



TO: Dr. Twomey

FROM: Dwayne Davis, 9192EDTC803 Student

DATE: July 31, 2015

SUBJECT: Proposal to Analyze The Impact of WallGreeds's Automated Self-Checkout System on Customer Satisfaction.

Enclosed is a proposal to analyze the impact of WallGreeds's (*a fictional company*) new automated self-checkout systems on customer satisfaction. To carryout this analysis, I propose the use of a six to ten question survey as an instrument to collect customer feedback. With data collected from WallGreeds's customers over a five-week period, a statistical analysis will be used to determine how satisfied WallGreeds's customers are with the new automated self-checkout systems.

The enclosed proposal includes details on the following:

- Background information on WallGreeds
- Information to be gathered and questions to be answered
- Primary source for collecting accurate customer information
- Proposed instrument for data collection
- Proposed analysis method and data collection
- Ensuring reliability and validity of the analysis.

I strongly believe this proposal, if accepted, will provide valid and reliable information to determine the level of customer satisfaction with WallGreeds's new self-checkout system. Thereby, allowing WallGreeds to make a sound economic decision to continue or discontinue the use of its new automated system.

I look forward to work with WallGreeds and carrying out this analysis. Please contact me at [ddavis1@njcu.edu](mailto:ddavis1@njcu.edu) or 646-824-8940 if you have any questions regarding this proposal. I look forward to hearing from you.

## **Company Background**

WallGreeds is a small fictional Northeast retail corporation that operates 20 discounted department stores. Each of WallGreeds stores specializes in home goods and supermarket items. WallGreeds's profit has tripled over the last three years, as consumers flock to its stores for its "WalGreeds's Low-Priced Guaranteed" items. A major component of the corporation's consistent increase in profits is the use of automation that reduces high wage jobs. To further increase profits, WallGreeds implemented a one-year pilot with new self-checkout scanners in five of its stores, located across New York and New Jersey.

WallGreeds's pilot began January 1, 2015 and is scheduled to either expand to other stores or be discontinued on December 31, 2015. If successful, the self-checkout scanners will reduce the number of cashiers each store requires, thereby reducing expenses and increasing profits. WallGreeds business analysts believed that the new automated customer checkout scanners would not only save the corporation money, but also save WallGreeds's customers time by speeding up the check-out process. After six months of the pilot, store managers in three of the five pilot stores have suggested that customers seem increasingly frustrated with the loss of personal service. To evaluate the impact of the automated self-checkout lanes, WallGreeds has submitted a request for a proposal (RFP) to determine the level of customer satisfaction of the new automated checkout systems.

## **Proposal and Information Needed**

This report is a proposal, in response to WallGreeds's RFP, to carry out a statistical analysis of the corporation automated self-checkout system. This statistical analysis will determine to what degree WallGreeds's customers are satisfied with the new automated self-checkout systems. At a more detailed level, this analysis will determine specific aspects of the system WallGreeds customers find satisfactory or unsatisfactory. Examples of these aspects include satisfaction with the: speed of checkout; number of self-checkout lanes; ease of use to operate system screens; accuracy of the system, ability to understand system prompts, and level of staff support when issues occur. Additionally, this proposed analysis will include items to determine features that could improve the customer experience and satisfaction.

## **Data Source, Method and Collection**

### **Source of Information**

WallGreeds's customers are the primary users of the automated checkout systems and are directly impacted. Thus, for the purpose of this analysis, WallGreeds's customers will be the primary sources that are targeted for collecting feedback and satisfaction information.

### **Method of Collection**

The best companies in the world focus on customer satisfaction by utilizing customer satisfaction surveys. Effectively used surveys can be an efficient means of reaching a large number of people at a relative low price. Surveys can be issued digitally or by paper. For the purposes of this analysis, the goal will be to collect information from a random sample of customers in each pilot location. To do this, paper surveys will be created with six to ten critical questions. Customers will be asked to complete paper survey following the use of an automated self-checkout system. A sample of the proposed survey instrument can be found in appendix I.

**Timing of Survey.** Due to limited time and budget, it is unfeasible to survey every customer that uses the automated self-checkout system in WallGreeds's stores. Therefore, this analysis will employ the use of customer surveys for five weeks. During the five-week period, each of the five pilot stores will be surveyed for one week. To

administer the surveys, one data analysis will travel to the stores and solicit customers to participate in the survey during the five-week period.

**Sample Size.** To determine the overall customer satisfaction for the five stores, a statically significant random number of self-check out customers will be surveyed at each location. The statistical sample number of customers will be determined by using: the average number of self-checkout customers for all five stores; a margin of error of +/- 5%; an average confidence level of 95%, and an average standard deviation of .5. If we assume that 500 or more customers use the self-checkout systems each day in each location, approximately 62,500 total customers will use the self-checkout system across all five locations during the five-week period. Therefore, if 80 customers are randomly sampled in each location, 400 customers will provide feedback. A sample size of 400 will provide a significantly accurate statically representation of the self-checkout customer population.

**Improving Participation** Surveys are not effective if there is a lack of customer participation. It may be difficult to solicit customers to participate if there is no perceived benefit to the customer. Additionally, the customer may not be encouraged to complete the survey due to time. Being empathetic to needs and time of potential respondents' will promote higher motivation and participation. To encourage and improve customer participation, the use of an incentive will be necessary. As an incentive, each customer who completes a survey will be automatically entered into a raffle. The raffle will be held at the end of the survey period. The winner of the survey will receive a \$50 WallGreeds gift card.

### **Valid, Reliable and No Bias**

#### **Valid and Reliable**

Creating a valid and reliable survey is critical to making accurate decision once the data is collected and analyzed. To promote validity and reliability, neutral and standard language will be used. Use of neutral language to avoid leading the responders to a specific answer is one method of ensuring that valid and objective data is collected. Use of standard language that enables less educated persons to easily understand the question will ensure comprehension, and thus, reliability.

#### **None Bias**

There are number of ethical issues that could arise if attention, care and tact are not used when developing content of the survey instrument. Surveys that are bias towards a specific group or people can create ethical issues and ultimately produce unreliable data. The following are examples of questions that can and will be used to evaluate the fairness or level of bias of this survey. Does the survey offend the responders? Does it ask questions that would be answered effectively regardless of sex or gender? Does the survey cater to the dominant language of the community?

#### **Conclusion**

By employing all the methods discussed, I strongly believe this proposal, if accepted, will provide valid and reliable information to determine the level of customer satisfaction with WallGreeds's new automated self-checkout system. Thereby, allowing WallGreeds to make a sound economic decision to continue or discontinue the use of the new automated system.

## Appendix I: Sample Survey Instrument

Raffle #123456

### You Could Win a \$50 WallGreeds Gift Card!

#### Customer Satisfaction Survey

**Directions:** Please read carefully.

Thank you for taking the time to help us serve you better. Please help us by taking a few minutes to tell us about your experience with our new automated self-checkout systems. Your feedback will help us ensure that we meet your expectations. By completing this survey, you are eligible to win a \$50 WallGreeds gift card.

Read each survey item then check off one response or write your comment to the right

<i>Survey Item/Questions</i>	<i>Strongly Disagree</i>	<i>Somewhat Disagree</i>	<i>Neither Agree or Disagree</i>	<i>Somewhat Agree</i>	<i>Strongly Agree</i>
I am satisfied with the speed of the self-checkout lines.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The screen directions and prompts are easy to understand.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The screen directions and prompts are easy to read.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The system accurately scans my items.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The system accurately calculates my total.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am always helped if I have difficulties with the self-checkout system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WallGreeds employees are professional and willing when I ask for help.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I prefer using the self-checkout lane to check my groceries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall, I am satisfied with the new automated self-checkout systems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are there any features that you would like to see added or removed from the system in the future? Please comment in the box to the right.					

Thank you for your honest feedback!