RFID within the Retail Environment

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RFID in Retail: The Ethical Dilemma

The ethical dilemma surrounding RFID technology in the retail space is the threat to consumer’s informational privacy. This threat is threefold:

1) How the personal consumer information collected by RFID will be used, meaning will it be used by the specific retail outlet or be sold to third parties?

2) Will the marketing research data gathered by RFID result in a surge of direct and targeted marketing toward the consumer?

3) Will RFID be employed as another means of tracking consumer movement within the retail environment?

In order to evaluate the ethical concerns presented, it is important to consider the utilitarian or consequence based theory of ethics. According to this ethical theory, something is deemed ethically right if it provides the greatest amount of good for the greatest number of people. The utilitarian based ethics is supported by the principle of social unity and the belief that social unity can be measured by the amount of happiness produced. The only drawback of this ethical theory is that it ignores the concerns of the minority population.

RFID technology will have a significant positive effect in everyone’s life at one point or another. Therefore it is unethical to stop the development and implementation of this technology only because it may have the potential to be used as a tool in invading informational consumer privacy. The purpose of this paper is to evaluate the use of RFID within the retail space using the utilitarian theory of ethics in determining if this technology is ethical.

Retail Environment: Current Uses

Currently, RFID tags replace the standard UPC bar code system found on all consumer products with a new numbering scheme called EPC, electronic product code. EPC provides a
unique ID for any physical object in the world and unlike the bar code, the EPC assigns a unique number to every single item as opposed to simply identifying product categories as with the UPC.³ “For example, each pack of cigarettes, individual can of soda, light bulb or package of razor blades produced would be uniquely identifiable through its own EPC number”.³ With the EPC number embedded in the RFID tags on each product, the tags transmit this information to a reader thus reducing the need to scan every item.

One company pushing for total RFID integration in the retail realm is the METRO Group, based in Germany. METRO Group has been striving throughout the years to bring RFID technology to all consumer stores. For example, Metro group is designing the “store of the future” that will revolutionize retailer’s channels of distribution, eliminate the bar-code system, as well as provide new forms of advertising. METRO group “together with Intel, IBM, T-Systems and more than 60 other cooperating partners from the IT and consumer goods industries and the service sector are developing feasible concepts for the trade of tomorrow.”⁴ The vision uniting METRO Group and their affiliates involved is “the setting of new technological standards for the consumer goods industry and the speeding up of the modernization process in commerce.”⁴

Presently no infrastructure has been created or discussed as to how RFID technology will be used to build an in-depth consumer profile or how potential users could take advantage of the information gathered by RFID readers. However, there are many consumer perceptions as to how this can happen, as well as many consumer concerns that need to be addressed.

**Consumer Concern #1: Selling Information to Third Parties**

The initial concern surrounding RFID technology in the retail space is the misuse of consumer personal information gathered by RFID readers. The potential for retailers to sell personal information about consumers and their buying behavior to third parties warrants this apprehension. With RFID technology, retailers will be able to collect data on purchasing habits of each consumer and aggregate this information. This is a possibility but in actuality there is little difference between using RFID data collection and what is currently being done with consumer loyalty cards, store specific credit cards, online shopping, and credit cards. Each purchase with one of these items records what was purchased along with the date, time and location of the transaction.⁵ The data is then collected and analyzed for patterns to help stores
understand their customers purchasing behaviors and be able to provide better products and services.

According to a 2004 poll conducted by Boston University’s College of Communication, 86 percent of American shoppers currently use some form of store card or discount card. The same survey also found that although privacy concerns are high, most card holders agree that the benefits of using a loyalty card outweigh possible infringement on personal privacy. Use of loyalty cards is also high in other countries; 76 percent of Canadian consumers and 85 percent of consumers in the U.K. belong to at least one loyalty program. The wide use of consumer loyalty cards demonstrates that consumers are less concerned about providing personal information and what happens to it afterwards as long as the benefits outweigh the costs.

Consumers disclose an incredible amount of information when they apply for a loyalty card and use it regularly. Personally-identifying information includes your name, address, date of birth, bank account and credit card numbers, telephone number or any other information by which you can be personally identified. This information can be collected any time you apply for a loyalty card, enter a sweepstakes or other contests, visit a store’s website, or make a purchase with a method of payment that contains personally-identifying information. As defined by Safeway’s privacy policy this information can be shared with third parties as the store deems necessary. Therefore, many companies already have a significant amount of information about consumers which is shared with affiliates. By using RFID retailers will be able to collect the same information in a more efficient manner. Thus, no new information will be collected or shared with third parties. Safeway’s privacy policy, for instance, states the following:

“We may share information with affiliated companies or third parties as necessary to fulfill your on-line grocery order or other requests for service, and as necessary to obtain payment for products and services we may offer. (Third parties with whom we share information to assist in completing orders do not have the right to use personal information provided to them beyond what is necessary to complete the order.) We also use this information to contact you if you have won a contest or sweepstakes. Safeway may use this information to give you personally-tailored coupons, offers or other information which may be provided to Safeway by other companies.”
In essence, information is not passed around freely between companies and, as stated, is only used to better service the customer. The integration of RFID technology will not require retailers, such as Safeway, to significantly change their privacy policy due in large part to RFID’s primary purpose of better servicing the retailer, not spying on consumers.

Of course consumers can choose whether or not to obtain a loyalty card and instead pay for everything with cash to avoid collection of their information or they can simply take their business elsewhere. Consumers may argue that RFID does not permit consumers the right to choose if their purchases are tracked as opposed to a loyalty card where consumers can simply choose not use one. This is true, but if they pay in cash the purchase will not be connected to them and can still aid the store in tracking and stocking inventory.

The use of RFID in the retail space will collect information in a similar way to how loyalty and credit cards presently collect consumer data, the use of which is widely accepted in the United States and around the world. RFID will do the same thing more efficiently and provide the greatest utility for the greatest number of people. Therefore, consumers should not be concerned with the implementation of RFID.

**Consumer Concern #2: Increase in Targeted and Direct Marketing**

The second concern expressed by consumers is the potential for increased targeted and direct marketing due to the personal information about shopping habits collected by the RFID readers. The thought among consumers is through RFID technology retailers will keep record on how often a consumer shops, what they purchase, which store they purchase from, what brands they are loyal to, and so on. The following scenario clearly depicts this consumer concern:

*Ms. Jones enters the Safeway grocery store to do her monthly shopping. She peruses each aisle picking up items and placing them in her cart. She picks up a box of Kraft Mac-n-Cheese, then decides not to purchase it and places it back on the shelf. At this point an ad begins to play on the LCD screen located on her shopping cart talking about the nutritional values of Kraft Mac-n-Cheese and its quick and easy preparation. Slightly annoyed she finishes her shopping and heads home. The next day in the mail she receives a coupon for Kraft Mac-n-Cheese and other Kraft products. Surmising that this is not a coincidence, Ms.*
Jones discards the coupon and continues on with her day. The following month she enters the Safeway grocery store to again do her routine shopping and a sales clerk approaches her to let her know if she has forgotten her Kraft Mac-n-Cheese coupon he has an extra one.

According to consumers, this situation is made possible through the intricate network of radio frequency waves transmitted from products to readers throughout the store. Ms. Jones had a RFID tag embedded in her Safeway loyalty card, therefore the moment she entered Safeway readers scanned her card and recorded her presences in the store. In addition, the Kraft Mac-n-Cheese had a RFID tag on its packaging containing a box specific number and the moment Ms. Jones picked up the item the shelf reader made note of the missing product in the inventory database. Once Ms. Jones replaced the product, the shelf scanner re-recorded the product back on the inventory list as well as sent information to a customer database noting that Ms. Jones at 1234 W. Street, US, America 8000 picked up the item but did not place it in her cart, therefore did not purchase the item. This in turn sends information to the LCD screen on Ms. Jones’s cart cuing the Kraft advertisement. The information is then stored and sent to the Kraft marketing department which quickly sends out a coupon to Ms. Jones in hopes to entice her to purchase their product. Once Ms. Jones enters the Safeway store again a sensor scans her RFID embedded loyalty card and a signal is sent to all on floor employees noting that she needs a Kraft Mac-n-Cheese coupon and if they get her to buy the product they will receive a commission.

In reality this situation is extreme and very unlikely. First of all, the cost for a company to market to an individual in this capacity is far too expensive to justify. Convincing Ms. Jones to purchase a $1.95 box of Kraft Mac-n-Cheese would cost Kraft ten times over, thus equating to a negative return on investment. Furthermore there currently is no evidence that individual manufactures will have access to this information on a store-by-store basis and even on an individual consumer basis.

The effects RFID technology will have on marketing efforts targeted to consumers will be similar to marketing efforts derived from consumer loyalty cards, store specific credit cards, internet shopping, and even a common Visa credit card. As stated previously, a majority of American shoppers use some form of store card or discount card, and say the benefits of the card are worth giving up some privacy. Furthermore, one of the most common uses of information
gathered from these loyalty cards is to target consumers with specific coupons and promotions on behalf of grocery manufacturers.\textsuperscript{7}

Popular websites such as Amazon.com and eBay.com target consumers with highly specialized marketing. Product recommendations are made based on what products a computer has previously searched for or looked at. Also, once a product is purchased suggestions are given for items that would go with the product. Suggestions are even made regarding products purchased by similar customers who also purchased what you just did.

It is important for consumers to remember that many companies try to preserve their reputation. If a company is known for irritating consumers with an over abundance of targeted marketing, it is assumed that the consumer would stop purchasing that product. Therefore any form of marketing based off information gathered from RFID will be handled carefully and will most likely take the form of a coupon or discount. Many consumers would agree that discount and coupon offers are the primary benefits, thus confirming why many consumers have store loyalty cards.

Furthermore, based on the utilitarian ethical theory, any form of coupon or discount generated from consumer research obtained by RFID readers would be seen as a benefit for the greater good. If the comparison to other consumer data tracking devices is made, i.e. credit card, store loyalty card, online shopping, etc. then one could say the minority in this situation would be an individual who does not participate in any of these things. However, to function in U.S. society it is imperative to at a minimum own a credit card otherwise obtaining things such as a mortgage for a home, a car loan, a rental car, a hotel reservation, etc. are extremely difficult if not impossible.

**Consumer Concern #3: Addressing Consumer Tracking**

The final concern among many groups opposing RFID is the threat to consumer privacy, more specifically utilizing RFID in order to track consumer movement within the retail space. However, these fears are unfounded. The consumer advocacy groups have labeled RFID from the beginning as “spy technology,”\textsuperscript{8} implying that its main purpose is to spy on consumers. This assumption could not be more wrong.

If every individual consumer product is labeled with a RFID tag, it becomes quite simple for retailers/manufacturers to track each individual item throughout the supply channel; from the
manufacturer to the consumer and any point in between. “It is estimated that 50% of all goods harvested in U.S. are unsold and end up not purchased and discarded”.9 As of now, companies produce goods in hope that consumers will purchase them. The ability to track individual products would allow retailers to dramatically improve the use of resources and better match supply and demand, eliminating production of goods that are not desired by anyone. Furthermore, as companies begin to experience the savings associated with RFID, competition will force them to pass along some, if not all, of the savings to the consumers. Therefore it becomes quite clear that the retailers are more interested in tracking products than people.

Currently, retailers employ “video surveillance and in-store observers as the primary means of collecting customer activity data”.10 Even if every individual product is outfitted with a RFID tag, and receivers are strategically located throughout the retail space, the level of detail and specificity of the information collected will never match that of video surveillance and in-store surveillance. Video surveillance has reached a level of sophistication where it can be employed to track the movement of the consumers throughout the entire duration of the shopping experience. This kind of data can also be collected using RFID. However, video surveillance is able to collect data on consumer behavior, such as: facial expressions, body language, etc. RFID does not have the capabilities to collect this kind of data; it can only collect data regarding the location of the consumer. Therefore, it is unlikely that RFID will ever replace video surveillance. Since RFID does not provide retailers with more detailed or specific information about consumers than current technology permits, it follows that retailers are pushing for adoption of RFID within the retail space for reasons other than the tracking of consumers. Using RFID to track the individual products will result in concrete reductions in costs, while tracking consumers through the use of RFID will provide information that is already available to retailers. Therefore, RFID does not represent a bigger threat to consumer privacy as compared to the traditional marketing research methods employed by retailers today.

Moreover, if the consumer privacy groups decided to file a law suit against any major retailer for using RFID, they would end up fighting a loosing battle. “The U.S. Supreme Court has ruled time and again that individuals have no reasonable expectation of privacy in public venues.”11 Even though the law is on the side of the retailers, no rational business would risk alienating its customers in order to collect data that is already available through methods deemed acceptable by the customers. It took many years for customers to accept the use of video
surveillance, and the importance of the following statement cannot be stressed enough; it is highly unlikely that many retailers would risk introducing a new method of consumer surveillance especially if it does not provide more substantial information than is already available. Therefore, retailers are more interested in utilizing RFID to track individual products rather than consumers.

Taking into account the economic benefits that retailers will be able to achieve by tracking products rather than consumers and the fact that the law does not object to the use of RFID within the retail space, the focus will shift to the ethical implications that will result if RFID is not implemented. Using the utilitarian ethical theory, it will become evident that RFID technology will benefit the greatest amount of people, therefore creating the greatest amount of good for society.

Recently, salmonella infected spinach was sold through major grocery retailers. The results were disastrous for consumers, resulting in dozens of cases of serious illness and a few deaths. What followed was a nation wide recall of all spinach products and destruction of an entire harvest. In this situation, had RFID technology been used the number of illnesses would have been dramatically reduced and deaths prevented.

Product recalls are one of many areas where the use of RFID will prove extremely useful. As soon as consumers are identified as having suffered from salmonella poisoning from the consumption of spinach, authorities using retailer’s databases will be able to identify the defected goods in a matter of minutes, not only which region of the country they come from, but more importantly the individuals who purchased the items. Consumers who have purchased infected goods can be contacted immediately, in conjunction with the elimination of all defective spinach already in the supply chain. Furthermore, RFID provides a process to ensure that all defective products sold are replaced, without the use of RFID this level of certainty is impossible to achieve. The end result is that RFID could have saved lives in this particular situation or in any other product recall. How does one compare the worth of an individuals live versus a perception of invasion of consumer privacy.

The safety and well being of our society is at risk, because RFID is yet to be implemented. Using RFID will make product recalls much more efficient and thorough, ensuring that the greatest amount of people benefit. This is only one example of the ethical considerations that result from not implementing RFID within the retail space.
Another area where all consumers stand to benefit is tagging all prescription drugs sold through pharmacies. RFID will guarantee authenticity of all prescription drugs and ensure that patients requiring specific medications receive them in a timely manner. This eliminates medical errors; patients taking wrong medications or not receiving medication on time “kill 45,000 to 90,000 people in United States each year (more than car accidents or breast cancer).” Once again, saving thousands of lives cannot be less important than eliminating a perceived threat to consumer privacy.

Based on the survey conducted by the National Retail Federation regarding the use of RFID, it is clear that the individuals who are opposed to the implementation of RFID are a minority of the population. The survey found that only 10% of the population is opposed to the implementation of the RFID. If the goal is to achieve the greatest good for the greatest number of people, then it follows that RFID should be implemented.

Conclusion

The implementation of RFID poses no additional threat to consumer informational privacy. However, consumer advocacy groups’ site three major obstacles to the introduction of RFID within the retail environment:

1) Distributing consumer’s personal information to third parties.
2) Increasing direct and targeted marketing toward consumers.
3) Tracking consumers within the retail space.

Contrary to these objections, RFID technology does not allow retailers to collect any additional information than is already being collected through consumer loyalty cards, store specific credit cards, online shopping, or credit cards. The perception that RFID will increase the trading of personal information is unreasonable because RFID will only streamline current marketing research methods not uncover any new personal information about the consumer. Although opportunities to direct marketing efforts more specifically to the consumer may arise, it will prove to be too costly to implement. Furthermore, one of the most preferred benefits identified by consumers when willingly providing their personal information to retailers is the expectation...
of discounts and coupon offers. RFID targeted and direct marketing will increase the level of price reduction and product promotions. The main motivation for retailers to implement RFID is to track individual products through the supply chain, not consumers. Tracking products will result in cost savings for retailers, manufacturers, and consumers. Overall, the implementation of RFID will not result in an increased invasion of personal information privacy because it does not have the capability to uncover any additional information about consumers.

Not implementing RFID would constitute an unethical act based on the utilitarian theory of ethics because RFID has the potential to benefit every consumer at one point or another. This technology should not be ignored based on false consumer perceptions derived from extreme and highly unlikely scenarios. RFID represents the compromise between the future of marketing and retail while not additionally invading consumer informational privacy. Therefore, RFID stands to benefit the greatest number of consumers within society.