidental
- Impact on market – disruptive or sustaining
- Impact on producers – competence enhancing or competence destroying
- Scope – architectural or component

video games, iPod
injection moulding to 3D printing
Uber
3D printing/MS word feature
Intel Pentium 4/Kodak digital camera
cloud computing/adding signal in Google

DIFFUSION OF INNOVATION: diffusion is the process in which an innovation is communicated through certain channels over time among members of a social system

- Technology Adoption Lifecycle Model (bell curve) – innovators, early adopter, early majority, late majority, laggards
- The Chasm/S Curve – the difficulty of moving from early adoption to mainstream
- Rate of Adoption – relative advantage, compatibility, simplicity, trial-ability, observe-ability
- Technology cycles – reaching saturation and maturity

QWERTY vs. DVORAK