Chapter 3
An Examination of RFID Ethical Issues Supports the Need for Improved Business and Legal Strategies

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ABSTRACT

RFID (Radio Frequency Identification) is an important and frequently utilized technology in our modern society. It gives its users the ability to capture, store, and access vast amounts of data with ease and efficiency. These abilities make RFID both an asset and a potential hazard. If used in the wrong hands, RFID could be appropriated for nefarious reasons such as data theft and invasion of privacy. Although RFID technology has been around for over 70 years, few laws directly address RFID or define illegal uses of it. Some of the ways that RFID is used in the following industries are thus explored: marketing, transportation, travel, shopping, supply chain management, agriculture, and hospitals. Some of the benefits, drawbacks, ethical concerns, and legal implications of using RFID technology are included, as well as recommendations for addressing ethical concerns.

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INTRODUCTION

RFID (Radio Frequency Identification) was utilized as a method for aircraft radar as early as WWII (Violino & Roberti, n.d.). Each subsequent decade produced new and innovative uses for RFID. By the late 1960s, electronic article surveillance (EAS) had been developed to prevent merchandise theft (Landt, 2005). By the 1980s, RFID had been incorporated into applications as diverse as animal tracking, personnel access, and automated toll roads (Landt, 2005). Today, RFID is found in everyday items such as credit cards, metro cards, passports, and car keys. Hospitals, hotels, government buildings, warehouses, amusement parks, concert venues, sporting events, libraries, museums, and airports all rely on RFID technology. Much of its appeal comes from the fact that it is small, holds more information than a barcode, and can be powered remotely. However, each novel amenity that technology affords creates new points of access for malicious activity or hacking. In 2003, the ACLU sued a statement arguing that if RFID is improperly implemented, it has the potential to compromise consumer privacy and violate civil liberties (ACLU, 2003). Ethical concerns regarding RFID tracking and data collection are still highly debated today. It is important to examine the uses, benefits, drawbacks, and legal implications of using RFID technology in various industries.

RFID BACKGROUND INFORMATION

How RFID Works

RFID is a technology that uses electromagnetic fields to automatically capture the digital data encoded in RFID tags. It is a simple system that consists of only three components that identifies, collects, and receives data. The devices that identify and collect data act as a RFID reader, which can be either fixed or mobile. The network-connected reader uses radio waves to transmit signals that activate the tag. Once activated, the tag sends a wave back to the antenna, where it is translated into data (Amsler, 2021). The transponder, which receives data, can have a longer read range based on its power source and type of tag. Two main types of RFID tags are active and passive. The active RFID tag has its own power source, and the passive RFID tag receives its power from the reading antenna, whose electromagnetic wave induces a current in the RFID tag's antenna (Amsler, 2021). The data that is received by the tags is transferred to the main computer system, where the data is stored in the database to be analyzed.

Businesses can use the data that is collected to increase efficiencies and create cost saving solutions for the organization. Various features of RFIDs -- read range, frequency, and interference -- are tailored to each organization's processes and needs. RFID technology extends to many industries to perform tasks such as supply chain management, asset tracking, personnel tracking, controlling access to restricted areas, ID badging, supply chain management and counterfeit prevention ("What is RFID," n.d.). Large companies use it to check in and track their extensive employee bases for safety reasons during travel and in the event of catastrophes at any of their many sites.