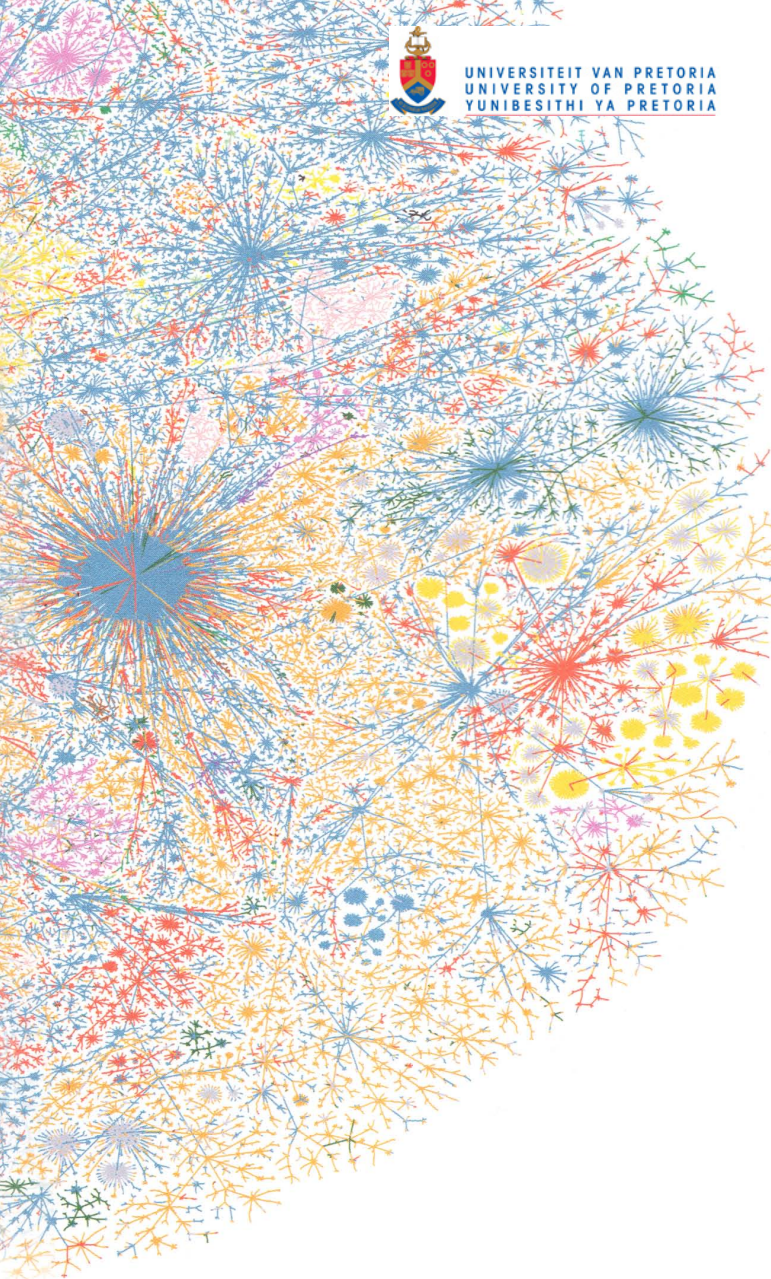01 | **Introduction**

Information.

*We can glean it from the pages of a book or the morning newspaper and from the glowing phosphors of a video screen. Scientists find it stored in our genes and in the lush complexity of the rain forest. And it's always in the air where people come together, whether to work, play, or just gab. - Business Week*

*(Nunberg, 1996ª: 7)*

## + Inevitable Change: Life and Architecture

A virtual avalanche of change has been triggered by the eruption of new information technologies and is affecting humanity in a magnitude of dimensions. The way information is accessed and managed, people's manner of self-education, trade and commerce, socialising and other mundane routine activities have been relocated to this domain. Alberts & Papp (1997: 2) suggest that we are passengers of an expedition in which information and communication is becoming the primary influencing factors in the moulding of human action and human interaction. The defining temperament of such a time is unquestionably its *complexity* and the *change* induced by it. The authority on the subject, Castells (1996: 31), emphasises the fact that these transformations are all characterized by their ubiquitous nature; it infiltrates all realms of human life "not as an exogenous source of impact, but as the fabric in which such activity is woven." The domain of information is amorphous[1], yet it holds the potential for inconceivable wonders.    Therefore, architecture can no longer occupy the physical realm alone. The setting of its physicality has expanded to the intangible and virtual.

# "Architecture is no longer simply the play of masses in light. It now embraces the play of digital information in space."

(Mitchell, 2000: 41)

01.    *Fluid, shapeless or formless*

**Figure 1.3:**
*Byte into an Apple: The Digital Divide.*
Graffiti, City of London (Banksy, 2011)

*Byte into an Apple* is a graffiti artwork illustrating the dire need for information access as compared to that of food.

## + The Digital Divide

A new type of segregation is emerging in the developing world. Although we live in the Information Age, the average city dweller in Pretoria is not connected to this information network. A report done by Statistics SA (2009: 17) indicated that only 28% of households in Tshwane own a computer and a mere 12.8% have Internet access *(fig. 1.4)*. In South Africa in general, information technology users are restricted to more affluent urban and suburban areas. This creates, what is called, a *digital divide*[1] *(fig. 1.5)*. In the Information Age, lack of access to information implies detachment from the global society and its advantages. It is a wall inhibiting the growth of the global culture and is to the detriment of the ignorant.

## + The Nature of the Problem

Internet users presently only amount to 15-20% percent of the world's populace (WIS, 2011). There is an impending potential to be mined by connecting the other 80% to the sphere of information. Wilson (2004) clearly illustrates that, in the developing world, not only does the digital divide symbolise a societal and infrastructural bias amid the information-rich and information-poor, but a cultural divide as well. The digital divide leaves communities with little to no access to the virtual globe behind in the evolution of a technological culture. It is evident that this gap needs to be bridged (fig. 1.6).

**Figure 1.4:**
Graph illustrating the percentage of households in Tshwane with access to information technologies (Author, 2011)

01. *The term originally represented the gap in computer ownership between different groups of people. It is now defined as the gap between individuals and communities that have and don't have access to information technologies.*

*"In the twenty-first century, the capacity to communicate will almost certainly be a key human right. Eliminating the distinction between the information-rich and information-poor is also critical to eliminating economic and other inequalities between North and South, and to improve the life of all humanity." (Wilson, 2004: 1)*
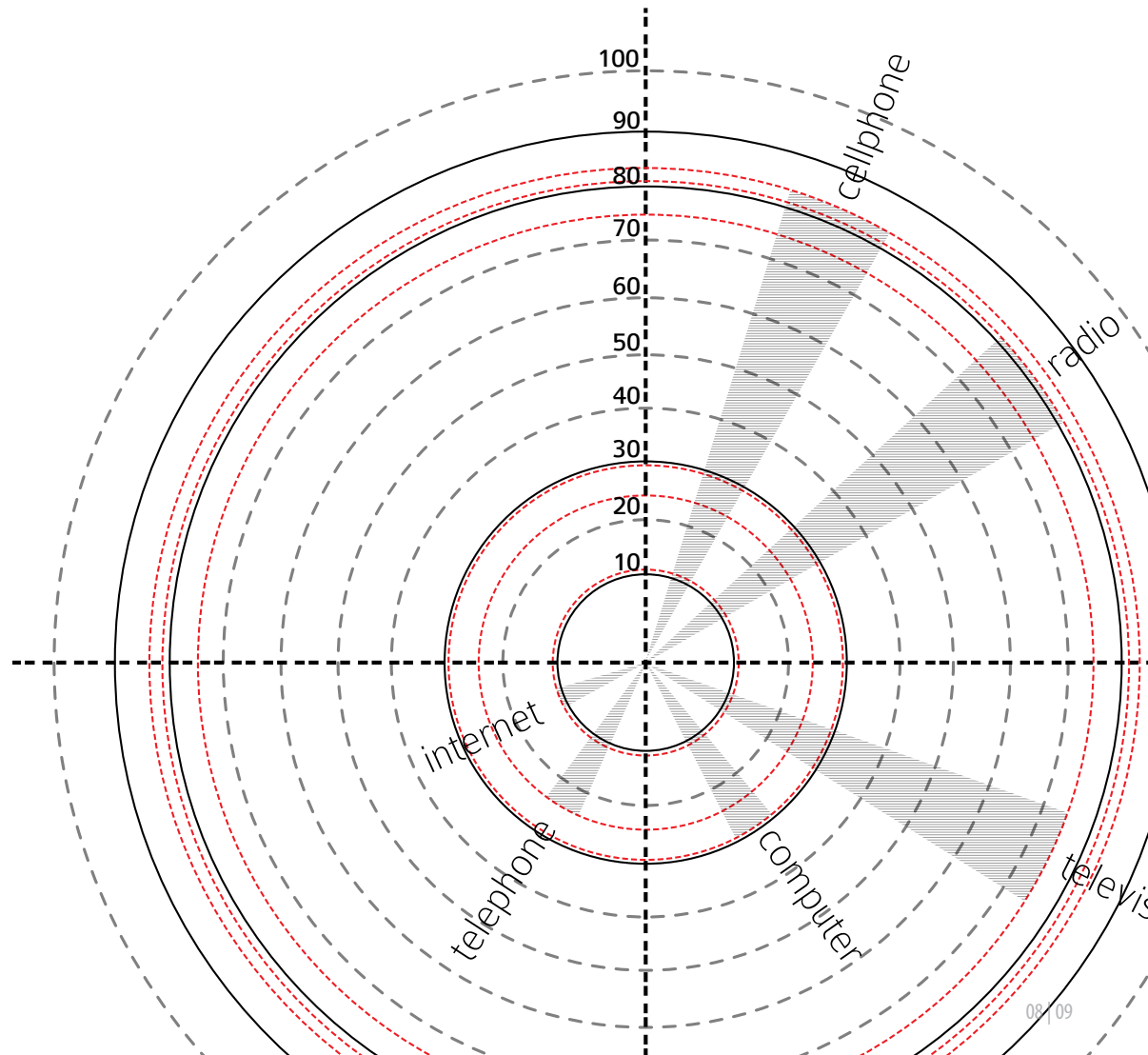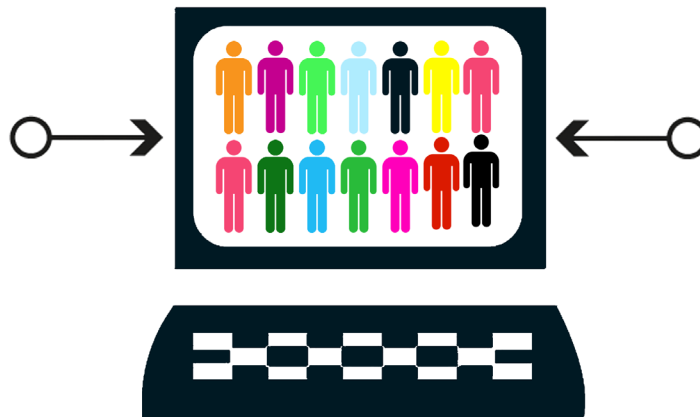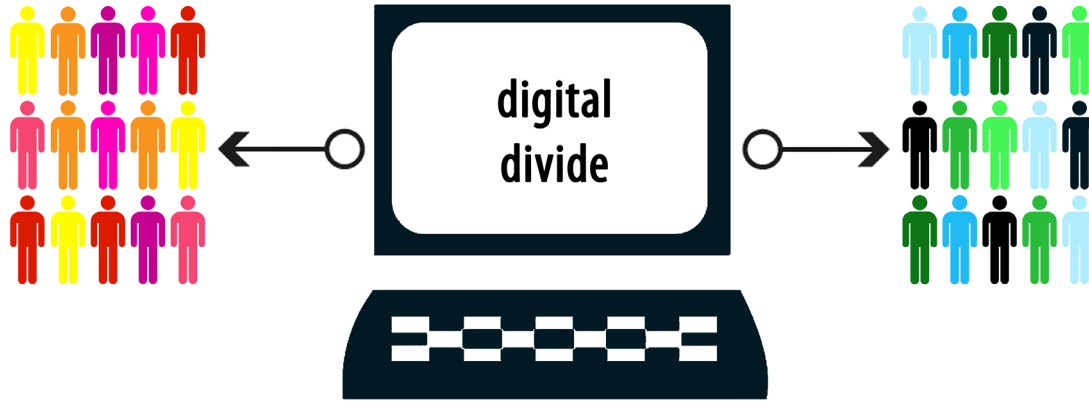
digital
divide

## + Bridging The Digital Divide

Cities within a *subsistence economy*[1] are developing a cultural or technological divide that strengthens the existing patterns of socio-economic segregation. This occurrence creates, what Schön, Sanyal & Mitchell (1999: 27) refers to as an *urban schizophrenia* or *dual city*. The dual cityscape is polarized; social segregation has undergone metamorphosis to become a spatial segregation of the informed (usually associated with the opulent) and the information-deprived (the underprivileged). Within this new *ad hoc* system, power is no longer associated with wealth, but with knowledge.

In order for underprivileged or disconnected citizens to have access to the advantages of the interconnected global society (as listed in Chapter 1) they need to be introduced to and made aware of the advantages, in order to...

01 |    ...negate the stumbling block that is currently hindering progress in developing countries

02 |    ...tap into the endemic knowledge system *(fig. 1.7)*

03 |    (In doing so, users will) ...contribute to the collaboration of minds and ideas and influence the shaping of this digital environment to suit their specific needs *(fig.1.7)*

04 |    ...create equality among different income and cultural groups2 (as Nelson Mandela suggested) *(fig.1.7)*

05 |    (This should also) ...alleviate the socio-segregation of the dual city by socio-integration

**From top to bottom |**
**Figure 1.5:** Diagram of the digital divide                    (Author, 2011)
**Figure 1.6:** Diagram illustrating the bridging of the gap      (Author, 2011)

# + Challenges Facing the Process of Bridging

As Mitchell (Schön et al, 1999: 392) explained:

> *"We would need design scenarios, action strategies, and action research that could influence policy and feed into longer-term planning for the use of information technology in low-income communities. In the wake of such an experiment both the low-income community and the technology would be transformed."*

01| Supplying new technologies to the masses can prove to be incredibly costly.
This indicates that information technologies should rather be located in a public location in order to serve a critical mass.

02| Teaching computer-illiterates how to utilize the devices and applications is another conundrum.
For faster learning, these technologies should be accessed communally where users can feed off the collective knowledge of the group.

03| Completely illiterate participants cannot teach themselves by reading instructions, therefore the information has to be translated into visual form.

04| By talking to the general public in the inner city, it bacame evident that there exists a strong prejudice toward technology in the developing world. It is believed to be incomprehensible and foreign. This image needs to be shattered by making people aware of the possibilities and advantages thereof. New strategies need to be investigated and implemented in order to cultivate a culture of knowledge.

01. *A subsistence economy refers to the developing world where survival is considered the highest priority. Luxuries are ranked low on the list. Information technologies are often considered a luxury, but does in fact contribute to survival and wellbeing.*

02. *A study by Chen, Bozso, Abcouwer, Scharff & Shaffer ([2009]: 3) indicated that between 1997-2005, middle and higher-income groups showed growing equality due to the narrowing of the digital divide, while low income groups suffered a decrease in the level of equality to higher income groups (Chen et al, [2009]: 3).*
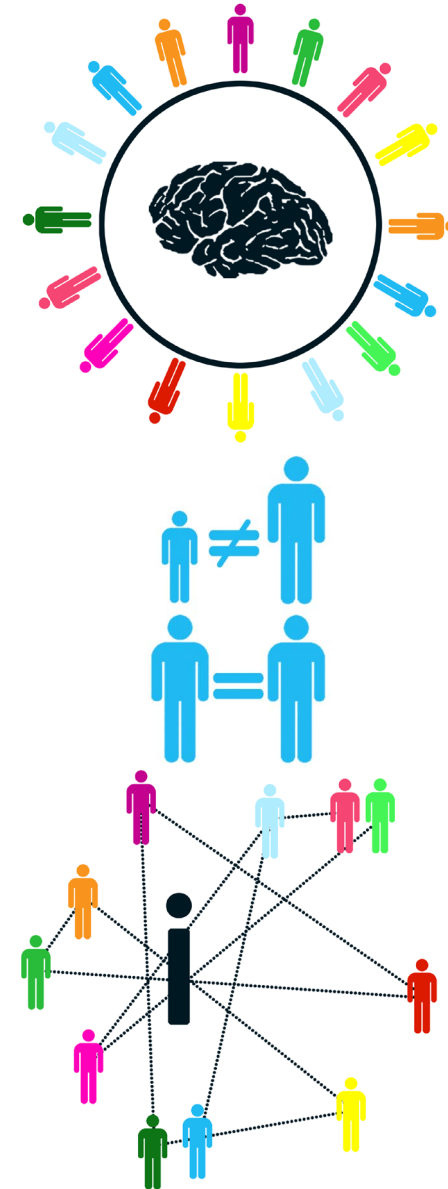


**Figure 1.7:** Diagram illustrating the advantages of bridging the digital divide (Author, 2011)