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# SELF-CHECKOUT: A Service Design Study

# INTRODUCTION TO SELF-CHECKOUT TERMINALS:

Self-checkout terminals are automated systems found in retail stores and other commercial establishments that allow customers to independently scan, bag, and pay for their purchases without the assistance of a cashier. These terminals have become increasingly prevalent in the retail industry, offering a self-service alternative to traditional manned checkout lanes.

Self-checkout terminals typically consist of:

- a scanner for reading barcodes, loyalty cards, and coupons
- a touchscreen that provides transactional guidance to the shopper and allows them to lookup and enter items without barcodes
- two scales— one for weighing bulk items and another in the bagging area as an anti-theft measure
- a credit card reader, cash scanner, and coin slot
- a receipt printer
- a cash and coin change dispenser
- a bagging area.

Customers interact with the terminal by scanning the barcodes on their items, confirming quantities, and selecting their preferred payment method. The system then calculates the total cost and prompts the customer to make a payment, often accepting cash, credit/debit cards, mobile wallets, and sometimes checks.



# BENEFITS:

Self-checkout systems offer several benefits to both retailers and customers:

## BENEFITS FOR RETAILERS

1. **Reduced Labor Costs:** Self-checkout systems can reduce the need for as many human cashiers, leading to potential cost savings in labor expenses. Retailers can allocate staff to other customer service areas.
2. **Increased Efficiency:** Self-checkout allows customers to scan and pay for their items without cashier assistance, reducing wait times and checkout lines, especially during peak hours.
3. **Extended Operating Hours:** Retailers can offer self-checkout during extended hours or in locations where it might be challenging to staff cashiers, such as late-night or convenience stores.
4. **Data Collection:** Retailers can collect valuable data on customer preferences, purchase patterns, and popular items through self-checkout systems. This data can inform marketing strategies and inventory management.
5. **Enhanced Customer Control:** Self-checkout gives customers more control over their shopping experience. They can bag their items as they prefer and maintain privacy during the transaction.



# BENEFITS:

## BENEFITS FOR CUSTOMERS

1. **Faster Checkout:** Self-checkout can be quicker than waiting in a traditional cashier line, especially for customers with only a few items.
2. **Control:** Customers have more control over their checkout process. They can scan and bag items at their own pace, ensuring that delicate or fragile items are handled carefully.
3. **Privacy:** Self-checkout offers a level of privacy for customers who prefer not to interact with cashiers or other shoppers during the checkout process.
4. **Reduced Queues:** Self-checkout helps reduce congestion in checkout lines, making it easier for customers to navigate the store and find open registers.
5. **Payment Options:** Self-checkout systems typically accept various payment methods, giving customers flexibility in how they pay.
6. **Increased Independence:** Self-checkout can empower customers who prefer to handle their transactions independently, including those with social anxiety or communication challenges.
7. **Accessibility:** Many self-checkout systems offer accessibility features, such as larger text and voice guidance, making them more inclusive for customers with disabilities.



# BEHIND THE TERMINAL:

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Implementing a self-checkout system is a significant investment for any retailer– with a bank of four terminals costs anywhere from \$75,000 to \$150,000, depending on the brand<sup>1</sup>.

Beyond the initial outlay for the kiosks themselves, there is the commitment of integrating the terminal software with the store's existing inventory and sales systems, as well as regular maintenance costing upward of \$15,000 per year<sup>2</sup>. As a final consideration for retailers, like many electronics, the terminals themselves have a lifespan of ~5 years before they become obsolete.

From a retail business perspective, to make the implementation of self-checkout technology worthwhile, retailers need a high rate of return on their investment. This means shoppers need to use the self-checkout terminals with minimal assistance, reducing the labor cost associated with providing individual cashiers and allowing that labor to be reallocated to benefit other areas in the store.

## STATEMENT OF PROBLEM:

Simply Googling the ubiquitous phrase “unexpected item in the bagging area” returns a superabundance of memes, humorous videos, songs, Reddit and Tumblr strings, rants on social media, and opinion pieces based entirely on the consumer frustration caused by self-checkout terminals. Although shoppers encounter them frequently, they are using them with varying degrees of success and enthusiasm.

How can self-checkout terminals be improved to provide more shoppers with a more positive experience, thereby increasing customer acceptance and throughput?



# MAKING THE CASE FOR USER RESEARCH:

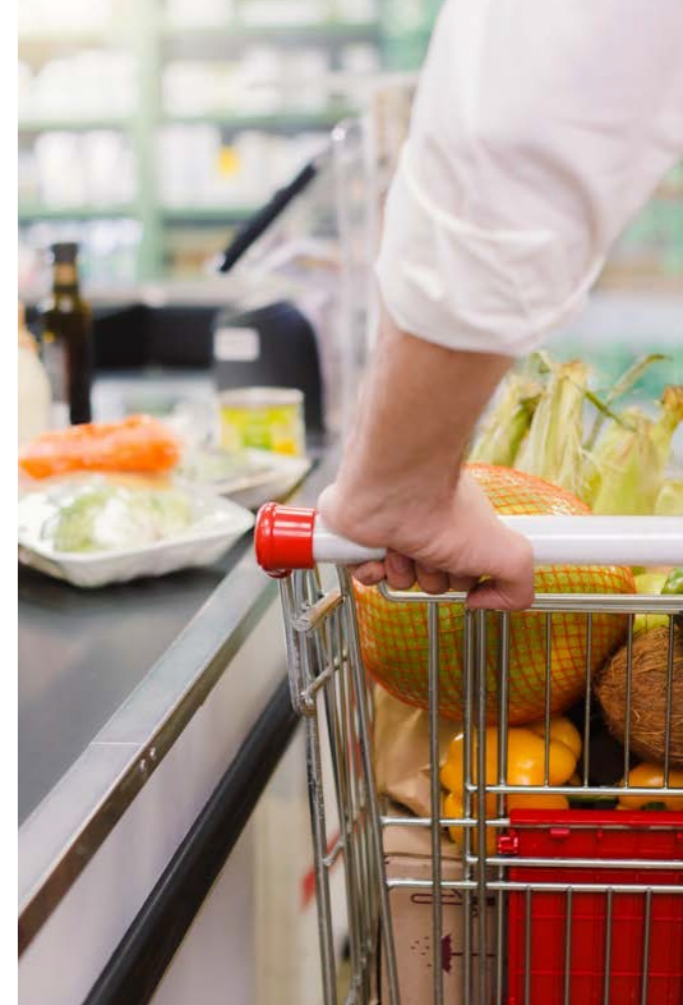
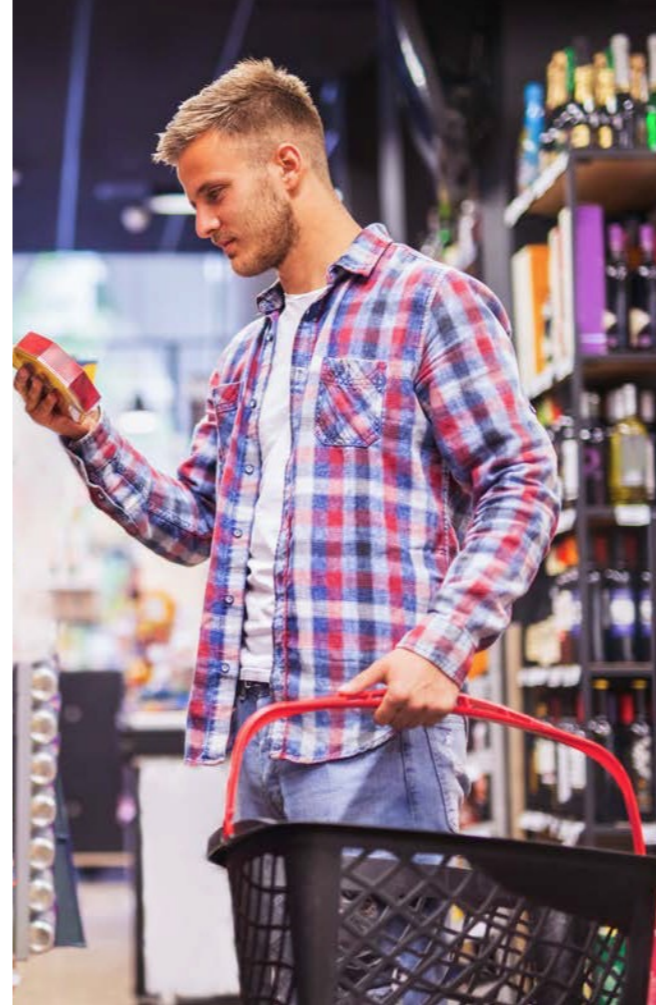
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The level of user satisfaction or dissatisfaction with self-checkout varies among individuals and can depend on factors such as their familiarity with the technology, the design and usability of the specific self-checkout system, and their personal preferences. There isn't a universal percentage that accurately represents the proportion of users who dislike self-checkout.

Some users appreciate the convenience and efficiency of self-checkout, while others may prefer traditional cashier-assisted checkout for various reasons, including a desire for human interaction or concerns about the usability of self-checkout systems.

Retailers and organizations often collect customer feedback and conduct surveys to gauge user satisfaction with self-checkout. This feedback can provide insights into the percentage of users who may have negative opinions about self-checkout in specific contexts or locations. However, these percentages can vary widely and are influenced by factors like the quality of the self-checkout experience, user demographics, and cultural preferences.

To assess user satisfaction accurately, it's essential for to conduct research and gather feedback from a broad customer base. This information can retailers select the right system and tailor services better to meet the needs and preferences of their customers.





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# RESEARCH:

## Methods & Outcomes

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# RESEARCH GOALS & METHODS:

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## RESEARCH GOALS:

- review the current user experience when processing a purchase using self-checkout.
- evaluate the usability of self-checkout kiosks toward identifying bottlenecks and/or opportunities.
- analyze interdependencies– namely, the type and frequency of transactions where issues occur that require intervention.
- conduct a comparison of different self-checkout machines to explore whether some features are more or less effective than others.
- obtain data toward developing experience maps to represent the customer journey during self-checkout.

## RESEARCH METHODS:

**SURVEYS** – An online survey was created to provide a preemptory picture of who our shoppers were and allow us to learn more about their demographics, preferences, behaviors, and attitudes.

**SHADOWING** – Participants were observed as they completed a purchase using a self-checkout terminal during a regular shopping trip at a large chain retailer. Notes were taken regarding issues encountered.

**CONTEXTUAL INTERVIEWS** – Participants were shadowed while completing a purchase using a self-checkout terminal during a regular shopping trip. Users were interviewed both before and after the shopping trip.

# SURVEY FORMAT:

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An online survey was developed to assess shoppers' perceptions, patterns and past experience with self-checkout systems.

The 1000 qualifying responses received for this survey provided both quantitative and qualitative data regarding who our shoppers are, including their demographics, preferences, behaviors, and attitudes.

**OUTREACH & SCREENING** – The survey was created using Survey Monkey and launched via social media channels to run during the month of July 2023

## **SURVEY STRUCTURE** –

The survey consisted of 10 questions designed to capture nominal and ordinal data, including two closed-ended screening questions to qualify or disqualify respondents from the target audience, depending on how they answered.

## **PARTICIPANT DEMOGRAPHICS** –

Recruit Number: 1000

Age: 18+

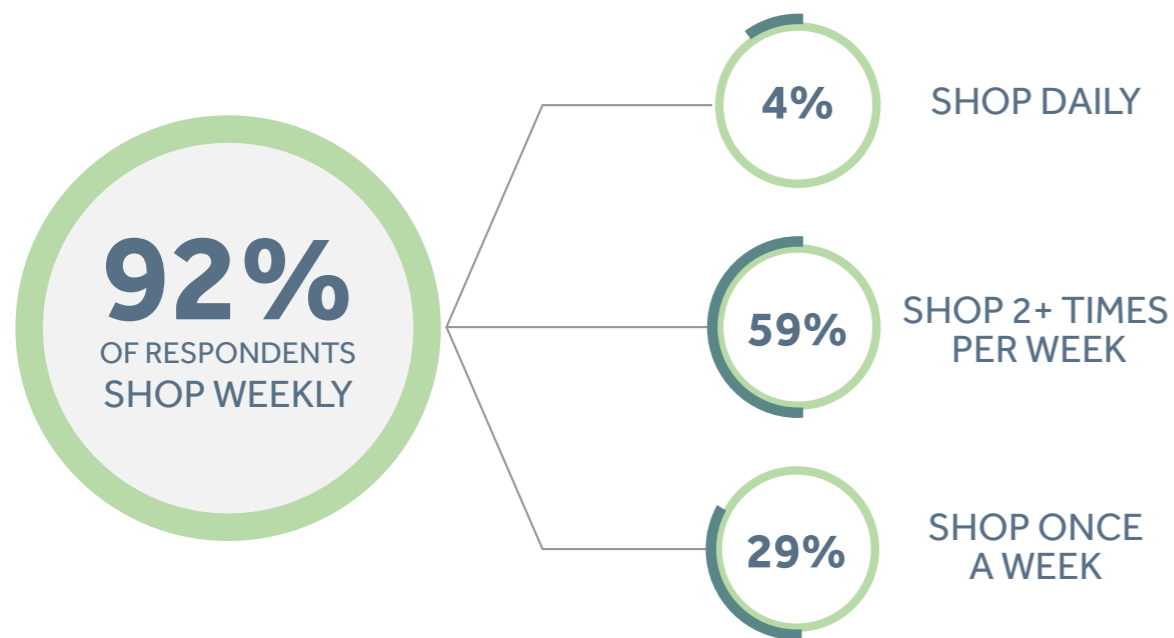
Location: Anywhere, United States

Consideration: The majority of respondents were from the Midwest and Texas.

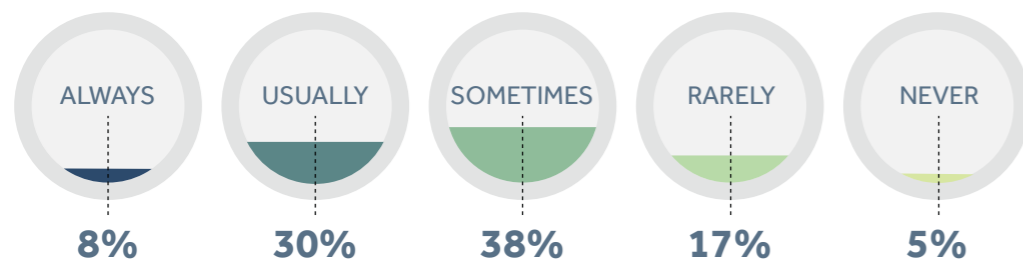
Must have experience using a self-checkout.

Must shop at least 1x per month at a large scale chain retailer.



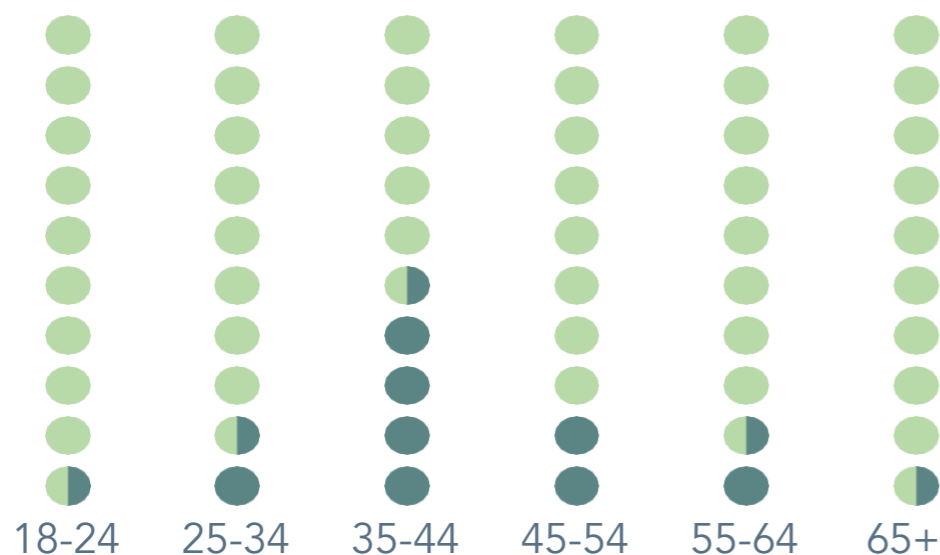


#### HOW OFTEN DO SHOPPERS CHOOSE SELF-CHECKOUT?



**45%** OF THOSE WHO SHOP WEEKLY INDICATED THEY PREFER USING SELF-CHECKOUT

#### RESPONDENT AGE



## SURVEY FINDINGS:

### SHOPPING HABITS:

92% of survey respondents said that they go shopping at least once a week—whether for groceries, apparel, household items, or otherwise. 59% indicated they shop two or more times a week, and 4% go once a day. Only 8% of respondents indicated they shop a few times a month or less.

### SELF-CHECKOUT USAGE:

Of 92 survey respondents who shop once a week or more, 45% indicated they are either likely or very likely to use a self-checkout terminal over a traditional cashier to process their shopping transaction. 16% responded neutrally, and 38% indicated they were either unlikely or very unlikely to use the self-checkout.

### RESPONDENT AGE:

70% of respondents under the age of 34 indicated a preference for self-checkout, however, those above the age of 34 shop more frequently. Those in the 45-54 age range responded most negatively, with 55% indicating they were unlikely to use self-checkout when also offered the option of a traditional cashier.

## HOW DO SHOPPERS FEEL ABOUT SELF- CHECKOUT?



### SELF-CHECKOUT SENTIMENT:

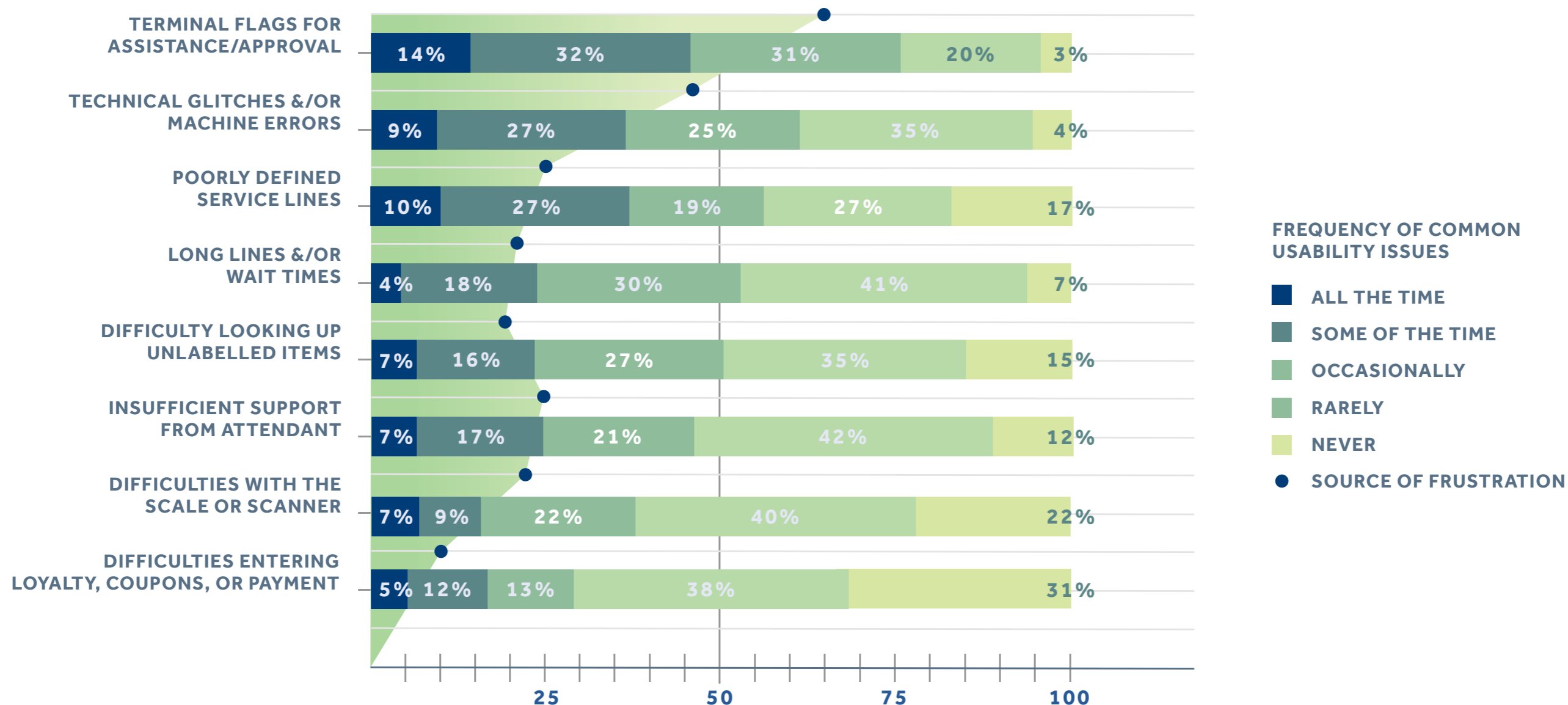
53% of those surveyed responded that they feel self-checkout makes shopping faster and 47% indicated self-checkout makes shopping easier. Although 74% of respondents feel retailers should offer consumers a choice between self-checkout and traditional, cashier-manned terminals; 43% feel more businesses should offer self-checkout.



### EXPERIENCE ESSENTIALS:

No matter how frequently people shop and regardless of their sentiment concerning self-checkout terminals, respondents rated speed and simplicity as the most important aspects of their experience when processing a transaction at a retailer.

In open-ended questions, respondents included convenience as a motivator for using self-checkout terminals.



Survey respondents were asked to estimate how often they encounter common self-checkout usability issues and indicate which of them they find most frustrating.

According to responses received, self-checkout terminals flagging for assistance or approval is not only the most frequent issue shoppers encounter but is also the most frustrating to them. This was

supported by shopper responses to an open-ended question regarding what they feel does not work as far as self-checkout is concerned.

Technical glitches and machines errors are implicated as the next most common and aggravating issues, with poorly defined service lines and a lack of assistance being the next most frustrating challenges.

Being unable to look up unlabelled items was noted as being as common as long lines and insufficient support, but shoppers did not seem to find this as bothersome. While not as commonly encountered, shoppers indicated having issues with the scale or scanner at a checkout terminal as being more annoying.

# SHADOWING:

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User shadowing provided a high-level overview of self-checkout usability. 10 users were randomly selected during routine shopping trips to a large, Midwestern chain retailer. The following are the primary issues observed:

**SCANNING ISSUES** – 6 users encountered issues when looking up products that were not barcoded or had damaged barcodes. Several times, items were not easily located when manually entered and required the attendant's assistance. Users also experienced difficulty making distinctions between items with subtle differences—like yellow vs. Vidalia onions or organic vs. standard produce.

**BAGGING AREA ISSUES** – Issues with the bagging area were frustrating for each user. One user entered a loop of machine errors after the terminal falsely sensed an item in the bagging area, while another ended up with their groceries on the floor while trying to use their own bags.

**PAYMENT / LOYALTY** – Each user seemed to struggle to know where to pay by card or cash because each payment component was located in a different area. Additionally, some found it unclear where or how to enter coupons and store loyalty information.

**ATTENDANT** – An attendant was required for 8 of the 10 users to complete their transactions. In one instance, the attendant was called over 6 separate times to enter a bypass code due to a consistent bagging issue. During another, the user and other shoppers around them had to wait several minutes for the attendant to be available.

**ACCESSIBILITY** – One of the shoppers observed has a hearing deficit, and there was no apparent option to increase the terminal volume, causing him to miss some of the commands.

*"I've entered my loyalty card, now it's asking for my pin... where do I enter my pin?"*

*"This thing gets angry when I remove any of the groceries but there's not enough room to bag them."*

*"There's nothing in the bagging area, you stupid machine!"*

*"What does this thing need now? It's saying something but I can't hear what it wants and I can't turn up the volume."*

*"This barcode won't scan because it's wrinkled. Now what? Is it calling the attendant again?"*

# CONTEXT INTERVIEWS & INSIGHTS

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10 individuals recruited from survey respondents were scheduled to be shadowed while completing a purchase using a self-checkout terminal during a regular shopping trip to any one of six local, large chain retailers. Participants were also interviewed before and after their trip.

User interviews and observation provided us with greater insight into several areas where the self-checkout is not meeting the needs of shoppers.

The data obtained from interviews, along with open-ended responses to survey questions were grouped and coded according to common themes and the following areas of opportunity were identified:

**POORLY DEFINED LINES** – At many stores, self-checkouts are arranged in a kind of “corral” configuration without a distinct line for customers to queue in. This creates confusion.

**MAINTENANCE ISSUES** – Machines are frequently out of order and or only accept one payment type. This creates problems for customers and attendants, this can also put unnecessary strain on cashier-operated checkouts.

**SCANNING ITEMS** – Shoppers have a more accurate result of scanning their items when a hand scanner is available in addition to the tabletop scanner– mainly when processing irregularly shaped and/or heavy items.

**MISTAKES** – Even when shoppers make minor mistakes, they are not empowered to resolve them– for example, when they accidentally scan an item twice. Instead of being able to remove this item, the self-check terminal flags that assistance is needed.



# KEY INSIGHTS

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User interviews and observation provided us with greater insight into several areas where the self-checkout is not meeting the needs of shoppers.

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**PACING** – As items are scanned, they take a moment to register. When this occurs, it not only causes shoppers to double scan items, but creates bagging area issues.

**ITEM LOOKUP** – When looking up items that are not barcoded, it is easy for shoppers to mistakenly select the wrong items; either inadvertently overcharging themselves or shorting the store. For example: when entering lemons, both organic and regular lemons appear with very similar entries. Additionally, some items are simply unavailable– like bagged ice. When this occurs, an attendant is needed.

**BAGGING AREA** –The area used for bagging is too small, and all the shopper's items must stay on the bagging-area scale until the purchase is complete. Additionally, bagging-area scales are too sensitive, causing frequent errors and unnecessary flags for attendants. This is inconvenient for customers– particularly those who wish to use their own bags.

**COUPONS & CHARITY** – Shoppers seemed to dislike receiving requests to donate to charity at the end of their purchase. They also disliked receiving reams of coupons that are not for things they want or normally buy. Tailoring these items to the customer would be beneficial in this instance.

**LAYOUT** – Some loyalty programs require customer to enter their loyalty card via the scanner or monitor but then enter a separate pin on the credit card machine. Additionally, although the credit card machine is on one side of the terminal, the cash/ coin payment slot is in a completely different location.

**VOLUME** – We noted a hearing impaired individual occasionally missed terminal commands issued at low volume. But perhaps more disconcerting was the machine later loudly announcing to everyone in the store that he requested cash back.





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RECOMMENDATIONS

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# SELF-CHECKOUT WORKFLOW

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## SELECTION & START

The customer approaches the self-checkout kiosk and selects the "Start" or equivalent option to initiate the process.

## ITEM SCANNING

The customer scans each item's barcode using the kiosk's scanner or touchscreen interface. They can typically place items directly on the scanner or in the bagging area after scanning.

## ITEM VERIFICATION

The kiosk displays the scanned items, prices, and quantities on the screen for the customer to review. The customer can make corrections or verify the accuracy of the scanned items.

## BAGGING

As items are scanned, the customer places them in bags or containers in the designated bagging area. Some systems may have weight sensors to ensure items are properly bagged.

## SECURITY CHECKS

Some systems may have security checks, such as random item verifications or age verification for certain products like alcohol or tobacco.

## PAYMENT SELECTION

The customer selects their preferred payment method, which may include credit/debit cards, mobile wallets, cash, or other options. They may also use any available loyalty cards or coupons.

## PAYMENT AUTHORIZATION

The system processes the payment method selected by the customer. For card payments, this may involve inserting or tapping a card, while cash payments may require inserting bills or coins.

## PAYMENT CONFIRMATION

The customer receives confirmation of a successful payment on the screen. They may also receive a printed receipt if requested or a digital receipt via email or text.

## RECEIPT & CONCLUSION

The customer receives a paper receipt or a digital receipt, which serves as proof of purchase and includes details of the transaction. The customer exits the store with their purchased items.

# WHEN THINGS HAPPEN

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## ITEM SCANNING PROBLEMS –

- Difficulty scanning barcodes, especially on irregularly shaped or damaged items.
- Unintended double scanning of items.
- Items not scanning properly, leading to delays and frustration.

## BAGGING ERRORS –

- Weight sensors detecting discrepancies in the bagging area, triggering unexpected alerts.
- Items being incorrectly recognized as unpaid due to bagging errors.

## PAYMENT ISSUES –

- Credit or debit card not being recognized or accepted.
- Issues with payment processing or authorization.
- Coin or bill acceptor malfunction for cash payments.

## COUPON & DISCOUNT CHALLENGES –

- Difficulty applying coupons or discounts in the system.
- Coupons not being recognized or accepted.
- Confusion about the location or method for entering discounts.

## LACK OF ASSISTANCE –

- Difficulty finding a store employee for assistance when needed.
- Long wait times for help, leading to frustration.

## COMPLEX TRANSACTIONS –

- Customers with a large number of items may find self-checkout less efficient than using a cashier.
- Challenges with splitting payments or using multiple payment methods.

## AGE-RESTRICTED ITEMS –

- Difficulty with age verification for purchasing items like alcohol or tobacco.
- Delays in processing due to age verification requirements.

## TECHNICAL GLITCHES –

- System freezes, crashes, or other technical issues that disrupt the transaction.
- Inability to complete the transaction due to system failures.

## USER INTERFACE CONFUSION –

- Customers may find the self-checkout interface confusing or unclear, leading to errors.
- Difficulty navigating through screens or options.

## LOSS OF HUMAN INTERACTION –

- Some customers may miss the personal interaction and assistance provided by human cashiers.

## INADEQUATE TRAINING –

- Customers may not be adequately informed or trained on how to use self-checkout systems, leading to user errors.

## LANGUAGE & ACCESSIBILITY BARRIERS –

- Challenges for customers who are not proficient in the language used on the interface.
- Accessibility issues for customers with disabilities if the self-checkout system is not designed with accessibility features.

# RECOMMENDATIONS:

## USER FRIENDLY INTERFACES –

- Design intuitive and user-friendly interfaces with clear instructions and minimal complexity.
- Use easily recognizable icons and graphics for scanning, payment, and other actions.

## GUIDED ASSISTANCE –

- Offer on-screen prompts and visual cues to guide customers through the self-checkout process step by step.
- Provide audio instructions and options for customers with visual impairments.

## EFFICIENT SCANNING –

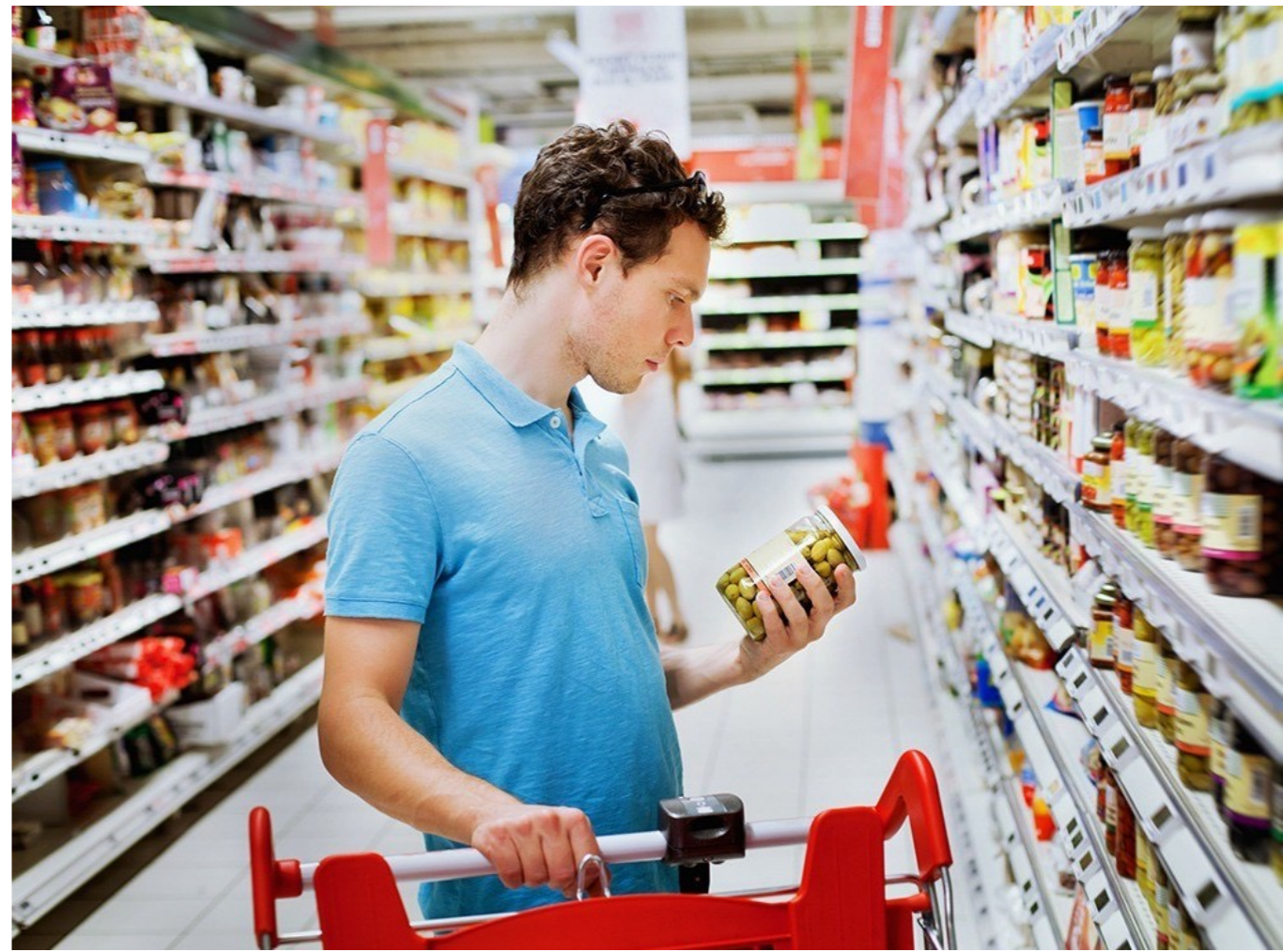
- Ensure barcode scanners are quick, accurate, and able to handle various item types, including irregularly shaped or damaged items.
- Implement scanner feedback mechanisms, such as beeps or visual indicators, to confirm successful scans.
- Provide scanning guns for large, heavy, or oddly shaped items.

## RESPONSIVE TOUCHSCREENS–

- Use responsive touchscreen displays that are easy to navigate and operate.
- Optimize screen layout for both touchscreen and keypad entry.

## HELP FEATURES–

- Include help buttons or call buttons for customers to request assistance from store employees when needed.
- Offer chat or video assistance options for remote support.



# RECOMMENDATIONS:

## CLEAR PAYMENT OPTIONS –

- Clearly display payment options, including credit/debit cards, mobile wallets, and cash, and guide customers through the payment process.
- Support multiple payment methods and split payments if necessary.

## COUPON & DISCOUNT INTEGRATION –

- Streamline the process for applying coupons, discounts, and loyalty rewards, making it easy for customers to access and redeem offers.

## AGE-VERIFICATION –

- Integrate age verification processes seamlessly for purchasing age-restricted items, using reliable and efficient methods.

## BAGGING SOLUTIONS –

- Ensure weight-sensitive bagging systems are accurate and provide clear feedback to customers.
- Allow customers to easily remove items from the bagging area for correction.

## ACCESSIBILITY CONSIDERATIONS–

- Design self-checkout systems with accessibility features, such as screen magnification, voice guidance, and tactile feedback for customers with disabilities.
- Place kiosks in such a way as to be viewed, interacted with, and accessible from a variety of heights

Regular Maintenance:



# RECOMMENDATIONS:

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## REGULAR MAINTENANCE–

- Maintain self-checkout machines regularly to prevent technical glitches and malfunctions.
- Provide proactive maintenance checks to identify and address issues before they impact the customer experience.

## STAFF AVAILABILITY–

- Have store employees readily available near self-checkout areas to assist customers, answer questions, and resolve issues promptly.
- Train staff to provide excellent customer service during self-checkout interactions.

## CLEAR SIGNAGE & COMMUNICATION–

- Use clear and informative signage to direct customers to self-checkout stations and explain the process.
- Display wait time estimates and queue management information, if applicable.

## SECURITY–

- Communicate security measures transparently to customers to address concerns about privacy and surveillance.
- Ensure that security checks do not disrupt the customer experience.

## FEEDBACK LOOPS–

- Collect feedback from customers about their self-checkout experiences and use this input for continuous improvement.
- Continuously test and iterate on the self-checkout experience based on user feedback and evolving customer needs.





# APPENDIX

# RESEARCH QUESTIONS:

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We are seeking to answer the following questions based on common self-checkout usability issues and supported by observed behaviors and challenges during user shadowing:

1. What motivates a shopper to use the self-checkout terminal instead of a traditional, cashier-operated lane?
2. What are the primary issues users encounter when using self-checkout? Which do they perceive as most frustrating?
3. In general, where in the workflow are shoppers encountering usability issues? What kinds of issues do they encounter most frequently?
4. What is the customer journey when using a self-checkout? How do shoppers navigate this journey? Is it the same from person to person?
5. Are the language and interface of the terminal structured in a logical, user-friendly way that makes sense to shoppers?
6. Are the various things users need to interact with easy to see? Are instructions easy to hear?
7. Is the layout of the machine intuitive? Are users able to easily locate each component of the machine required to complete their purchase?
8. What is the process for scanning items? Under what circumstances can they not be scanned?
9. When items cannot be scanned, what is the process for adding them to the order? Does that process make sense to shoppers?
10. What is the process for bagging items? What parts of the bagging process are effective and what parts are sources of frustration?
11. What is the process to enter customer loyalty information? Is it straightforward?
12. What is the process for submitting payment? Is it straightforward and easy to do?
13. How much time does it take to complete a transaction— from arrival at the terminal to exiting the store? What do shoppers need to do this?
14. What causes a shopper (not the terminal) to require assistance when completing a transaction and how often does this happen?
15. Under what circumstances does the terminal request assistance on behalf of the shopper? How often does this happen?
16. When the terminal generates an error or requests assistance, is it accurate? If not or not always, how often is it inaccurate and why?
17. Are users able to get assistance quickly and efficiently? If not, what is preventing them from doing so?
18. Are shopper opinions of self-checkout generally good, bad, or mixed? Why? What is their overall opinion?

# ONLINE SURVEY SCREENER:

The following screener questions were embedded in our online survey to ensure respondents were from the preferred demographic, additionally, respondents were location limited to the United States:

1. What is your age?

Under 18

(DISMISS)

18 - 24

25 - 34

35 - 44

45 - 54

55 - 64

65+

2. How frequently do you go shopping (whether for groceries, apparel, household items..., etc.)?

Every Day

A few times a week

About once a week

A few times a month

Once a month

Less than once a month

(DISMISS)

3. Do any of the retailers you visit offer self-checkout terminals?

Yes

No

(DISMISS)

4. If yes, have you ever used the self-checkout terminal?

Yes

No

(DISMISS)



# ONLINE SURVEY QUESTIONS:

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When available, how often do you use a self-service checkout kiosk or checkout station to complete a transaction at a retailer?

How likely are you to choose a self-service kiosk over a traditional cashier?

When completing a transaction using the self-checkout, how often do you experience or encounter one of the following?

- Technical glitches and/or machine errors
- A machine prompt indicating staff assistance/approval is needed
- Long lines and/or wait times
- Undefined service lines where you're not sure whose waiting in what order
- Difficulties looking up unlabelled items
- Insufficient support from the attendant
- Difficulties with the scale or scanner
- Problems entering coupons, payment or loyalty program information

When completing a transaction, which of the following do you find frustrating?

- Technical glitches and/or machine errors
- A machine prompt indicating staff assistance/approval is needed
- Long lines and/or wait times
- Undefined service lines where you're not sure whose waiting in what order
- Difficulties looking up unlabelled items
- Insufficient support from the attendant
- Difficulties with the scale or scanner
- Problems entering coupons, payment or loyalty program information

Do you agree or disagree with the following statements?

- self-checkout terminals make checking out faster
- self-checkout terminals make checking out easier
- more businesses should offer self-checkout
- businesses should offer a choice between self-checkout and traditional cashiered lanes

When completing a transaction, rate the following aspects of the experience from most important to least important:

- Speed
- Ease/Simplicity
- Friendliness
- Ability to get Assistance

Can you think of a retailer who, in your opinion, does the self-checkout right? If so, why/how do they do it better?

Can you think of a retailer who, in your opinion, does self-checkout poorly? If so, why/how do you think they are experiencing issues?

# CONTEXTUAL INTERVIEW SCREENER:

We have developed the following recruitment to ensure those selected for contextual interviews fit the target demographic:

1. Have you ever used a self-checkout terminal to complete a purchase?

Yes

No *(DISMISS)*

2. Do you regularly shop at any of the following retailers?

Walmart

PigglyWiggly

Meijer

Pick N Save

Target

Home

Depot

*(If no, dismiss)*

2b. If yes, how often?

Every Day *(IDEAL)*

A few times a week *(IDEAL)*

About once a week

A few times a month *(DISMISS)*

Once a month *(DISMISS)*

Less than once a month *(DISMISS)*

3. When shopping at those retailers, do you ever use the self-checkout to complete your purchase?

Yes

No *(DISMISS)*

4. Do you live in the Greater Milwaukee area?

Yes

No *(DISMISS)*

4a. If yes, where?

*(Ideal respondent is from Washington County)*

5. What is your age?

Under 18 *(DISMISS)*

18 - 24

25 - 34

35 - 44

45 - 54

55 - 64

65+

# INTERVIEW QUESTIONS:

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## PRE-SHOPPING TRIP QUESTIONS:

1. Do you enjoy shopping? (Why or why not?)
2. How often, in general, do you go shopping? (This can include grocery shopping, clothes shopping, even quick trips to the drug store.)
3. When you think about shopping, what makes for a good shopping trip? What are the elements?
4. What makes a for a poor shopping trip?
5. Can you tell me about the last time you went shopping and used the self- checkout terminal?
6. Can you walk me through your process when using the self checkout? It doesn't have to be perfect, just tell me how you remember it.
7. Have you ever hit any snags when trying to make a purchase at a self-checkout? (Why? What kind? How did you feel?)
8. Have you ever required assistance to make your transaction? (Why? What kind? How did you feel? Was it easy to get the assistance you needed?)
9. How do you decide whether to use self-checkout or the staffed checkout?
10. Given the choice, do you prefer self-checkout or a staffed checkout? Why?
11. Do you prefer self-checkout over a staffed express lane? (Why or why not?)
12. What do you like about the self-checkout terminal? What do you dislike about it?
13. What do you like about having a cashier complete your transaction? What do you dislike about it?
14. Whether you're using a cashier manned lane or self-checkout, what is most important to you when you're completing a transaction?

## POST-SHOPPING TRIP QUESTIONS:

1. Do you feel that trip went well? (Why or why not?)
2. What was the best thing about it? What was the worst?
3. Were you able to see and hear all the various components and screens on the machine? Was any of it confusing or hard to navigate?
4. Did you have any issues when scanning your items? (If so, why? What kind? How did you feel? Was it easy to get the assistance you needed?)
5. Did you have any issues when bagging your items? (If so, why? What kind? How did you feel? Was it easy to get the assistance you needed?)
6. Did you have any issues entering your loyalty information? (If so, why? What kind? How did you feel? Was it easy to get the assistance you needed?)
7. What payment type did you use and did you have any issues paying? (If so, why? What kind? How did you feel? Was it easy to get the assistance you needed?)
8. Did you use any coupons? (If so, any issues using them?)
9. Did the machine indicate any issues while you were using it? Any false or valid flags? (If so, what kind?)
10. Did you need assistance with your purchase at any time? (If so, what with? Were you able to get the assistance you needed quickly?)
11. Was an attendant available?
12. Do you feel your transaction would have been better or faster if it had been done by a cashier? (If so, why and in what way?)
13. Do you feel your overall opinion of self-checkout has changed– even slightly– from that of our earlier conversation?



# ADDITIONAL RESEARCH

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## USABILITY STUDIES:

- Reconsider Kiosk layout to improve:
  - Bagging area size
  - Location of payment slot, change dispenser, and receipt printer
  - Purchase privacy options
  - Queuing direction
- Review terminal pacing to make sure it matches customer pace.
- Review theft deterrents and consider alternatives to a bagging area scale
- Investigate the overall usability and clarity of methods by which users look up items.

## ENGAGE TERMINAL ANALYTICS:

- Provide targeted coupons to customers based on purchases
- Investigate charitable giving options
- Deep-dive into the incidence of theft during purchases

## ACCESSIBILITY STUDY

- Review self-checkout terminals to confirm their usability among those with disabilities such as hearing impairments, vision, mobility, etc.