



# EXPLORING THE “VALUE EXCHANGE”: CONSUMER WILLINGNESS TO TRADE PERSONAL INFORMATION FOR SELF-SERVICE ACCESS TO LOCKED MERCHANDISE

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*Abstract: retailers apply retail friction to thwart retail crimes. This study examines: (1) how burdensome locked merchandise is to legitimate customers ("green guests"), and (2) whether customers are willing to exchange their personally identifiable information (PII) for the convenience of self-service access to locked merchandise. Results from mystery shoppers and a survey of 770 Americans indicate that many customers are dissatisfied with traditional locking case; furthermore, many are willing to exchange their PII for reduced friction, suggesting that this value exchange may be a viable asset protection and sales strategy.*

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**EXECUTIVE SUMMARY**

**Background**

Many retailers use locking showcases, locking peg hooks, take-a-ticket systems, and other methods to protect merchandise; unfortunately, all these approaches add friction by reducing customers’ self-service access to products. These strategies protect against a small group of retail offenders but at great cost to customers and retailers – customers are inconvenienced and dissatisfied; on the other hand, retailers lose sales and bear the burden of increased labor costs. In other words, locking merchandise is a very inefficient use of loss prevention friction.

Recently, Indyme introduced the Freedom Case – a self-service locking case that has the *potential* to revolutionize locked merchandise. The Freedom Case is based on the idea of the “value exchange” in which shoppers exchange some form of personally identifiable information (PII) for the convenience of self-service access to locked merchandise. The Freedom Case can be configured with one of many self-service access methods including a retailer’s app linked to their personal information, loyalty card information, their cell phone number, or even Face ID (i.e., facial recognition). Of course, guests can still “opt-out” and simply request customer service – in other words, customers are given greater choice, and therefore greater control, during their shopping experience. This approach gives guests with heightened privacy concerns the ability opt-out and complies with many privacy laws and best practices since guests are given the choice to opt-out and are not penalized for doing so.

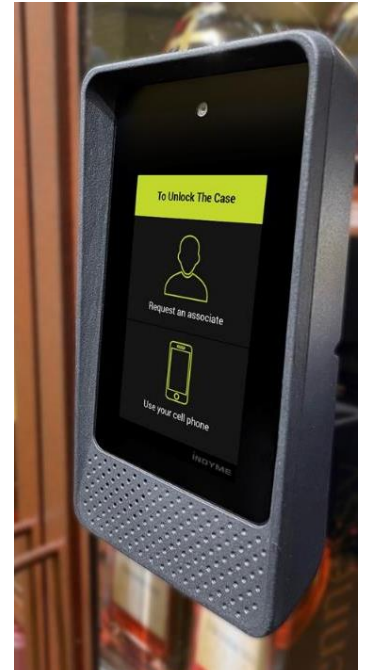


Figure 1: Freedom Case Touchscreen



Figure 2: Large Format Freedom Case

Guests who opt-in for self-service access are first authenticated using one of the methods above. Once they access the case, their behavior is monitored, including the number of items removed, the duration the case is open, and the frequency of accessing any Freedom Case. Data related to all these behaviors is collected and stored in the cloud to detect and differentiate normal shopping behaviors from suspicious behaviors. If suspicious behaviors are detected, the Freedom Case deploys active deterrents and notifies store associates in real time. Suspicious guests are also timed out, meaning their self-service privileges are suspended for a period of time.

As mentioned, the Freedom Case is built on the idea of a value exchange. Value exchanges occur any time we trade effort or resources to achieve some outcome or benefit. For example, Facebook may be “free” in terms of financial costs to users, but the users give up a wealth of their personal information to use the service. In the case of the Freedom Case, individuals could trade their PII for the convenience of self-service access to locked merchandise.

Theoretically, anyone with intentions to steal would be reluctant to share this information because doing so would put them at greater risk of apprehension and prosecution. In other words, offenders’ PII is very valuable to them.

However, legitimate customers may be willing to give up their information for a more convenient shopping experience. Of course, all of these issues must be researched to understand whether this is a viable loss prevention strategy. If research proves that consumers are willing to exchange PII for convenience, this potentially powerful concept may lead to a myriad of loss prevention innovations and widespread reductions in retail friction.

## Purpose of this Study

This research uses the Freedom Case as an opportunity to examine the viability of using the value exchange as a loss prevention strategy. This report answers four questions:

- (1) How (in)convenient is locked merchandise for customers?
- (2) Are customers willing to trade PII for the convenience of self-service access to locked merchandise?
- (3) Are members of different demographic groups more or less willing to engage in the value exchange?
- (4) In their own words – what do customers (dis)like about locked merchandise and the idea of the value exchange, and what products would they like to have greater access to via a solution like the Freedom Case?

## Methods

Data were collected using two survey methods. First, 99 mystery shoppers were sent into multiple retailers with differing store formats to quantify the shopper experience accessing merchandise from locked cases. Using a specialized app, mystery shoppers timed how long it took to obtain service from store associates, took images of the locked cases, identified if shopper help buttons were in use, and noted the merchandise they attempted to purchase.

Second, 770 shoppers with recent experiences purchasing locked merchandise were surveyed to: (1) understand their satisfaction with the process and (2) test their willingness to trade various types of PII for self-service access to locked merchandise. This personal information is considered the “cost” or “price” consumers must pay for the value of convenience. This large 770 shopper survey was conducted with shoppers whose demographic makeup closely matches that of the U.S. population. This was done not only to ensure the validity of the findings but also to explore whether, and to what extent, willingness to engage in the value exchange differs according to age, gender, household income, ethnicity, and geographic region of the country.

## Summary of the Findings

Unsurprisingly, the shoppers viewed purchasing locked merchandise as both inconvenient and dissatisfying. Results from the mystery shoppers indicated that it took approximately 1.5 minutes to retrieve locked merchandise and 42.5% of mystery shoppers wouldn't have gone through the effort to make the purchase if not for the assignment. Importantly, when these mystery shoppers were asked what they would do instead, the plurality (approximately 38%) said they would simply not make a purchase, while many others would choose to go to a different store where merchandise is not locked, would purchase a less expensive product that was not locked up, or would make the purchase online.

In the 770-person survey, 63% of shoppers said their most recent experience with locked merchandise was inconvenient or very inconvenient; furthermore, a substantial proportion were *either dissatisfied or very dissatisfied* (34.29%) with their most recent experience. When survey respondents were asked open-ended questions about their experiences with locked cases, many noted the inconvenience of the experience, the embarrassment of asking for assistance purchasing personal products (e.g., contraceptives and feminine hygiene products), and feelings of being treated like an offender.

## Customers are Willing to Make the Trade

Given customer's disdain for locking cases, we were not surprised to find that they *were very willing* to trade PII for self-service access to locked merchandise; however, this willingness depended on the type of personal information exchanged. Shoppers' responses to open-ended questions indicated that they viewed exchanging loyalty card and retailer app information as information retailers already possessed. Forms of information were not viewed as intrusive and as such were not considered very valuable (or carrying a high cost). This led to very high acceptance rates using these identifiers. Fully 91% and 87% of shoppers respectively reported they would be likely or very likely to use these methods of identification under this scenario. Cell phone numbers were the next most acceptable form of self-identification with 68% of shoppers indicating they would be likely or very likely to use this method. As the identification method pivoted to biometric identification such as Face ID or fingerprints, shoppers became significantly less comfortable, reporting only 39% for Face ID and 37% for fingerprint. These forms of identification were viewed as significantly more intrusive and therefore more costly as trading stock.

We can see the value exchange in action here. The convenience of self-service access to locked merchandise is the value shoppers receive, and the PII is the cost to shoppers which they must trade to receive this value. The perceived value of self-service access does vary somewhat. For example, although the vast majority of shoppers find the locked case experience inconvenient, not all shoppers view accessing locked merchandise as "very inconvenient." There is a small variation in the perceived value of this convenience, however, the larger effect was the cost as represented by the type of personal information being traded. Showing a loyalty card, using the retailer's app, or supplying a cell number were broadly acceptable. Biometrics were viewed as too costly to trade for this amount of convenience. It should be noted that in the written comments, shoppers were concerned trading information they perceived the retailers didn't already have, such as biometric information. There was also significant concern with the retailer's ability to protect this personal information. Given the number of data breaches in the news media, these concerns are somewhat understandable.

## Demographic Characteristics Have Little Influence

A surprising finding of this study is that there are few differences in shopper's perceptions of this Value Exchange across demographic attributes. One hypothesis going into this research was that younger generations would be more comfortable with biometric forms of identification. After all, younger shoppers use face ID to access their phone and to make payments. This turned out not to be the case, as there was not a statistical difference based on generation. This also proved to be the case across all other demographic attributes including, gender, ethnicity, household income, and geographic region. There were some small differences, but these were not substantively meaningful. In other words, the results from the survey research indicated that shoppers across nearly all demographic profiles are equally willing to exchange their PII for a more convenient experience.

## Conclusion

Overall, the findings reflect a rational view of the value exchange. Locking up merchandise is inconvenient to customers, but the mystery shopper and survey results indicate that shoppers are willing to trade PII for self-service access to locked merchandise. However, as the intrusiveness and therefore the perceived cost of the PII increases, the comfort and likelihood of using these methods decreases. The value shoppers received in return for the cost of the PII was largely fixed. The resulting decline in likeliness to use each increasingly intrusive method follows a rational economic view of cost versus value. The research suggests that the value exchange is a viable strategy for protecting merchandise while providing customers with a more convenient shopping experience. Additional research is being conducted on the effect of the Freedom Case on shrink and sales in real-world environments.

## INTRODUCING THE VALUE EXCHANGE AND THIS STUDY

The Nobel Prize-winning economist, Milton Friedman, once said “there is no such thing as a free lunch.” In other words, everything we do has a cost, and these costs can take many forms. For example, these costs can be direct, such as the price we pay for a product or service; or they can be indirect, such as the transportation costs of travelling to a store to make a purchase. Of course, every time we make a choice, we give up all other competing options – these are known as opportunity costs. Once we take this cost into account, we quickly realize that Friedman was right – nothing in life is free – even the act of breathing requires energy.

Likewise, those things for which we pay money *or expend effort to acquire* have value to us – in economic terms, this value is called “utility.” We consciously or sub-consciously assign utility or value to nearly everything we acquire or do. This utility or value can take many forms. For example, the utility of clipping coupons is the discount we receive; the utility of giving our personal information to Facebook and Twitter are the social benefits of the services; and the utility of exchanging our personal information (e.g., home address, name, credit card information, browsing history) to have products shipped to our homes is the convenience of online shopping. We are all very accustomed to making these **value exchanges** every day in our personal lives. Facebook and Tik Tok are “free”, but are they *really* free? Users of these platforms are consciously or unconsciously exchanging a significant amount of personal information for the value provided by these social media platforms. As they say, you are the product with Facebook.

If everything has a cost, and everything has value or utility (including convenience), then this provides an excellent framework for reconsidering how we “do” loss prevention. For example, imagine if retail guests could do something that let retailers know they are unlikely to be a retail offender? If this was true, retailers could let their guard down with respect to that guest; more importantly, they could remove retail friction that should only be applied to those who are likely to be retail offenders.

This research intends to explore the concept of the value exchange as it applies to locked merchandise in brick-and-mortar retail environments. First, we hypothesize that locking up merchandise is costly to consumers in terms of inconvenience. More specifically, the study hypothesizes that the inconvenience is so costly that a non-trivial percentage of customers will be unwilling to pay it to purchase merchandise. Second, we hypothesize that customers will be willing to exchange their personal information, especially less intrusive forms of personally identifiable information, for the convenience of self-service access to locked merchandise.

### Theoretical Foundations

This study assumes that humans are goal-oriented – that is every action or transaction involves costs that must be paid (e.g., financial, social, privacy, etc.) to achieve some valued outcome. We have briefly described this value exchange in the preceding section. However, there are additional costs involved in actions and transactions – namely opportunity costs and costs to other parties. Opportunity costs are the opportunities that are forfeited whenever we make any decision. For example, if a person chooses to wait for a customer service associate to retrieve locked merchandise for them, they give up their time and the opportunity to perform other tasks.

This is an important concept for this research, because if individuals choose not to purchase an item because it is inconvenient to do so, then we can assume that they value their time more than they value the time, effort, and opportunity costs required to retrieve and pay for the product. In other words, they are being asked to pay more than they are willing to, for the value they receive.

But why do retailers ask customers to pay for these products with their time and effort? Retailers do this because of other people, namely retail offenders! Retailers lock up merchandise to reduce product shrink, and this approach affects all guests, regardless of their criminal intentions. Of course, every transaction and choice affects others who are not directly involved in that transaction or choice; these are referred to as **unintended consequences** or **externalities**. Externalities can be positive or negative; the classic example of a **positive externality** would be a bee farm that pollinates the wildflowers on a Florida highway, thereby beautifying the scenery – the commuters on the highway did not pay for this benefit, yet they receive it because of the beekeeper’s economic activity. On the other hand, industrial air pollution is a classic example of a **negative externality** - industrial activity creates pollution that others did not bargain for; however, they must bear the negative health consequences associated with pollution.

## Loss Prevention Friction as a Negative Externality

In retail loss prevention, there are opportunity costs and externalities associated with product protection. In some cases, retailers have made a devil’s bargain that costs them, their customers, and society. One example is the use of locked showcases to protect valuable merchandise. Evidence suggests that these add **retail friction** which results in lost sales. Retail friction costs every guest, regardless of their criminal intentions, time and effort; furthermore, it costs retailers one of their greatest assets – the opportunity to make a sale when a customer is ready to buy. Retail friction is a negative externality of rational choices of retail offenders. Law abiding customers (**green guests**) are forced to experience additional friction because of retail offenders’ (**red guests**) actions. In other words, law abiding guests are punished because of the actions of a very small percentage of retail offenders.

**This creates several economic and moral challenges and questions that must be answered.** First, how can all costs and benefits be **justly** applied to the appropriate parties? How can retailers avoid punishing green guests for their trustworthiness while still adding friction to red guests? How can retailers provide as much value to as many trustworthy guests as possible, including those who know that they do not deserve to be treated like a thief and those who simply do not want to wait for a customer service associate to unlock a case? All of these questions are focused on how retailers can reconfigure value exchanges and trade-offs so that costs and benefits are applied to the appropriate parties.

## Rational Choice, Situational Crime Prevention, and Reassigning Costs

According to rational choice theory, individuals are self-interested and will commit a crime when the perceived benefits outweigh the perceived costs. Theoretically, if we could assign a value to the benefits of an action and the negative consequences of an action, then we could predict whether an individual would engage in that action based on whether the *value* of the benefits outweighed the *value* of the costs.

Situational crime prevention provides insight into some of the factors that should, theoretically, affect retail offenders’ perceptions of the **net value of a theft**. This includes the: (1) perceived effort required to steal, (2) perceived risks associated with stealing, and (3) perceived value of the merchandise. Retailers could dissuade thieves from stealing if they reduced the perceived value of the merchandise; however, this is rarely a desirable option because retailers want their customers to perceive their products as valuable!<sup>1</sup>

However, retailers have other options – they can increase the risks associated with stealing and the effort required to steal. Locked showcases are built on the concept of target hardening, that is, increasing the effort required to

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<sup>1</sup> Of course, there are benefit denial solutions that reduce the perceived value of items to red guests but not green guests such as *point of sale activation* solutions, tags and labels that are difficult to remove and that make resell more difficult, and other solutions.

commit theft. In this case, retailers have one more factor to manipulate – they can increase offenders’ perceived risks of committing crime. If retailers could add perceived risk (costs) to offending but not to legitimate shopping, then the cost of retail theft would be *justly* shifted away from legitimate customers to retail offenders.

One potential solution is to find something that is very valuable (in terms of risk) to offenders but is of negligible value to those who are trustworthy. Theoretically, one of the most valuable things a retail offender has is their personally identifiable information (PII) – if retailers know who offenders are, where they live, or how to find them, then retailers could provide this PII to law enforcement and offenders would experience the costs of their behavior. Of course, personally identifiable information is also valuable to green guests; however, it would be less valuable to them than those who risk criminal prosecution. This is especially true if they have the *choice* to give up their PII; believe their PII will be adequately protected; and believe that this exchange will *only* provide them a benefit relative to current retail practices – practices like locking up products that punish them for the actions of retail offenders.

### **Will Customers find Value in Exchanging their PII for Reduced Friction?**

Retailers may be able to reconfigure loss prevention and security strategies by making the amount of retail friction that is applied to guests conditional on whether guests *freely* identify themselves. As mentioned, this would apply costs (risk of criminal sanction) to those who intend to offend and provide benefits (reduced retail friction) to legitimate customers (relative to current retail practices).

One loss prevention solution that leverages the value exchange is Indyme’s Freedom Case. The Freedom Case is a self-service locking showcase – this case has a user interface that allows individuals to give up some personally identifiable information to unlock the case. Currently, the case can be configured so that guests can exchange either their cell phone number, loyalty card information, retailer app with their customer account information, or even with Face ID. One other potential is for guests to exchange their fingerprint for access; although this is not currently an option provided by Indyme.

Of course, customers are also given the option to simply call an associate – they are not denied access if they choose not to exchange their PII, they may simply continue to follow current retail processes for unlocking cases. In other words, relative to current practices, the Freedom Case is not more intrusive, it simply provides guests greater choice – they can choose to exchange their PII based on their subjective valuation of both reduced friction and their PII. If a retailers’ desire is to reduce retail friction for the greatest number of legitimate customers, then, theoretically, the Freedom Case has the potential to accomplish this.

Furthermore, the Freedom Case is equipped with technology to detect suspicious behaviors such as the removal of large quantities of merchandise, forced entry into the case, how long the case is open, and frequency of access by individual guests. If any of these are detected, the Freedom Case is equipped with active deterrent features, such as the ability to notify the guest that customer service is on their way to assist them, as well as sending a message over the public address (PA) system. Finally, the Freedom Case can also notify store personnel over existing communication devices such as two-way radios, smart devices, personal communicators or other devices to provide immediate notification to associates of suspicious activities.

### **Answering the Research Questions**

The preceding sections set the theoretical stage for the questions that are asked by this paper. The LPRC is in the process of examining whether the Freedom Case has a beneficial effect on sales, labor, and retail shrink; however, we also need to know whether legitimate customers are willing to trade their PII for reduced retail friction.



Furthermore, to establish whether the Freedom Case would offer customers a benefit relative to their experiences with traditional locking showcases, we need to understand whether customers are dissatisfied with traditional locking showcases.<sup>2</sup>

The current study uses two sources of data to answer these questions. First, we utilized 99 “field agents” to conduct mystery shopper research and report their experiences with locked merchandise. In Table 1 below, this sample is described in the column labeled “Mystery Shopper Sample;” an attempt was made to ensure the diversity of the sample; however, this sample was not intended to be representative of the American population.

Mystery shoppers were split into two groups – those who visited “large format” stores (i.e., grocery and general merchandise retailers), and those that visited “small format” retailers (i.e., drug stores). The “large format” sample were asked to find **up to three** instances of locked merchandise and get assistance retrieving the merchandise; those who visited “small format” stores were asked to find **one** instance of locked merchandise and get assistance with accessing the merchandise. The mystery shoppers took a photo of the locked merchandise and recorded: (1) how long the process took; (2) the ease of the process; (3) any “call an associate” technology available; (4) how they received the product (e.g., whether they were handed the merchandise or picked it up at the front); (5) whether they would have gone through with the process if not for the mystery shopper assignment; and (6) whether they would have done something other than wait for the products if not for the assignment (e.g., bought a similar unlocked product, purchased the same product online, etc.).

Second, we collected data from a survey of 770 “Field Agents” who completed a survey via the Field Agent platform.<sup>3</sup> This sample is described in the column labeled “Survey Sample.” Attempts were made to ensure that it resembled the diversity of the American people; this includes Americans of every sex, race/ethnicity, income level, region, and age. The characteristics of the American population are described in the table for comparison purposes. Nevertheless, the survey consisted of a set of questions regarding their personal demographic information, their satisfaction with their most recent experience with a traditional locking case, and their personal willingness to wait for service at a traditional case. Next, they were presented with a series of questions about their perceptions of the Freedom Case and its access options. Finally, respondents were given the opportunity to summarize their perceptions of the Freedom Case by answering two open-ended questions.

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<sup>2</sup> This paper is just one of several LPRC report that examine customers perceptions of and experiences with traditional locking cases; there are more to come in 2021.

<sup>3</sup> The research plan included 100 Mystery Shoppers and 800 survey respondents; however, the Field Agent service only provided data from 99 Mystery Shoppers and 770 Field Agent survey respondents.

**Table 1. Participants' Demographic Characteristics Relative to Representation in the US Population**

Demographic Variables	Mystery Shopper Sample Percentage (Frequency) <i>n</i> = 99	Survey Sample Percentage (Frequency) <i>n</i> = 770	Percentage in the American Population <sup>4</sup>
Gender			
Female	48.48% (48)	50.52% (389)	50.80%
Male	51.52% (51)	49.48% (381)	49.20%
Annual Household Income <sup>5</sup>			
Less than \$35,000	30.30% (30)	28.90% (202)	36.67%
\$35,000 – 49,999	11.11% (11)	17.17% (120)	13.87%
\$50,000 – 74,999	19.19% (19)	20.17% (141)	17.70%
\$75,000 – 99,999	10.10% (10)	14.31% (100)	11.39%
\$100,000 – 124,999	6.06% (6)	9.01% (63)	7.57%
\$125,000 – 149,999	3.03% (3)	5.44% (38)	4.45%
\$150,000 and greater	4.04% (4)	5.01% (35)	8.34%
Prefer not to say	16.16% (16)	9.22% (71)	—
Race/Ethnicity <sup>6</sup>			
African Am./Black	18.18% (18)	18.05% (139)	12.60%
Asian American	11.52% (8)	5.19% (40)	4.80%
Caucasian/White	36.26% (36)	51.04% (393)	63.70%
Latino/Hispanic	22.22% (22)	16.49% (127)	16.30%
Native American	2.02% (2)	1.17% (9)	0.90%
Multi-racial/ethnic	4.04% (4)	5.32% (41)	2.90%
Other	6.06% (6)	2.73% (21)	5.50%
Region			
South	—	44.37% (339)	37.10%
West	—	31.68% (242)	23.30%
Midwest	—	15.84% (121)	21.68%
Northeast	—	8.12% (62)	17.92%
Age Ranges <sup>7</sup>			
18-29	21.21% (21)	31.69% (244)	~24.09%
30-44	55.56% (55)	31.69% (244)	28.36%
45-59	21.21% (21)	26.36% (203)	30.00%
60-74	1.01% (1)	10.26% (79)	17.55%

<sup>4</sup> Results from the 2010 US Census were used because the study was designed prior to the release of the 2020 US Census results.

<sup>5</sup> Income distributions are drawn from the US Census Bureau, Current Population Survey, 2011 Annual Social and Economic Supplement

<sup>6</sup> Percentages of the racial and ethnic groups do not sum to 100% because of how race and ethnicity are recorded in the US Census and how they have been measured here. The US Census divides the race and ethnicity questions into two questions: first, respondents are asked whether they are Hispanic or Latino, or not; second, respondents are asked their race. This approach does not permit the simple categorization of individuals into Hispanic Black and Non-Hispanic Black, among other categories.

<sup>7</sup> Age groups used here are different than generations used in later tables; this is because the US Census reports the age distribution using age categories that are less meaningful in some ways than generation-based categorization (i.e., Gen X, Y, Z, and Baby Boomers).

Furthermore, the representation of 18-29 year-olds must be approximated because the Census reports those who are 15-19 and 20-24.

Finally the sample used in this study was restricted to ages 18-74; therefore the proportional representation of these age groups are calculated using the total number of 18-74 year-olds according to the US Census as the denominator, and the total number of Americans belonging to each group as the numerator.

## QUANTITATIVE FINDINGS: EXPERIENCES WITH TRADITIONAL SHOWCASES

Before changing things in retail locations, we must first understand whether customers are satisfied with existing retail practices; this will establish a baseline. For example, if customers are generally satisfied with the process of retrieving products from locked cases, then there is no need to innovate and reduce friction.

### Mystery Shopper Research: Experiences with Locked Merchandise

There were 99 mystery shoppers who provided data for this part of the study; however, there were 40 participants who visited “small format” retailers (i.e., drug stores) and found one instance of locked merchandise, and 59 participants who visited “large format” retailers (i.e., grocery and general merchandise) and asked for assistance with **up to three** instances of locked merchandise. In total, the mystery shoppers reported 162 experiences with locked merchandise (123 in large format stores and 39 in small format). Figure 1 shows the amount of time in seconds it took, on average, to retrieve locked merchandise from various areas of a store across all sectors as well as by sector.

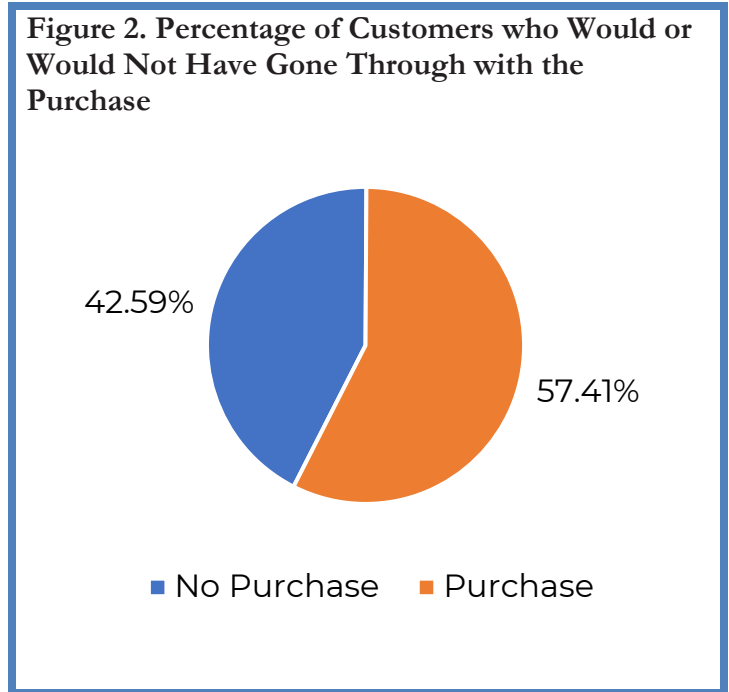
**Figure 1. Mean Time (In Seconds) to Retrieve Merchandise**

In-Store Location	Retail Sector			
	All Sectors	Grocery	General Merch.	Drug Store
At Service Counter	105.28	111.58	67.48	—
At Front of Store, Near Checkout	70.44	28.64	188.65	—
In Store Aisle	91.00	83.5	126.20	61.97
Not Displayed, Take-a-Ticket	45.27	66.81	—	—

*Note: some cells are omitted because there were too few observations*

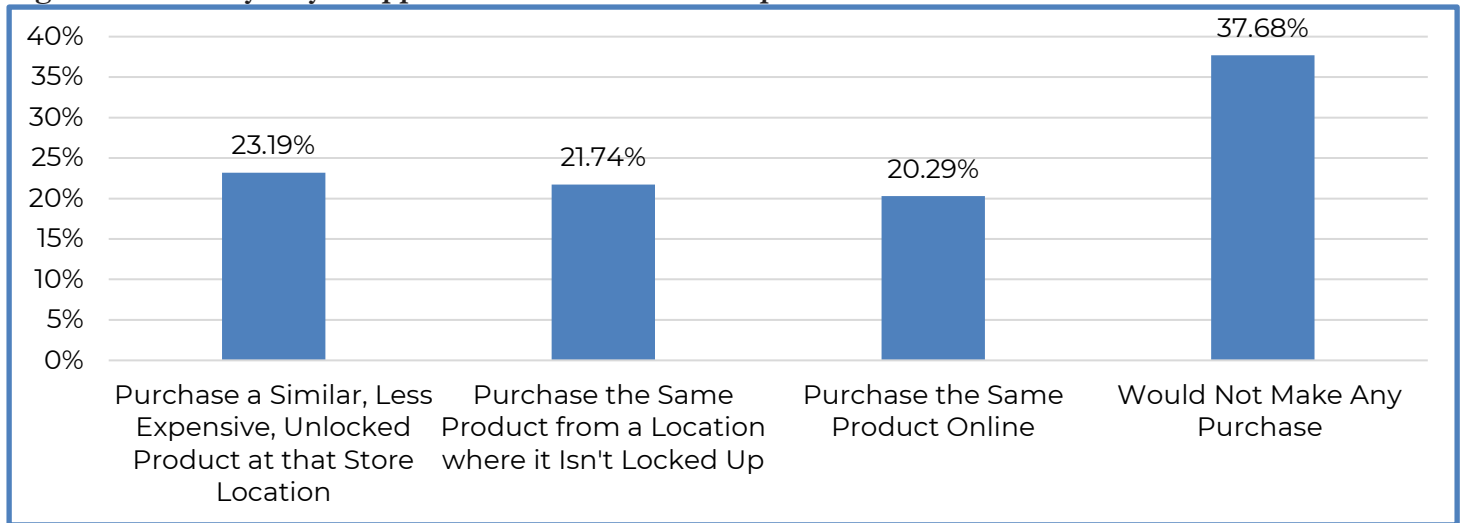
Overall, it took longer to retrieve merchandise at a service counter at grocery stores (111.58 seconds) than general merchandise retailers (67.48 seconds); however, it took longer for customers to retrieve merchandise at the front of the store (188 seconds) or in store aisles (126.20 seconds) at general merchandise retailers than at counters (83.5 seconds) or at the front of grocery stores (28.64 seconds). Nevertheless, the results indicated that, regardless of format or sector, on average it takes approximately 1.5 minutes for customers to retrieve the product.

Next, mystery shoppers were asked if they would have gone through the effort to complete the purchase if not for the assignment. Figure 2 shows the proportion of experiences where mystery shoppers said they would or would not have completed the purchase. The results indicated that nearly 43% of the mystery shoppers would not have gone through the effort of making the purchase if they weren't required to by the assignment.



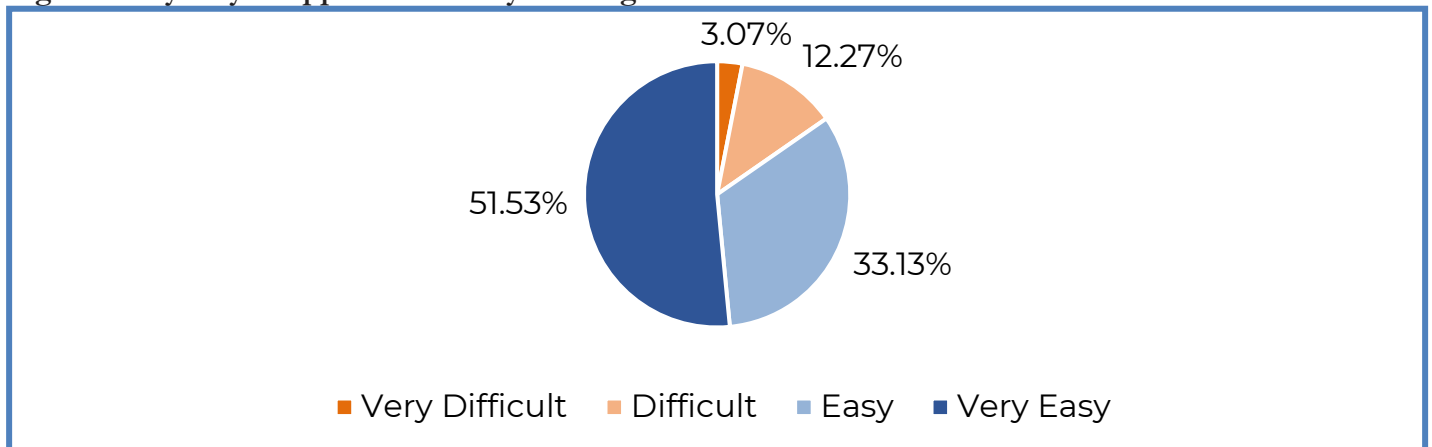
Next, the mystery shoppers were asked what they would have done instead if not make the purchase. Figure 3 shows what the mystery shoppers would have done. These options were not mutually exclusive, that is, mystery shoppers were able to select all the alternative actions they would likely take. The results indicated that 23% would have purchased a similar but less expensive product at the same store location; nearly 22% said they would have purchased the same item from a store where it was not locked up; 20% said they would purchase the same product online; and nearly 38% said they would not make a purchase at all.

**Figure 3. What Mystery Shoppers Who Would Not Complete the Purchase Would Do Instead**



Interestingly, the mystery shoppers were also asked “how difficult was it to find an associate who could unlock the case?” The mystery shoppers’ responses are summarized in Figure 4. 51.53% said that it was very easy, 33.13% said that it was easy, 12.27% indicated that it was difficult, and 3.07% said it was very difficult. One possible explanation for the ease of locating a store associate is that several shoppers encountering locked cases at the front of the store near the checkouts or at service counters where service is readily available.

**Figure 4. Mystery Shoppers’ Difficulty Finding Customer Assistance**

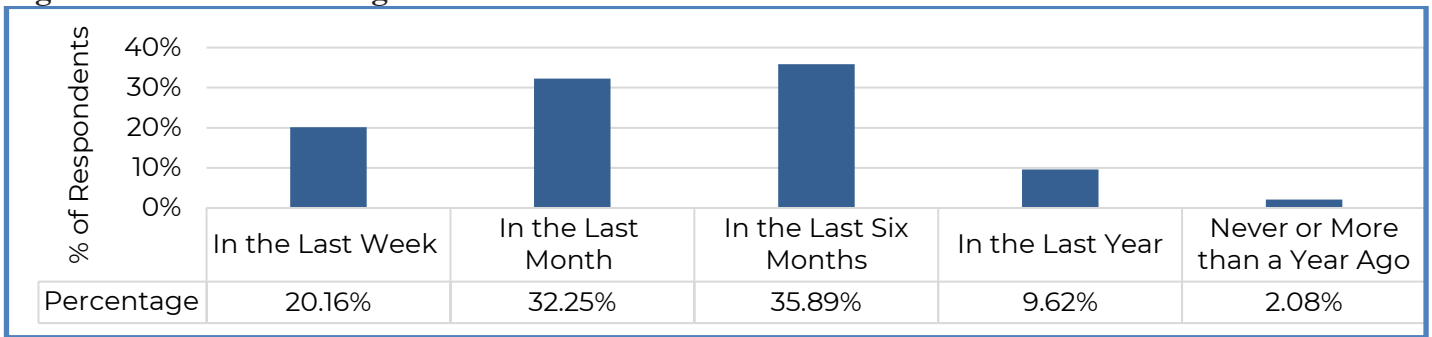


Therefore, even though most of the customers thought that it was not difficult to find an associate, over 40% said that they would not have gone through with the purchase if not for the assignment. Future research should explore the factors that influence shopper’s decisions to go through with a purchase of locked merchandise. Nevertheless, the results indicate that locking up merchandise carries an additional cost of time and effort to find an associate. Although most of the respondents said the process was not difficult, over 40% said that they would not have gone through the effort if not for the assignment. In other words, even though it is not difficult, it is still so cumbersome that many shoppers are not willing to pay the additional price in terms of time and effort.

### Survey Results: Self-Reported Experiences with Locked Cases

The next part of the report discusses the results from the survey of 770 survey respondents. First, the sample answered questions about their demographic characteristics and were introduced to the study. Next, they were asked was: “when was the last time you purchased a product from a locked case.” The results are shown in Figure 5 below.

**Figure 5. Last Time Making a Purchase from a Locked Case**



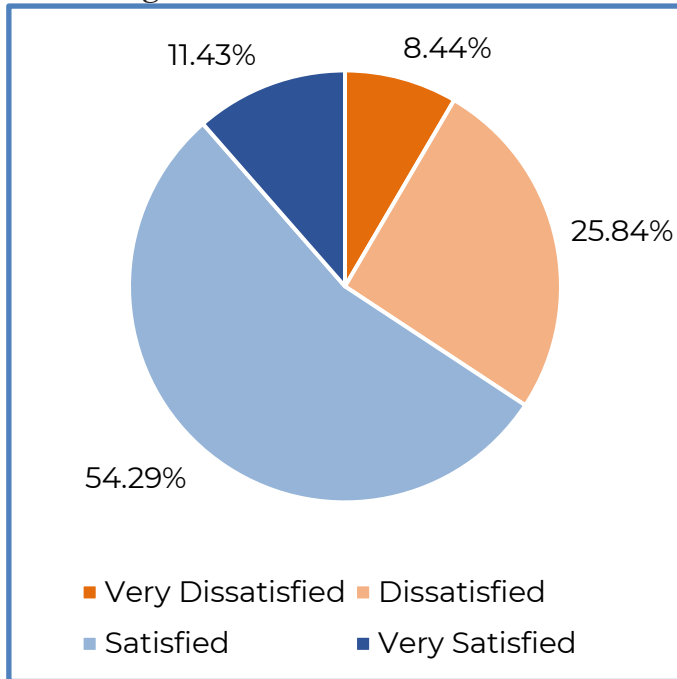
As the results on Figure 5 show, most respondents (88.3%) had purchased an item from a locked case in the past 6 months; furthermore, nearly 98% had done so in the past year.

Next, the respondents were asked: “During your most recent experience purchasing an item from a locked case, how satisfied were you with the process of retrieving and purchasing an item from a locked case?” As the results in Figure 6 show, the majority said that they were *either satisfied or very satisfied* (65.71%) with the process. However, a substantial proportion were *either dissatisfied or very dissatisfied* (34.29%).

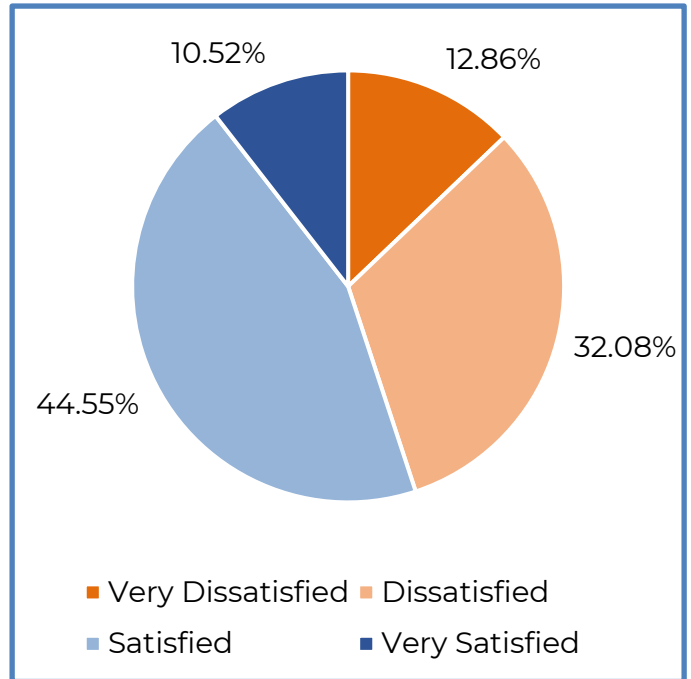
To further probe the respondent’s satisfaction with purchasing items from a locked case, they were first asked: “During your most recent experience purchasing an item from a locked case, how satisfied were you with the length of time it took to retrieve the product?” Second, they were asked, during your most recent experience purchasing an item from a locked, how convenient would you say the process was?

Respondents’ answers are summarized in Figures 7 and 8, respectively. Interestingly, 55.06% said that they were *either satisfied or very satisfied* with the amount of time it took to retrieve the product; however, 62.99% said that the process of purchasing an item from a locked case was *either inconvenient or very inconvenient*. As we can see, respondents definitely have mixed feelings about their experiences with locked cases, and many are not satisfied. For shoppers, time is of the essence; therefore, respondents were asked how long they would be “willing to wait to gain access to locked merchandise?” As Figure 9 shows, most shoppers have relatively short time frames, and only 27.01% said they would be willing to wait more than 4 minutes or more; 26.62% said they would be willing to wait 3 minutes; and 27.66% said they would be willing to wait for only two minutes.

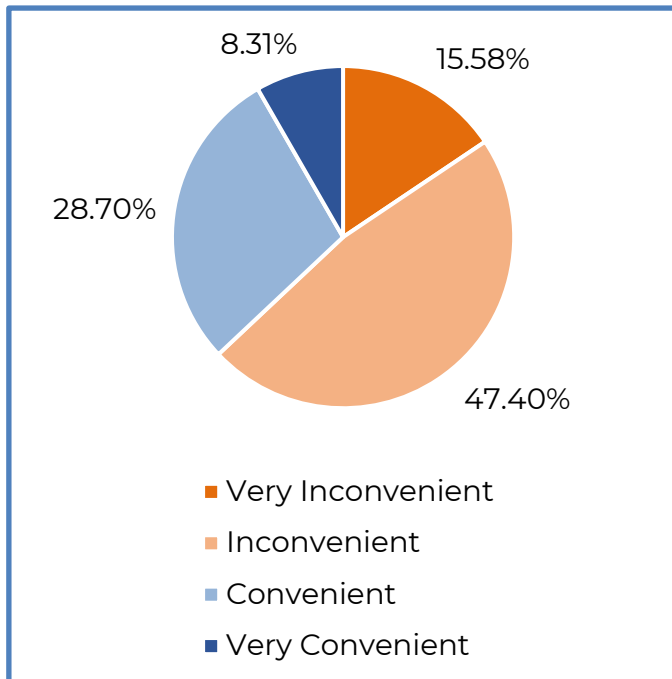
**Figure 6. Overall Satisfaction with the Process of Purchasing a Product from a Locked Case**



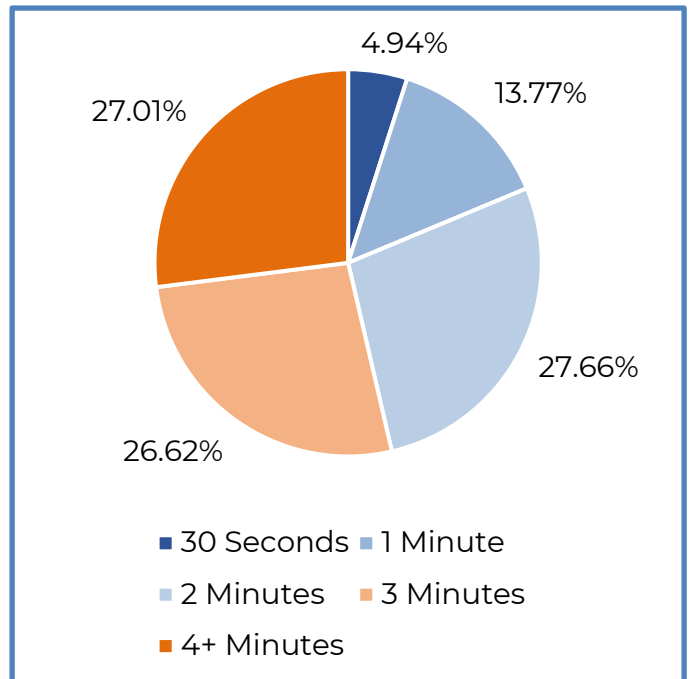
**Figure 7. Satisfaction with the Length of Time it took to Retrieve the Product**



**Figure 8. Overall Convenience of the Purchasing an Item from a Locked Case**



**Figure 9. Length of Time Willing to Wait to Gain Access to Locked Merchandise**



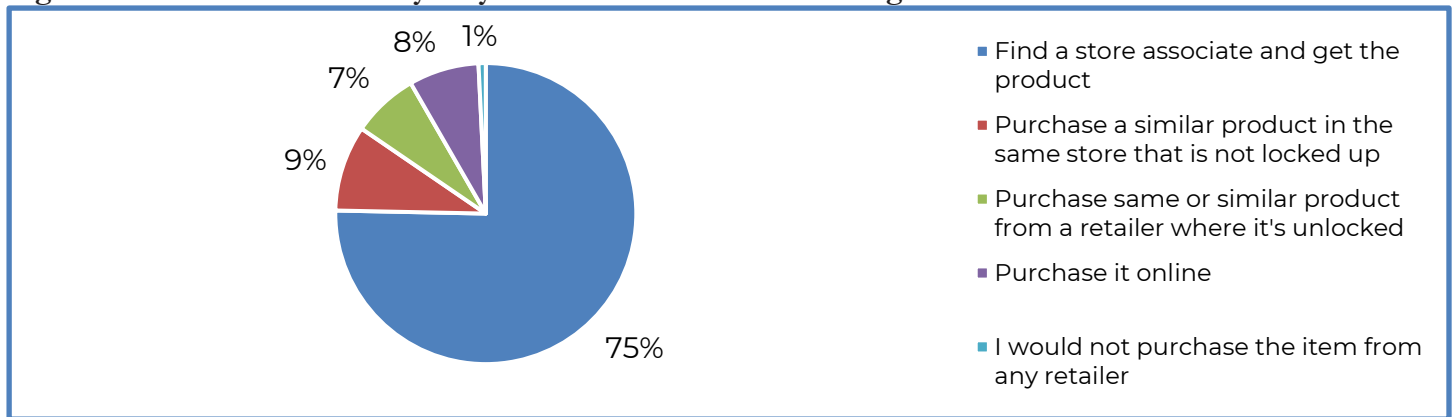
If guests encounter a locked case, they will have to decide what to do. There are many options – clearly, customers can look for a customer service associate; however, they may choose an alternative product, an alternative retailer, or

choose not to make the purchase at all. Theoretically speaking, choosing to **not** buy many of the products that are in locked cases is a very critical and potentially valuable decision for consumers. In many cases, individuals need these products for their own health and wellbeing, especially in the case of medicines and other health and wellness products. Consider the young lover who runs into a store to buy contraceptives – the decision to abandon the purchase of a condom could be an incredibly critical decision. This is the type of rational trade off that is involved in every exchange – consumers must ask themselves – are all of the costs associated with buying a product worth it?

Therefore, we asked respondents “If you encounter merchandise you would like to purchase, but find it in a locked case, generally speaking, what do you do?” The results are shown in Figure 10. As their first choice, fully 75.32% said that they would find an associate and get the product, and 9.22% said they would purchase a similar product in the same store that is unlocked. In other words, 84.55% said that their first choice would be to buy the product from the store. However, the remaining 15.45% of respondents chose an option that meant the retailer **would not** get any sale during that visit; 7.14% said they would purchase from a store that does not lock the product, 7.53% said they would purchase it online; and .78% said they would not purchase the item from any retailer.

There are two things to consider. First, 14.67% said they would not only abandon the purchase but would purchase the item at online or at a different retailer. This not only means the loss of sales but also a benefit to a retailer’s competition. Second, respondents were only asked about the **initial encounter**; they were not asked what they would do if they could not find an associate, or if there were not any similar products that would satisfy them. In other words, all the choices represent their first option, not their final decision.

**Figure 10. What Customers Say they would do when Encountering Locked Merchandise**



**Conclusion: Respondents’ Self-Reported Experiences with Locked Cases**

Overall, most respondents tended to say that they were satisfied with their most recent experience purchasing items from locked cases. However, the majority also find the experience to be inconvenient and a sizeable portion indicated that they were dissatisfied with the amount of time it takes to retrieve products from locked cases. This is important because many said that they would only wait a limited amount of time to gain access to merchandise – vast majority would only wait for less than three minutes. Furthermore, most respondents’ first choice is to find an associate to retrieve the product; however, there were many respondents who would abandon the purchase at the store as their first response to encountering locked merchandise. As we will see later in the responses to open-ended questions, locked cases simply turn some people away.

## QUANTITATIVE FINDINGS: PERCEPTIONS OF THE FREEDOM CASE

Next, the concept of the Freedom Case was explained to the 770 survey respondents. They were asked to imagine there was a self-service locking case that customers could access with a variety of methods, and then they were asked whether they would be willing to exchange various type of PII for access to the products. Specifically, they were first asked **how comfortable** they would be using five different access options, including: (1) their retailer loyalty card information; (2) the retailer’ app; (3) their cell phone; (4) their face; and (5) their fingerprint. Next, the respondents were asked how likely they would be to use each of the five access options.

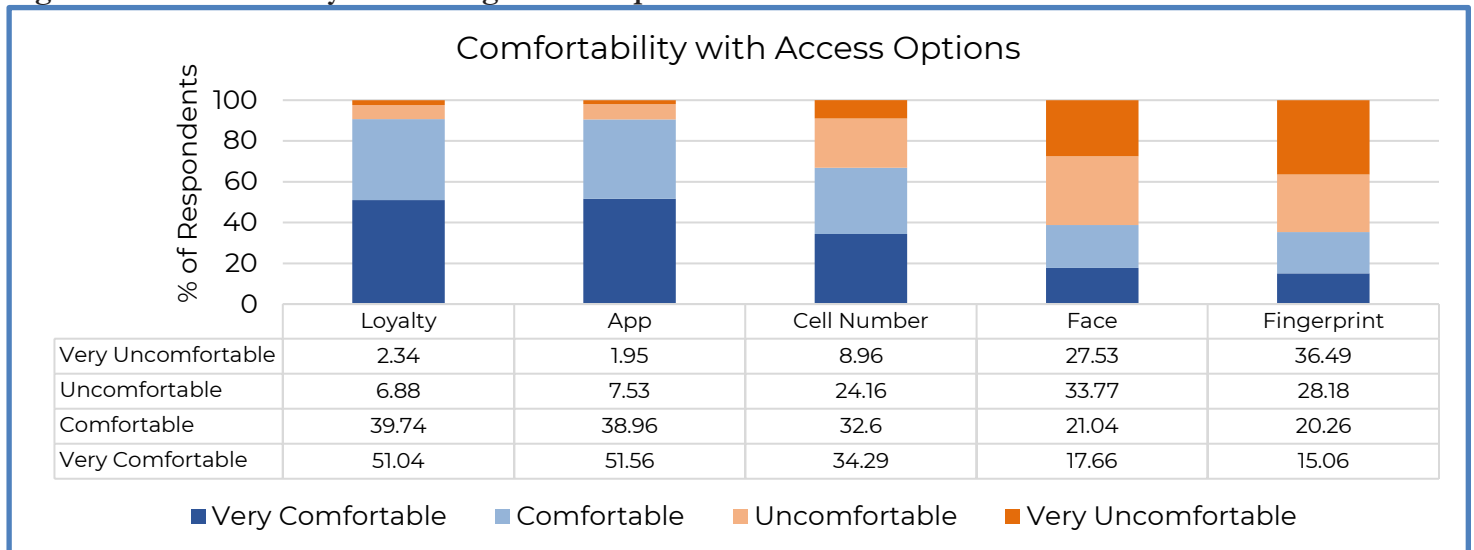
Finally, after all of the access options had been presented, respondents were asked whether they believed they would be likely to use it using their favorite access option, and whether they would purchase items in locked cases more frequently.

This section of the report includes all the findings about respondents’ perceptions of the Freedom Case and the various access options. First, we review the likelihood and comfortability of using the Freedom Case for the entire sample; next, the results will be examined by individual demographic groups.

### Perceptions of Freedom Case Access Options: Full Sample

Figure 11 shows the percentages of respondents who said they would be very comfortable, comfortable, uncomfortable, or very uncomfortable using the Freedom Case’s various access options. As you can see, the vast majority indicated that they would be comfortable or very comfortable using the loyalty card or retailer app option. A majority (66.8%) also indicated that they would be comfortable using their cell phone number. However, the majority of respondents also indicated that they would be uncomfortable or very uncomfortable using their face or fingerprint to access locked merchandise. Nevertheless, nearly 40% said they would be comfortable using their face, and 35% said they would be comfortable using their fingerprint.

**Figure 11. Comfortability with Using Access Options**





**Figure 12. Likelihood of Using Access Options**

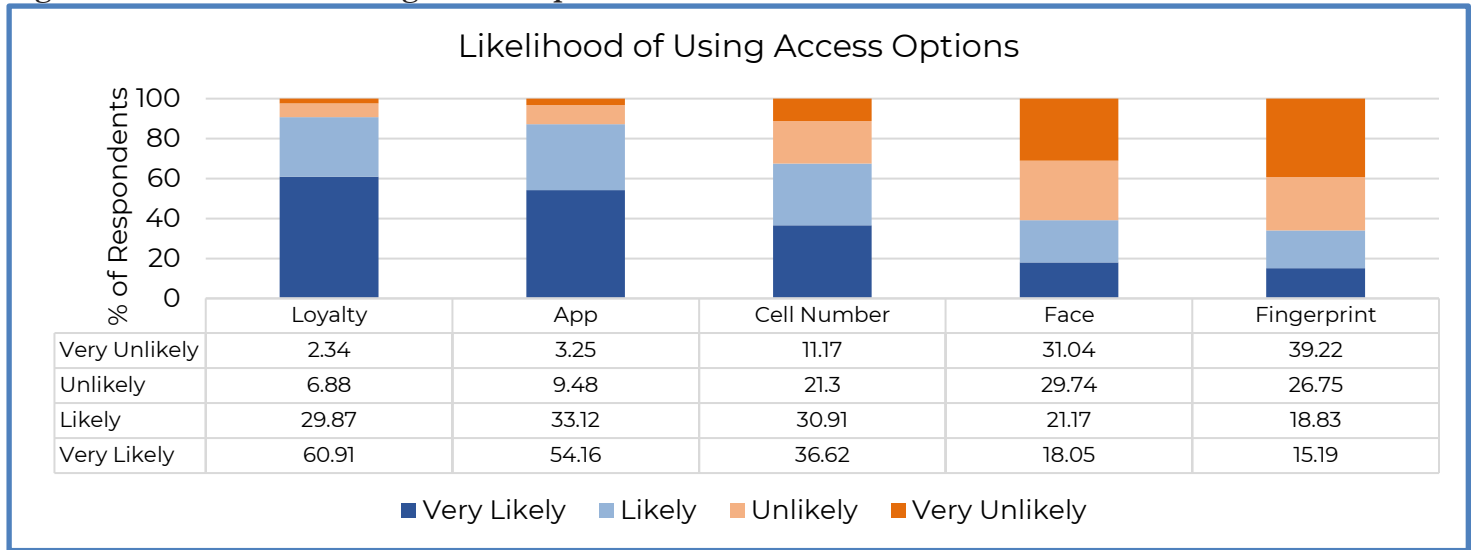
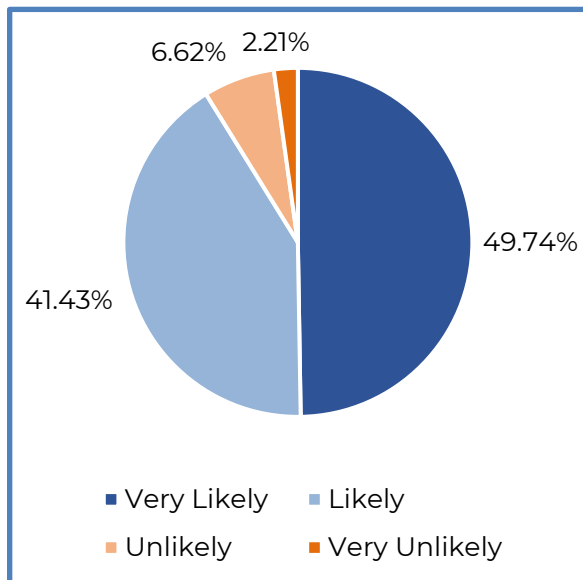
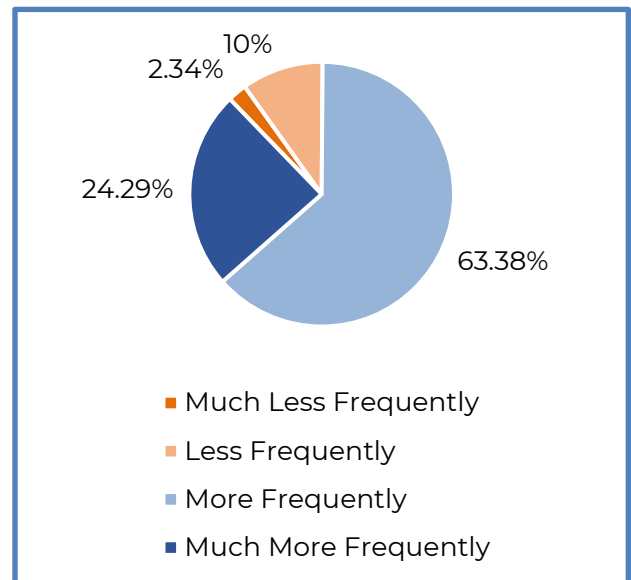


Figure 12 shows the percent of respondents who said they would be likely to use the various access options. This question was also asked because of the possibility that some customers might not be comfortable using the various access options, but nevertheless would be likely to use the access options because of the potential convenience. However, the results largely mirrored those for comfortability, suggesting that comfortability of exchanging information is strongly related to the likelihood of exchanging it for access to locked merchandise. Subsequent correlation analysis confirmed this, indicating that there was a very strong and statistically significant correlation between composite measures of comfortability and likelihood ( $r = .92; p < .0000$ ). These composite measures were created by calculating the unstandardized means of the five comfortability measures, and five likelihood measures.

**Figure 13. Likelihood of Using the Freedom Case**



**Figure 14. Change in Frequency of Purchasing Locked Items if the Freedom Case was Available**



Next respondents were asked: “If this self-service case was available today, and based on the access method you are most comfortable with, how likely would you be to use it to gain self-service to locked merchandise without calling a sales associate. The responses to this question are summarized in Figure 13. As we can see, approximately 91% of the respondents said that they would be likely to use the Freedom Case, given their preferred access option.

Finally, respondents were asked – “if this self-service locked case were available today, do you think you would purchase items in locked cases more or less frequently” (Figure 14). Respondents were more likely to indicate that they would purchase items in locked cases more often – a combined 86.67% said they would purchase locked items more frequently or much more frequently, while 12.34% said they would purchase items less frequently.

## Perceptions of Freedom Case across Demographic Groups

Of course, it is important to understand whether different demographic groups would be more or less likely to use the Freedom Case or its specific access options. Therefore, Table 2 shows the likelihood of use by demographic groups. In general, every demographic group said that they would be likely to use the Freedom Case given, if given their preferred access option.

**Table 2. Likelihood of Using the Freedom Case by Demographic Group**

Demographic Variables	Very Unlikely (%)	Unlikely (%)	Likely (%)	Very Likely (%)
<b>Gender</b>				
Female	2.31	6.43	39.59	51.67
Male	2.10	6.82	43.31	47.77
<b>Annual Household Income</b>				
Less than \$35,000	0.99	6.93	41.09	50.99
\$35,000 – 49,999	2.50	5.00	43.33	49.17
\$50,000 – 74,999	1.42	3.55	43.97	51.06
\$75,000 – 99,999	3.00	7.00	40.00	50.00
\$100,000 – 124,999	3.17	11.11	41.27	44.44
\$125,000 – 149,999	2.63	0.00	26.32	71.05
\$150,000 and greater	0.00	2.86	45.71	51.43
<b>Race/Ethnicity</b>				
African Am./Black	2.16	9.35	35.97	52.52
Asian American	0.00	10.00	45.00	45.00
Caucasian/White	1.78	5.09	39.44	53.69
Latino/Hispanic	0.79	7.87	51.18	40.16
Native American	0.00	11.11	66.67	22.22
Multi-racial/ethnic	12.20	2.44	43.90	41.46
Other	4.76	9.52	33.33	52.38
<b>Region</b>				
South	3.54	5.31	41.59	49.56
West	0.83	7.85	40.08	51.24
Midwest	1.65	6.61	42.98	48.76
Northeast	1.61	6.45	41.94	50.00
<b>Age - Generations</b>				
Gen Z (18-24)	1.97	6.58	44.08	47.37
Gen Y (25-40)	2.05	4.92	40.98	52.05
Gen X (41-56)	2.53	8.44	38.82	50.21
Baby Boomer (57-75)	2.19	6.57	43.8	47.45

*Note: cells have been shaded for ease of interpretation; the category that was chosen most frequently by each group is shaded green, the second most frequently chosen response is shaded blue, the third is orange, and the least frequently chosen category is shaded red. When reading this table – if you see a lot of green on the right side and red on the left, most respondents believed they would likely; if you see red on the right side and green on the left, they were largely unlikely.*

The only differences were with regards to *how likely* members of each group would be to use the Freedom Case. For example, those who were Hispanic/Latino, Native American, or Multi-racial/ethnic were more likely to say that they would just be “likely” to use the Freedom Case rather than “very likely.”

*Loyalty Card Access Option.* Next, we examined whether there were differences across demographic groups in terms of the likelihood of using the loyalty card access option. Table 3 provides the results from these analyses. There is very little variation between the various demographic categorizations in terms of the likelihood that the members of the groups say that they would be “likely” or “very likely” to use this access option.

**Table 3. Likelihood of Using the Loyalty Card Option by Demographic Group**

Demographic Variables	Very Unlikely (%)	Unlikely (%)	Likely (%)	Very Likely (%)
<b>Gender</b>				
Female	2.06	6.68	29.82	61.44
Male	2.62	7.09	29.92	60.37
<b>Annual Household Income</b>				
Less than \$35,000	3.96	4.46	34.65	56.93
\$35,000 – 49,999	1.67	11.67	29.17	57.50
\$50,000 – 74,999	0.00	3.55	29.79	66.67
\$75,000 – 99,999	0.00	5.00	30.00	65.00
\$100,000 – 124,999	3.17	12.70	26.98	57.14
\$125,000 – 149,999	5.26	0.00	21.05	73.68
\$150,000 and greater	0.00	11.43	17.14	71.43
<b>Race/Ethnicity</b>				
African Am./Black	2.16	8.63	33.81	55.40
Asian American	2.50	10.00	25.00	62.50
Caucasian/White	2.29	5.60	28.75	63.36
Latino/Hispanic	1.57	7.09	32.28	59.06
Native American	0.00	11.11	33.33	55.56
Multi-racial/ethnic	4.88	9.76	29.27	56.10
Other	4.76	4.76	19.05	71.43
<b>Region</b>				
South	2.65	8.26	29.20	59.88
West	2.07	5.37	27.69	64.88
Midwest	1.65	5.79	34.71	57.85
Northeast	1.61	6.45	32.26	59.68
<b>Age - Generations</b>				
Gen Z (18-24)	3.29	9.21	32.89	54.61
Gen Y (25-40)	1.23	3.69	31.56	63.52
Gen X (41-56)	3.38	8.02	27.43	61.18
Baby Boomer (57-75)	1.46	8.03	27.74	62.77

*Note: cells have been shaded for ease of interpretation; the category that was chosen most frequently by each group is shaded green, the second most frequently chosen response is shaded blue, the third is orange, and the least frequently chosen category is shaded red. When reading this table – if you see a lot of green on the right side and red on the left, most respondents believed they would be likely; if you see red on the right side and green on the left, they were largely unlikely.*

*Retailer App Access Option.* Next, we examined whether there were differences across demographic groups in terms of the likelihood of using the retailer app access option. Table 4 provides the results from these analyses. These results largely followed the same pattern as the results regarding the loyalty card access information. Across every demographic category, respondents were more likely to say that they were “likely” or “very likely” to use this access option.

**Table 4. Likelihood of Using the Retailer App Option by Demographic Group**

Demographic Variables	Very Unlikely (%)	Unlikely (%)	Likely (%)	Very Likely (%)
<b>Gender</b>				
Female	3.08	8.74	34.19	53.98
Male	3.41	10.24	32.02	54.33
<b>Annual Household Income</b>				
Less than \$35,000	2.48	8.42	36.63	52.48
\$35,000 – 49,999	3.33	8.33	35.00	53.33
\$50,000 – 74,999	2.13	9.22	27.66	60.99
\$75,000 – 99,999	2.00	11.00	35.00	52.00
\$100,000 – 124,999	1.59	17.46	26.98	53.97
\$125,000 – 149,999	5.26	2.63	23.68	68.42
\$150,000 and greater	5.71	5.71	37.14	51.43
<b>Race/Ethnicity</b>				
African Am./Black	2.88	12.23	35.25	49.64
Asian American	0.00	7.50	27.50	65.00
Caucasian/White	3.31	8.91	34.35	53.44
Latino/Hispanic	0.79	7.09	34.65	57.48
Native American	0.00	11.11	33.33	55.56
Multi-racial/ethnic	14.63	14.63	24.39	46.34
Other	4.76	9.52	14.29	71.43
<b>Region</b>				
South	2.95	10.62	30.68	55.75
West	3.31	9.92	28.51	58.26
Midwest	2.48	5.79	44.63	47.11
Northeast	4.84	9.68	41.94	43.55
<b>Age - Generations</b>				
Gen Z (18-24)	2.63	8.55	37.5	51.32
Gen Y (25-40)	1.64	9.43	31.56	57.38
Gen X (41-56)	5.06	8.44	35.44	51.05
Baby Boomer (57-75)	3.65	12.41	27.01	56.93

*Note: cells have been shaded for ease of interpretation; the category that was chosen most frequently by each group is shaded green, the second most frequently chosen response is shaded blue, the third is orange, and the least frequently chosen category is shaded red. When reading this table – if you see a lot of green on the right side and red on the left, most respondents believed they would be likely; if you see red on the right side and green on the left, they were largely unlikely.*

*Cell Phone Number Access Option.* Next, we examined whether there were differences across demographic groups in terms of the likelihood of using the cell phone number access option. Table 5 provides the results from these analyses. This is the first access option where we see variation across demographic groups and the pattern of respondents’ likelihood of using the access option become much more varied.

**Table 5. Likelihood of Using the Cell Phone Number Option by Demographic Group**

Demographic Variables	Very Unlikely (%)	Unlikely (%)	Likely (%)	Very Likely (%)
<b>Gender</b>				
Female	9.77	20.57	30.59	39.07
Male	12.60	22.05	31.23	34.12
<b>Annual Household Income</b>				
Less than \$35,000	12.87	20.30	32.18	34.65
\$35,000 – 49,999	10.00	23.33	34.17	32.50
\$50,000 – 74,999	4.26	17.73	31.21	46.81
\$75,000 – 99,999	12.00	27.00	26.00	35.00
\$100,000 – 124,999	17.46	20.63	26.98	34.92
\$125,000 – 149,999	5.26	18.42	31.58	44.74
\$150,000 and greater	11.43	22.86	25.71	40.00
<b>Race/Ethnicity</b>				
African Am./Black	10.79	17.99	30.94	40.29
Asian American	20.00	37.50	17.50	25.00
Caucasian/White	10.18	20.10	32.06	37.66
Latino/Hispanic	10.24	18.11	34.65	37.01
Native American	22.22	44.44	11.11	22.22
Multi-racial/ethnic	12.20	29.27	26.83	31.71
Other	14.29	28.57	28.57	28.57
<b>Region</b>				
South	12.98	17.11	30.68	39.23
West	9.50	25.21	29.75	35.54
Midwest	6.61	25.62	35.54	32.23
Northeast	12.90	22.58	30.65	33.87
<b>Age - Generations</b>				
Gen Z (18-24)	8.55	26.32	30.26	34.87
Gen Y (25-40)	11.48	23.36	29.10	36.07
Gen X (41-56)	11.81	18.99	33.33	35.86
Baby Boomer (57-75)	12.41	16.06	30.66	40.88

*Note: cells have been shaded for ease of interpretation; the category that was chosen most frequently by each group is shaded green, the second most frequently chosen response is shaded blue, the third is orange, and the least frequently chosen category is shaded red. When reading this table – if you see a lot of green on the right side and red on the left, most respondents believed they would be likely; if you see red on the right side and green on the left, they were largely unlikely.*

For example, the same pattern of likelihood of using the case persists with regards to gender, region, and age. However, Asian Americans were more likely to say that they were “unlikely” to use the cell phone access option than they earlier access options; a similar finding holds with regards to Native Americans, although the sample size

for this group is relatively small (which inherently means that the estimates are less reliable). However, there are also some interesting inconsistencies with regards to the pattern of likelihood of use across income groups. For example, those who made between \$75,000 and 99,999 tended to be less likely to use this access option relative to other access options.

**Facial Recognition Access Option.** Next, we examined differences across demographic groups in terms of the likelihood of using the facial recognition access option. Table 6 provides the results from these analyses.

Table 6. Likelihood of Using the Facial Recognition Option by Demographic Group

Demographic Variables	Very Unlikely (%)	Unlikely (%)	Likely (%)	Very Likely (%)
<b>Gender</b>				
Female	31.62	30.85	20.31	17.22
Male	30.45	28.61	22.05	18.90
<b>Annual Household Income</b>				
Less than \$35,000	36.14	23.27	22.77	17.82
\$35,000 – 49,999	32.50	33.33	15.83	18.33
\$50,000 – 74,999	22.70	34.75	19.86	22.70
\$75,000 – 99,999	31.00	34.00	21.00	14.00
\$100,000 – 124,999	33.33	28.57	22.22	15.87
\$125,000 – 149,999	18.42	26.32	23.68	31.58
\$150,000 and greater	28.57	22.86	31.43	17.14
<b>Race/Ethnicity</b>				
African Am./Black	33.81	30.22	17.27	18.71
Asian American	40.00	22.50	25.00	12.50
Caucasian/White	27.99	32.32	21.12	18.58
Latino/Hispanic	29.13	25.98	25.98	18.90
Native American	44.44	33.33	22.22	0.00
Multi-racial/ethnic	39.02	26.83	19.51	14.63
Other	42.86	19.05	14.29	23.81
<b>Region</b>				
South	33.33	27.43	18.29	20.94
West	31.40	29.75	21.49	17.36
Midwest	22.31	36.36	27.27	14.05
Northeast	32.26	30.65	24.19	12.90
<b>Age - Generations</b>				
Gen Z (18-24)	32.24	28.29	25.66	13.82
Gen Y (25-40)	33.61	30.33	18.85	17.21
Gen X (41-56)	29.54	29.11	21.94	19.41
Baby Boomer (57-75)	27.74	31.39	18.98	21.90

Note: cells have been shaded for ease of interpretation; the category that was chosen most frequently by each group is shaded green, the second most frequently chosen response is shaded blue, the third is orange, and the least frequently chosen category is shaded red. When reading this table – if you see a lot of green on the right side and red on the left, most respondents believed they would be likely; if you see red on the right side and green on the left, they were largely unlikely.

This is the first access option where we begin to see considerable variation in the likelihood categories selected across demographic groups. This can be clearly seen using the color coding that is much less consistent across categories. In every demographic categorization except gender, there is no clear pattern across the demographic subcategories. For example, with income “unlikely” was the modal category for three of the income ranges, while very unlikely was the modal category for two of the income categories. Moreover, there is no clear pattern across income ranges. There is actually more variation in the categories selected across income groups than racial/ethnic categories; with race/ethnicity, there is, generally speaking, a trend where all racial categories are more likely to say that they are “very unlikely” or “unlikely” to use the facial recognition access option.

**Table 7. Likelihood of Using the Fingerprint Option by Demographic Group**

Demographic Variables	Very Unlikely (%)	Unlikely (%)	Likely (%)	Very Likely (%)
<b>Gender</b>				
Female	39.59	28.28	17.99	14.14
Male	38.85	25.20	19.69	16.27
<b>Annual Household Income</b>				
Less than \$35,000	35.64	27.72	16.83	19.80
\$35,000 – 49,999	40.83	30.83	18.33	10.00
\$50,000 – 74,999	31.91	29.79	20.57	17.73
\$75,000 – 99,999	40.00	29.00	18.00	13.00
\$100,000 – 124,999	47.62	19.05	22.22	11.11
\$125,000 – 149,999	28.95	26.32	21.05	23.68
\$150,000 and greater	48.57	11.43	22.86	17.14
<b>Race/Ethnicity</b>				
African Am./Black	38.85	26.62	16.55	17.99
Asian American	55.00	22.50	12.50	10.00
Caucasian/White	36.39	27.99	19.59	16.03
Latino/Hispanic	41.73	22.83	22.83	12.60
Native American	55.56	33.33	11.11	0.00
Multi-racial/ethnic	31.71	39.02	17.07	12.20
Other	57.14	9.52	14.29	19.05
<b>Region</b>				
South	35.40	30.38	18.29	15.93
West	45.87	21.07	18.60	14.46
Midwest	39.67	24.79	20.66	14.88
Northeast	35.48	30.65	20.97	12.90
<b>Age - Generations</b>				
Gen Z (18-24)	41.45	23.03	18.42	17.11
Gen Y (25-40)	42.62	28.28	17.62	11.48
Gen X (41-56)	35.86	26.58	21.10	16.46
Baby Boomer (57-75)	36.50	28.47	17.52	17.52

*Note: cells have been shaded for ease of interpretation; the category that was chosen most frequently by each group is shaded green, the second most frequently chosen response is shaded blue, the third is orange, and the least frequently chosen category is shaded red. When reading this table – if you see a lot of green on the right side and red on the left, most respondents believed they would be likely; if you see red on the right side and green on the left, they were largely unlikely.*



*Fingerprint Access Option.* Finally, we examined whether there were differences across demographic groups in terms of the likelihood of using the facial recognition access option. Table 7 (on the previous page) provides the results of these analyses. Interestingly, if the reader refers to the color coding, they will notice that the most frequently selected likelihood of use categories are reversed from the likelihood options that were selected for the loyalty card information, retailer app, and cell phone access options. This was similarly true for the facial recognition option. Furthermore, there is greater variation across demographic categories; for example, some categories do not follow the pattern we have seen with other access options, such as the multi-racial/ethnic and “other” race/ethnicity categories, as well as the income categories above \$100,000/year.

## Further Exploring Demographics and the Value Exchange

Another way to examine whether members of different demographic groups are less willing to trade their PII for reduced retail friction is to create a composite scale that represents participants’ overall comfortability and likelihood of using the Freedom Case’s five access options. Remember, the participants were asked how *comfortable* they would be using five different access options (retailer app, loyalty card information, cell phone number, facial recognition, and fingerprint), and they were asked how *likely* they would be to use the five different access options.

Each of these items were initially coded with values 1-4, such that 1 indicated that they were very uncomfortable or very unlikely to use the specified Freedom Case access option, while 4 indicated that they were very comfortable or very likely to use the specified access option. In other words, higher scores on these variables meant that they were *more* willing to exchange their PII for reduced retail friction. Therefore, the inverse is also true – those with lower scores were *less* likely to exchange their PII for reduced retail friction.

Therefore, a composite measure (unstandardized mean) was calculated for the five measures of comfortability ( $\alpha = .7534$ ) and for the five measures of their likelihood of using the five access options ( $\alpha = .7453$ ). Table 8 shows the means for each of these composite measures by demographic group, with lower values indicating that, on average, members of the specified group are less likely or comfortable to exchange their PII for reduced friction. For ease of interpretation, just remember that any mean above 2.5 represents a general willingness to exchange PII for reduced retail friction.

These results were further explored using multiple approaches. Multiple regression models indicated that Asian American participants, on average, were less comfortable exchanging their PII for reduced retail friction relative to those who identified as Black, White, or Latino/Hispanic; this finding was statistically significant ( $p < .05$ ) even after controlling for gender, income level, region, and age.<sup>8</sup> However, other than this one, idiosyncratic finding, there were no substantive or statistically significant differences between members of the different demographic groups.<sup>9</sup>

Overall, and somewhat surprisingly, most respondents were willing to trade their PII (according to this composite measure) for reduced shopping friction, regardless of the demographic group to which they belong.

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<sup>8</sup> Interestingly, those who identified as Asian American or “Other” also tended to report greater overall satisfaction, and greater satisfaction with the time it took to retrieve products from locked cases during their most recent experience, on average, than members of other racial and ethnic groups.

<sup>9</sup> Additional analyses suggested that there were statistically significant differences in willingness to exchange PII for reduced friction, however, these findings were not robust to alternative model specifications, and, if there is a relationship, it does not appear to be linear.

**Table 8. Comfortability with, and Likelihood of, Exchanging PII for Access to Locked Products**

Demographic Variables	Mean ( <i>SD</i> )		Frequency ( <i>n</i> = 770)
	Comfortability Scale	Likelihood Scale	
Gender			
Female	2.83 (.64)	2.84 (.66)	389
Male	2.83 (.66)	2.83 (.68)	381
Income			
Less than \$35,000	2.80 (.64)	2.83 (.66)	202
\$35,000 – 49,999	2.79 (.64)	2.78 (.63)	120
\$50,000 – 74,999	2.98 (.64)	3.00 (.64)	141
\$75,000 – 99,999	2.77 (.58)	2.81 (.60)	100
\$100,000 – 124,999	2.74 (.73)	2.74 (.75)	63
\$125,000 – 149,999	3.11 (.67)	3.08 (.69)	38
\$150,000 and greater	2.93 (.70)	2.86 (.72)	35
Race/Ethnicity			
African Am./Black	2.86 (.64)	2.82 (.67)	139
Asian American	2.64 (.62)	2.68 (.67)	40
Caucasian/White	2.86 (.65)	2.87 (.66)	393
Latino/Hispanic	2.84 (.62)	2.87 (.63)	127
Native American	2.49 (.44)	2.51 (.54)	9
Multi-racial/ethnic	2.67 (.79)	2.67 (.80)	41
Other	2.75 (.81)	2.79 (.80)	21
Region			
South	2.84 (.68)	2.85 (.70)	339
West	2.81 (.63)	2.81 (.65)	232
Midwest	2.85 (.60)	2.84 (.59)	121
Northeast	2.79 (.62)	2.78 (.66)	62
Generation			
Gen Z (18-24)	2.80 (.58)	2.80 (.64)	152
Gen Y (25-40)	2.81 (.61)	2.82 (.63)	244
Gen X (41-56)	2.86 (.72)	2.84 (.72)	237
Baby Boomer (57-75)	2.83 (.68)	2.88 (.69)	137

## Past Experiences with Locking Showcases and the Value Exchange

One more aspect that needs to be explored is the relationship between satisfaction with traditional locking cases and willingness to exchange PII for reduced retail friction. This will be accomplished using multiple regression analysis and a composite measure of satisfaction with traditional locking cases. This composite measure of traditional locking cases was created by calculating the unstandardized mean of three measures. These three measures captured respondents' satisfaction with their most recent experience purchasing locked merchandise, including measures of their: (1) their overall satisfaction, (2) satisfaction with the amount of time it took to retrieve the merchandise, and (3) whether the process was convenient. The composite measure achieved good internal reliability (Cronbach's alpha = .8663). The outcome variable for the regression model is the same composite likelihood of use measure utilized in the previous section, which was calculated using the five measures of likelihood of using the five access options.

**Table 9. Regression Model Predicting Willingness to Exchange PII for Self-Service Access**

Variable	B	SE(B)	$\beta$	t	p-value
Satisfaction with Traditional Cases	.09	.03	.09	2.48	.01
Gender					
Female (Ref. Category)	—	—	—	—	—
Male	-.04	.05	-.03	-.81	.42
Income					
Less than \$35,000 (Ref. Category)	—	—	—	—	—
\$35,000 – 49,999	-.04	.08	-.03	-.57	.57
\$50,000 – 74,999	.16	.07	.10	2.18	.03
\$75,000 – 99,999	-.03	.08	-.18	-.41	.68
\$100,000 – 124,999	-.08	.10	-.03	-.80	.42
\$125,000 – 149,999	.26	.12	.09	2.24	.03
\$150,000 and greater	.06	.12	.02	.47	.64
Race/Ethnicity					
African American (Ref. Category)	—	—	—	—	—
Asian American	-.20	.13	-.07	-1.58	.12
Caucasian	.06	.07	.05	.91	.37
Latino/Hispanic	.08	.09	.05	.96	.34
Other	-.07	.10	-.03	-.68	.50
Age	.00	.00	.03	.73	.47
Constant	2.55	.14	—	18.78	.00

Interestingly, the results from this model indicated that there was a statistically significant and positive relationship between satisfaction with traditional cases and willingness to exchange PII for self-service access to locked products ( $B = .09; p < .05$ ). This means that those with greater satisfaction with traditional locking cases are more willing to exchange their PII for self-service access to locked products, while those who were less satisfied with traditional locked cases are less likely to use locked cases. While this effect was statistically significant, the effect is *not* substantively significant. Other interesting findings include the fact that those who make between \$50,000 and 74,999 and those make between \$125,000 and 149,999 are more willing to exchange their PII than those who make less than \$35,000.

## QUALITATIVE FINDINGS: PREFERENCES AND PERCEPTIONS

To explore all of these issues more deeply, the participants were asked two open-ended questions. First, respondents were asked which products they would like to be available in the self-service locked case if it were available today. Second, respondents were asked why they said they would (or would not be) likely or comfortable to use the case. For this second question, respondents were first categorized according to whether they said they: (1) would be likely or very likely to use the case, or (2) unlikely or very unlikely to use the case, if the case was available today.

Next, given the volume of the responses, three word clouds were created that summarized the participants responses. Word clouds depict the frequency with which words are used by respondents by making more frequently used words larger relative to less frequently used words. In this case, there were many rich responses which will need to be more thoroughly analyzed in the future. However, word clouds with the most frequently used and substantive words were created; that is to say, common words such as “it,” “after,” “only,” and other such similar words that do not add substance to the visualization are largely excluded.

### Products Respondents Would Like to See Offered in the Freedom Case

The first word cloud that was created reflects the types of products that customers would like to see protected by the Freedom Case. The most frequently used and substantive words offered by respondents are depicted in Figure 15. The respondents are familiar with many of the products that are currently locked up throughout the United States. Respondents were particularly interested in seeing many different products within a self-service case, including razor blades, infant formula, beauty products, pregnancy tests, feminine hygiene products, medicine, hair care products, electronics (e.g., video games and cell phones), and tobacco and alcohol products. The results earlier suggested that most respondents are enthusiastic about using a self-service case; however, the Freedom Case may benefits customers relative to current product protection strategies used for these products.

For example, a male respondent noted: “*I would use it to buy sexual health products [because it would be] much easier and less embarrassing.*”<sup>10</sup> A female respondent noted a similar problem but also lamented having to wait: “*I hate waiting for an associate to open the case. I’ve waited too long to grab a product and it’s just time consuming. I have gone to a different merchant to buy items. Also, contraceptives, etc. are a little too personal and it’s awkward to have an associated help with that.*”

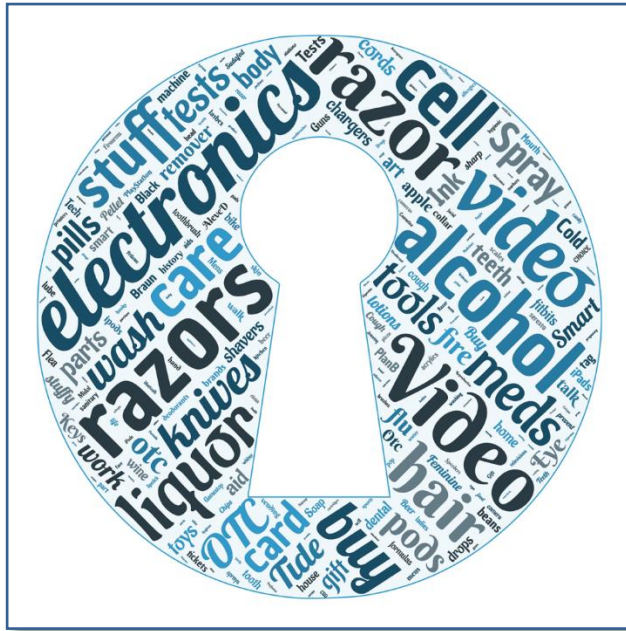
Many other respondents also noted the embarrassment and awkward nature of asking customer service associates for help retrieving reproductive health products and personal hygiene products. However, many noted the frustration and irritation associated with traditional locked cases. The feelings associated with purchases are important for rational decision making. Theoretically, many of the same principles of situational crime prevention could be turned on their head and called “situational sales promotion.”

For example, situational crime prevention suggests that crime can be prevented by manipulating potential offenders cost/benefit calculations; this includes increasing perceived effort to commit crime, reducing perceived rewards of crime, and increasing perceived risks. However, there are two more situational factors that can affect the rationality of decision making; namely emotions, and excuses or neutralizations for behavior. If individuals become frustrated, their capacity for rational decision making may be reduced; similarly, if an individual rationalizes their offense against a company on the basis that the company deserves to be victimized, then they may be more likely to offend.

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<sup>10</sup> For the sake of clarity, words have been added to this and others quotes for the sake of clarity; nothing else has been changed and none of the additions change the substance of the response. To read the quote in its original form, simply omit the words within brackets.

Figure 15. Products Respondents Would Like to See Offered in the Freedom Case



**Highest Ranking Products**

- 39% Electronics
- 37% Razors
- 23% OTC Medications
- 20% Beauty
- 14% Reproductive health
- 13% Liquor
- 11% Everything**
- 9% Baby Formula
- 4% Detergents
- 4% Jewelry

All these principles can also be applied to the choices that customers make – retailers want to increase the perceived value of a purchase, reduce the risks or negative consequences of making a purchase, and reduce the friction associated with making a purchase. However, retailers must also keep customers from becoming frustrated, so they don’t abandon a purchase as important as contraceptives or other health products. This is to promote sales; however, it should theoretically reduce the likelihood that a customer will become frustrated and become a retail offender.

In discussing the products they would like to see available in the Freedom Case, many respondents noted how difficult it was to access many other products. For example, when asked this question, a Black female from the Midwest wrote: “Electronics... there are so many items in locked cases in this department, sometimes it’s really inconvenient to wait for assistance. The second area would be beauty products.” To the subsequent question about her perceptions of the Freedom Case, this same respondent wrote: “I think using technology to streamline outdated processes is a good idea.”

Theoretically, from a rational choice and “situational sales promotion” perspective, retailers need to streamline the shopping process to reduce the effort required for guests to make a purchase.

**Why did Respondents Say they would be Likely to Use the Case?**

The second word cloud that was created reflects the reasons why enthusiastic customers said they would be likely or very likely to use the Freedom Case. The most frequently used and substantive words used in participants responses are depicted in Figure 16. Since most respondents said that they would be likely or very likely to use a self-service case, such as the Freedom Case, there was a considerable amount of data. Some of the words that were frequently used included: “waiting,” “access,” “faster,” “comfortable,” “convenient,” “technology,” and “options.”

Figure 16. Reasons Enthusiastic Respondents would be Likely to Use the Freedom Case



For example, a Black female, who previously said she would be very likely to use the Freedom Case, stated: *“It’s just easier, I wouldn’t have to wait forever for someone to come out and open it for me, also it would prevent anyone from thinking I am stealing anything.”*

Alternatively, a male respondent said: *“I would be comfortable using it because I am honest and have nothing to hide/ no plans to walk off with items without paying for them. It would reduce the time I have to wait.”*

This similar sentiment showed up multiple times, and reinforces the idea that protecting PII is less valuable to those with no intention of committing a crime; in other words, trading PII for a better shopping experience is a worthwhile exchange for those who are not at risk of criminal sanctions. This sentiment, as well as the Freedom Case’s potential to reduce crime was repeated many, many times. As one woman said: *“I don’t have anything to hide. I actually [sic], if it were me creating this device, would retain the info until the item is cashed out at the register. That way a name, phone number, finger print or face would let the police know who stole the product. It’s so bad in my community [emphasis mine] there is a store where some laundry supplies are kept locked up.”*

This respondent revealed another very common theme, which is that respondents were thinking about how self-service cases could be used to reduce crime. However, a review of the respondents’ answers revealed that many focused on the conditions under which they would or would not use the case. For example, one of the most

prominently used words was “fingerprint;” this word was frequently used as participants noted that they would like to use the case, but would not want to use their fingerprint, once again suggesting that there are certain types of PII are that the average person considers too valuable to exchange for a freer shopping experience. For example, a Hispanic Female said: “I’m pretty comfortable using my loyalty card or app to unlock a product but not crazy about face recognition or fingerprint options. Apps and loyalty programs already [have] everything they need from me.”

### Why did Some Say they would be Unlikely to Use the Case?

The third and final word cloud that was created reflects the reasons why unenthusiastic respondents said they would be unlikely or very unlikely to use the Freedom Case. The most frequently used and substantive words used in the responses are depicted in Figure 17.

Figure 17. Reasons Unenthusiastic Respondents would be Unlikely to Use the Freedom Case



The results indicate that those who were unlikely to use the case were uncomfortable with the use of facial recognition and fingerprints. This was a key theme that was repeated by respondents again and again. Consider the following quotes: “I am fine with it as long as it isn’t linked to my face or finger print [sic],” “I like all the ideas. The only one I would be uncomfortable with is the fingerprint,” “don’t like using my face or finger prints [sic],” “some of the methods provided were okay, like the ID or phone number. The fingerprint, face... too invasive.” All of these responses suggest that there is just some PII that is too valuable to some individuals for them to exchange it for reduced retail friction.

Interestingly, there were respondents who said that they would be likely to use the Freedom Case but still had

concerns about locked cases generally and the Freedom Case specifically. For example, a Black female stated: *“My issue with locked cases is their prevalent use in communities of color. Also, I do not trust that the gathered information would only be used to open the case. I think that there is data gathering that they use for God knows what purpose.”*

This quote reinforces the importance of making informed consent a central part of the process; customers need to know how their information will or will not be used, and be given the opportunity to consent. If they choose not to, they can continue to rely on assistance from store associates. Nevertheless, it seems that building trust with customers will be key. Multiple respondents voiced their concerns about trusting what retailers will do with the data that is collected. Here are a few quotes:

*“I wouldn’t like some of the methods because I know how some companies share data and have leaked data in the past.”*  
– White male from the Midwest

*“I do believe that it’s a great idea. But as far as using the touchscreen for scanning my face and fingerprints, it’s a no for me. I would be afraid of that information being catalogued and sold to a third party vendor. I like the idea because of the convenience of not having to wait for a store associate to unlock the case.”* – Black Southern female

*“I don’t like the idea that the store has my fingerprint or face scanned because I don’t trust that information to be stored safely. I don’t buy items locked up all the time. I would feel more comfortable providing information that the store already has, such as my loyalty card or cell phone number.”* – White female from the West

*“I understand these stores are trying to prevent theft but not at the cost of my privacy. I’m afraid they’ll try to use my info for other reasons.”* – Black female from the Northeast

*“I don’t trust that the information will only be used to unlock the case.”* – White female from the Midwest

Interestingly, despite their concerns, two of the respondents above said they would be likely to use the case and three said they would be very likely to use it if it were available today.

These were the primary criticisms of the Freedom Case – many were worried about how their personal information would be used, and were concerned about exchanging certain types of PII for reduced retail friction. However, many respondents noted their frustration with **all** locking cases in general. For example, one respondent wrote: *“IF things had to be locked up (which, in general, I don’t like) I would use it for cosmetics and razors.”* When asked what products he would like to see available in the Freedom Case, one man wrote: *“It wouldn’t matter to me because I avoid locked cases in stores.”* All of these rich, qualitative findings reinforce the findings from earlier in the report – many people simply do not like locked showcases and are dissatisfied with the way retail friction is being applied today.



## CONCLUSIONS: A VIABLE STRATEGY

This report revealed several interesting findings and suggested that enabling customers to exchange their PII for reduced retail friction may be a viable strategy for loss prevention; specifically, this report suggests that the Freedom Case may enable retailers to more precisely target retail offenders with additional retail friction while removing the burden from legitimate customers. In other words, the costs (risks and burdens) of crime are shifted to those who are responsible for it, rather than treating customers like thieves.

The findings indicated that a large portion of customers are dissatisfied with the process of purchasing items from locked cases; they believe it takes too much time; and the majority say that it is not convenient. When presented with a different option – the Freedom Case – the overwhelming majority said that they would use it, and would purchase locked products more frequently. Furthermore, most respondents to this survey said that they would be likely to use the loyalty card access option, the retailer app access option, and the cell phone number access option. These results largely held across demographic groups.

Finally, this report provided an initial analysis of respondent's answers to two open-ended questions. There is so much more work that can be done with this data, however, most of the responses indicated that there are many products that respondents would like to see provided within a solution like the Freedom Case. Furthermore, guests have many reasons for wanting the products to be more accessible. For example, many people indicated that they were uncomfortable asking for assistance retrieving products that have very personal uses, such as sexual health and wellbeing products. However, generally speaking, many just voiced their frustration with the current process of purchasing items locked within traditional showcases.

In summary, the Freedom Case offers the potential to reduce customers frustrations with current retail practices, and most customers are willing to exchange their PII to avoid the embarrassment, frustration, and inconvenience of locking showcases.