

# **Using Digital Systems for Deception and Influence**

W. Hutchinson

Edith Cowan University, Mt Lawley, Western Australia  
e-mail: w.hutchinson@ecu.edu.au

## **Abstract**

This paper examines both the present and future uses of digital technologies to deceive and influence. Its scope is the deliberate design of processes to change the behaviour of the user by deceptive and influence techniques. The paper covers the conventional design of Web page content in the process of influence campaigns by governments, businesses, pressure groups and terrorist groups to promote their causes. It progresses to more speculative uses of deceptive methods 'newer' mobile and ubiquitous technologies. These technologies have the potential for both generic and individual targeting of those to be influenced. Their techniques used and success will depend on both the time span available which would determine whether the objective is to coerce, manipulate or convert the target(s) and what stage the persuasive process is at. The analysis proceeds from the concept of 'captology' and speculates how persuasion, influence and behavioural change can be achieved via such technologies as text messaging (or, Short Messaging Service – SMS).

## **Keywords**

Propaganda, Influence campaigns, Persuasion, Mobile technologies, Web design, Deception.

## **1. Introduction and History**

Since the printing press was invented technology has had a profound impact on the ability to influence large audiences. However, it was in the early 20<sup>th</sup> century that the inventions of radio and cinema supplemented newspapers and pamphlets as a means of mass influence. With the radio came a shortening of the time frames between an event and a communicative response to it. Television provided visual as well as auditory means of framing thoughts on world events. The ability to manipulate images on television and the cinema, both of which could simulate events to create a new 'reality' was quickly exploited by leaders to influence populations. These new technologies allowed a worldview divorced from physical 'reality'. A version of events not experienced by persons (or, in fact, anyone they had met) was communicated to produce a desired attitude in their audience. The task of moulding worldviews was becoming a function of technology.

The development of real time, global television based on satellite and digital technology gave a tool for influence operations anywhere in the world. In fact, the Western military and corporate worlds managed information during the First Gulf War in a way that was unprecedented by its scale (Carpenter, 1995). However, in the mid-1990s, the Internet and the newly created World Wide Web became widely available. Initially, it was widely used by unconventional groups such as pornography distributors and terrorist organisations that discovered its ability to reach large audiences (Warren and Hutchinson, 2000). In these early stages, this medium was used to 'sell' a product or idea. It was an effective method for marginalised groups to get their message out to the world. Its attractions were a low entry price and a global reach. In a sense, the Internet represented a stage in the trend from local communications and influence to a potentially global presence. At the temporal level, the time taken for a message to arrive from a reported event to the public had decreased to the point of making it almost real time.

The development of tools that could be used on the Internet such as 'chat rooms' and the development of widely available broadband services allowed the flexibility of presentation of information on computer screens made the means available for influencing others increase substantially. Recent developments of cheap mobile telephones that have become integrated into Internet computer technology have provided yet another vehicle for organisations to influence groups and individuals. This phenomenon has taken even those involved in the industry by surprise. Sir David Brown – the Chairman of Motorola - admitted that in the mid-1980 an estimate for the market for mobile telephones in the whole year of 2000 was calculated to be 900 000 worldwide (Fildes, 2006). Actually, in the year 2000 that number of mobile telephones was being sold every 19 hours. This trend has also taken those who specialise in influence by surprise as well. This was illustrated at the end of 2006 when Saddam Hussein's official and choreographed execution was superseded by a raw and more accurate version taken by someone in the execution chamber on his mobile telephone and almost immediately posted on numerous websites (Jackson and Macleod, 2007). The perception managers had been upstaged by an amateur and their version of the event discredited.

This new situation has had the paradoxical impact of being able to influence at an individual-individual level (the primitive mode of discourse, such as the Short Message Service function [SMS or Texting]) and that of an organisation being able to communicate to individuals on a global scale and vice versa. It took some years for governments to utilise the Internet for influence, the same is true for this related but new media. Each has its own strengths and means of purveying information, and thus each can influence but in different ways.

This paper will discuss the impacts of these developments and their relationships to the way populations and individuals are influenced. In this paper, the term 'influence' combines both *propaganda* and *persuasion*. Propaganda is based on sociological principles reinforcing cultural and social values and tends to be targeted at populations and thus tends to be suited to mass media. Persuasion is based on psychological principles and argument, and thus tends to be geared for individuals or

small groups (Johnson-Cartee and Copeland, 2004). Deception is taken to mean the deliberate manipulation of data to produce a biased view of a situation.

The basic discussion is based on two strategies to influence. The first is to design technology to influence. The second is to develop strategies to use the new digital technologies and their functionality to influence. This paper is structured thus: section 2 covers how influence is designed into digital products, section 3 examines digital technology as a medium to influence, section 4 investigates the social impact of these developments, and section 5 speculates on the future of the digital technology-influence nexus.

## **2. Designed Influence**

Fogg (2003) uses the term *Captology* (derived from *Computers As Persuasive Technologies*) to encompass the deliberate designing of digital systems to persuade, that is to change attitudes and behaviour. In most cases, it is to persuade and not propagandise as the target is an individual using the system rather than a population. Fogg divides computerised persuasive systems into three components: the Tool, the Social Actor, and the Medium. Each of these perspectives of a computer system has to be considered to design an effective system. The computer as a Tool can be persuasive by increasing capability by making some desired behaviour easier, by carrying processes that motivate, or by leading the actor through a process. The computer as a Social Actor creates relationships by giving people positive feedback, providing social support and showing the user the desired behaviour. Computers as a Medium provides experience by allowing the user to create and explore cause and effect relationships, helping people rehearse behaviour (for example in simulations), and providing people with experiences that motivate. Hence, a well designed persuasive system gives increased capability, creates a relationship with the user and the desired behaviour/attitude, and further provides experience in the desired behaviour. To do this, a system needs credibility with the user, and thus must be trusted and be perceived to have the necessary expertise embedded in it.

These persuasive systems are designed to alter attitude and hence behaviour by providing a medium that is perceived to be competent and providing positive feedback. It must be added that the relationship between attitude and behaviour is a problematic one (Erwin, 2001; O'Keefe, 2002). At present, this technology is limited to fairly simple processes where the influence is to train the person in a specific skill or to warn them about undesired behaviour. Examples include complicated simulators for pilots, virtual reality systems for people to overcome phobias, and the simple feedback display of the speed of a vehicle to the driver when on the road indicating compliance to a set limit.

The deliberate design of technology to influence tends to be successful if the required end result is an uncomplicated one. The influencing of worldviews in society tends to be a more complex and dynamic problem.

### **3. Use of Digital Technology as a Medium to Influence**

Whilst designed systems can be effective for ‘personal training’; it is the purview of governments and corporations to influence populations by carrying out sophisticated influence campaigns. All methods of communications are conscripted to carry out these influence campaigns. The advent of globalised television increased the ‘virtualisation’ of information, and the Internet and subsequent digital technologies have furthered this process. The comment by Baurillard (1995) that the first Gulf War ‘did not take place’ summed up the new environment in the developed world of the mid-1990s when reality of the outside world was controlled by images determined by governments and corporations. Hence, what people perceived to have happened in such a significant event as this major war was largely an illusion created by the manipulation of the information being broadcasted by the mass media. This development of the art of ‘perception management’ has been promoted by other observers such as Louw (2005), Street (2001), and MacArthur (1992). The world had become virtual (or, at least, partially virtual). This process has developed since the 1990s, where computer usage and the ownership of digital devices such as mobile telephones and integrated devices such as *Blackberries* has increased so much that these devices carry a high proportion of the communicated data in this virtual world. Personalised communications such as email or SMS have meant that not only are cheap, global communications available almost universally but that these facilities has increased the virtual component of the determination of reality by individuals. Both politicians and the corporate world realise that the trend from physical information collection to second hand collection has been reinforced by an ability to change the format of the information delivered. For example, images and text were used successfully in the First World War to create hatred by using outright lies and exaggerated claims (Ponsonby, 1928). However, this information was based on knowledge of a physical reality regardless if this information was incorrect. In the contemporary world, information, except for the very local, is predominantly virtual in nature, and so, consequently, are the means of communicating this information. Thus, the context for determining reality has sources that are almost entirely derived via digital mechanisms. As one the major advantages of digital technology is its flexibility in the manipulation of data, it becomes very easy to amend data without any way of determining if it is false or not. In this way, messages about the ‘real’ world can be created either to deceive or influence decisions made about that world.

Whilst, it can be argued that perceptions of the real world have always been ‘virtual’ in nature, the difference with digital technologies is that the input to individuals’ perceptions can be manufactured in very sophisticated ways to provide a dynamic and interactive ‘reality’ that can bear little similarity to the physical world. This is different to the influence exerted in previous ages by its ubiquitousness. Thus, a contemporary person gaining information via mobile telephone calls, SMS, emails, television and web searches is manipulated in a fundamentally different from someone in the 18<sup>th</sup> century who received information by local gossip and letters. The differences are in the number of sources and the nature of the media through which information is delivered, and, more fundamentally, how it is *created*.

## **4. Social Impact**

The impacts covered here are not exhaustive but indicative of the changes the technology has made to the process of influence within society.

### **4.1 Making the influence of small groups global**

The remarkable thing about the introduction and development of the Internet and its associated microcomputer and network technologies was that it provided a cheap entry for organisations of whatever size (and individuals) to communicate at a global level to a worldwide audience. So not only was the reach global in a geographic sense but, as the technology became ubiquitous, the potential audience became huge. This enabled groups that were previously very locally empowered to send their message worldwide without censorship (for example, terrorist groups now had a means to propagandise various sympathetic ethnic groups in diasporas wherever they were). Kohlmann (2006) states that as governments were protecting their networks against terrorist attacks, the terrorists were busy propagating their messages and collecting funds on the very same technology. The influence of terrorist groups could now become global as could that of other non-government agencies such as the anti-World Trade Organisation movement. Weiman (2004, 2006) points out that the Internet offers easy access, anonymity, a global audience, low cost presence, a relatively uncensored environment, ability to by-pass the formal mass media, and a presentation capability from multimedia products that can achieve a strong and influential impact. Almost all terrorist organisations have a Web presence – even the technologically averse Taliban. The sites promote their cause in the best light as any other government or commercial site would do. Each is designed to present their view of the world and to promote their agenda and, sometimes mobilise, current and potential supporters as well as public opinion.

Hoffman (2006:2) argues that the propaganda generated on these sites “...grants authority to its makers. In the first place, simply by demonstrating its ability to disseminate information that the government has banned, a guerrilla group proves that it is a viable force.” Through this propaganda it can get its message through to its supporters, enemies and those that are neutral. It can influence the morale of the supporters and perhaps gain some support from those who are either indifferent or antagonistic. In some ways, some propaganda can be coercive and intimidating to those who oppose the group or are wavering in their loyalty. Hence, a virtual message can have physical or, at least, psychological impacts. More than this, it can reinforce opinions by giving the group a platform to discuss the issues (usually in a biased way) to further spread their message and its influence.

### **4.2 Forming communities of influence**

Just as struggling extremist groups like the ‘Klu Klux Klan’ use their Web pages to instil a feeling of community in their supporters at a global level in the wake of the terrorist attacks of September 11<sup>th</sup> 2001 (Bostdorf, 2004), and the ‘Aryan Nations’

who are attempting to use their Web site to initiate an 'Aryan Jihad' (Aryan Nations, 2007), so other technologies such as chat rooms and Weblogs (blogs) enable a more personalised form of influence. These tools enable such things as the ability for lonely people to 'fall in love' with a 'virtual being', or allow a paedophile to entice children into dangerous physical situations, and although there are facilities to post 'confirming evidence' such as photographs and video, there is no way of verifying the data presented. The virtual becomes real, and influencers have the freedom to present whatever data they wish. A case of 'nothing is real'. However, in countries such as China, chat rooms have 'nannies' who are employed by website owners to monitor for any political deviation. These chat rooms are often 'hosted' by sponsors who pay to ensure that the 'right' questions are asked and, of course, the correct answers are made. Also, blogs are used artificially extol a product or governments line (Stevenson-Yang, 2006). With the obviously prejudiced reporting of the Iraq War in 2003, much hope for 'honest' reporting was put onto those who created blogs from areas of conflict such as Baghdad (Alexander, 2004). The authorities soon compensated these new sources of news by creating 'black' blogs. These were those blogs pretending to be from impartial sources but were, in fact, coming from government and/or military sources.

Whilst blogs and SMS give individuals the power to create messages that can be spread 'virally' throughout a community, they can also give 'virtual' groups the ability to influence real world events. For instance, during the Iraq War of 2003, a Christian group flooded the executive of an American television company with SMS messages and 'forced' the company to dismiss a well-respected and experienced reporter in Baghdad who was sending back reports not conducive to their way of thinking (Schechter, 2004). Whilst the same can be done with email, it seems that the personalised messaging of SMS has more impact. The 'mob' had gained a victory more effective than any physical demonstration.

### **4.3 Digital manipulation**

Everyone has to make decisions based on the information or beliefs that are available to them. Therefore, manipulating data or views that people received can deeply affect attitudes (and conceivably) behaviour. Deception on digital devices is extremely easy to accomplish (at the least at the data output stage – making people accept the output is not as easy). In fact, the presentation of a *version of reality* can produce different results. This can be illustrated by the furore caused by the televising of the execution of Saddam Hussein. The official and silent version of the execution showed a relatively organised and 'conventional' execution. However, the Iraqi authorities, either deliberately or not, allowed video-capable, mobile telephones into the execution chamber. The grainy video taken plus sound gave a totally different version of the same event. This version of the event was available worldwide within hours creating a problem for both the Iraqi and Coalition governments in Iraq (BBC, 2007). Reality is variable as is the influence of the presentation of that 'truth'.

## **5. The Future**

Whilst the issues described in section 4 are not exhaustive, they are illustrative of the influence that can be gained (or lost) by the use of these technologies. They have already influenced the way businesses and government are run as well as the way individuals try to influence each other and the wider world. As humans become more dependent on the use of mobile digital devices extending their natural sensory systems, the ability to manipulate the input data to human increases enormously (as does the likelihood of surveillance). Individuals and groups can be targeted with messages with ease. As the mobile devices' locations can be detected easily then the targeting of people to be influenced in a particular area in real time is possible. When connected to a personal database then the combination of possibilities is infinite. The devices that can be 'connected' the human system increase then their implications increase with them. This sensory data (visual, auditory, tactile, and olfactory) can be perceived, digitised, and then communicated to a device where it is reconverted. This is open to manipulation thereby giving an altered version of the environment that the device owner senses.

In developed and developing nations, the combination of mass media and communication networks has provided a rich, if challenging, environment for influence operations and deception. Ironically, this 'information rich' environment makes deception both more and less achievable. The ubiquity of communications makes the dissemination of data much easier. Hence, people have access to various views. However, the context with which this information is interpreted is primarily determined by the mass media that is generally owned by small cartel of interests. It is in this paradoxical world that future influencers will work. One significant impact of cheap, mobile devices is the impact on developing countries. These technologies allow developing countries to 'catch up' and to use them to effect the discrepancy of influence between the developed and underdeveloped worlds. The availability of relatively cheap, satellite based television technology as well as the more personalised Internet based technology will change the tactics of influence and deception, and probably the power differential between existing players – whether it changes the public's and individual susceptibility is problematic.

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