# Chapter 6
# Willingness to Adopt RFID Implants:
## Do Personality Factors Play a Role in the Acceptance of Uberveillance?

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## ABSTRACT

*This chapter presents the results of research designed to investigate differences between and among personality dimensions as defined by Typology Theory using the Myers-Briggs Type Indicator (MBTI). The study took into account levels of willingness toward implanting an RFID (Radio Frequency Identification) chip in the body (uberveillance) for various reasons including the following: to reduce identity theft, as a lifesaving device, for trackability in case of emergency, as a method to increase safety and security, and to speed up the process at airport checkpoints. The study was conducted with students at two colleges in the Northeast of the United States. The author presents a brief literature review, key findings from the study relative to personality dimensions (extroversion vs. introversion dimensions, and sensing vs. intuition dimensions), a discussion on possible implications of the findings when considered against the framework of Rogers' (1983; 2003) Diffusion of Innovation Theory (DoI), and recommendations for future research. A secondary, resultant finding reveals frequency changes between 2005 and 2010 relative to the willingness of college students to implant an RFID chip in the body. Professionals working in the field of emerging technologies could use these findings to better understand personality dimensions based on MBTI and the possible affect such personality dimensions might have on the process of adoption of such technologies as uberveillance.*

# 1 INTRODUCTION

The purpose of this study was to investigate differences between and among personality dimensions and levels of willingness toward implanting an RFID chip in the human body (uberveillance). Specifically, the researcher examined levels of willingness toward uberveillance taking into account whether participants were categorized as an extrovert or introvert (where an individual primarily directs his or her energy), and whether participants were categorized as sensor or intuitive (how an individual prefers to process information) as defined by a personality assessment based on Typology Theory and known as the Myers Briggs Type Indicator (MBTI).

This quantitative, descriptive study employed two instruments: one attitudinal questionnaire measuring willingness toward uberveillance; the second measuring personality dimensions utilizing the MBTI. Descriptive statistics, including measures of central tendency, measures of variability, and frequency counts were run and t-tests were used to determine if there were significant differences in levels of willingness toward uberveillance based on personality dimensions of participants. The findings are presented and interpreted taking into consideration the reported willingness of participants based on Typology Theory, Concern for Privacy (CFP), and Diffusion of Innovation Theory (DoI). The objective of this chapter is to provide professionals working in the fields of emerging technologies with findings to better understand personality dimensions that might influence the adoption of technology such as uberveillance.

# 2 BACKGROUND

## 2.1 Uberveillance

RFID implants, also known as uberveillance, are defined as an omnipresent electronic surveillance, which utilize technology that makes it possible to implant devices into the human body to track the who, what, where, when, and how of human life (Michael & Michael, 2009). In 2004, the FDA (Food and Drug Administration) of the United States approved an implantable chip for use in humans in the United States. The tiny RFID chip, which is implanted in the body, can be smaller than the size of a grain of sand. The implanted chip is being marketed as a potential method to detect and treat diseases, as well as a potential lifesaving device. If a person was brought to an emergency room unconscious, a scanner in the hospital doorway could read the person's unique ID on the implanted chip. The ID would then be used to unlock the medical records of the patient from a database. Authorized health professionals would then have access to all pertinent medical information of that individual in a database including medical history, previous surgeries, allergies, heart condition, blood type, and diabetes, to care for the patient appositely.

Technological developments are reaching new levels with the integration of silicon and biology; implanted devices in humans can now interact directly with the brain (Gasson, 2008). Implantable devices in humans for medical purposes are often believed to be highly beneficial in restoring functions that were lost. Such current medical implants include cardiovascular pacers, cochlear and brainstem implants for patients with hearing disorders, implantable drug delivery pumps, implantable neurostimulation devices for patients with urinary incontinence, chronic pain, or epilepsy, deep brain stimulation for patients with Parkinson's, and artificial chip-controlled legs (Capurro, 2010).

## 2.2 Social Concerns

Social concerns plague this technology (Masters and Michael, 2006). In the United States, many states are crafting legislation to balance the potential benefits of uberveillance with the disadvantages associated with the technology;

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