

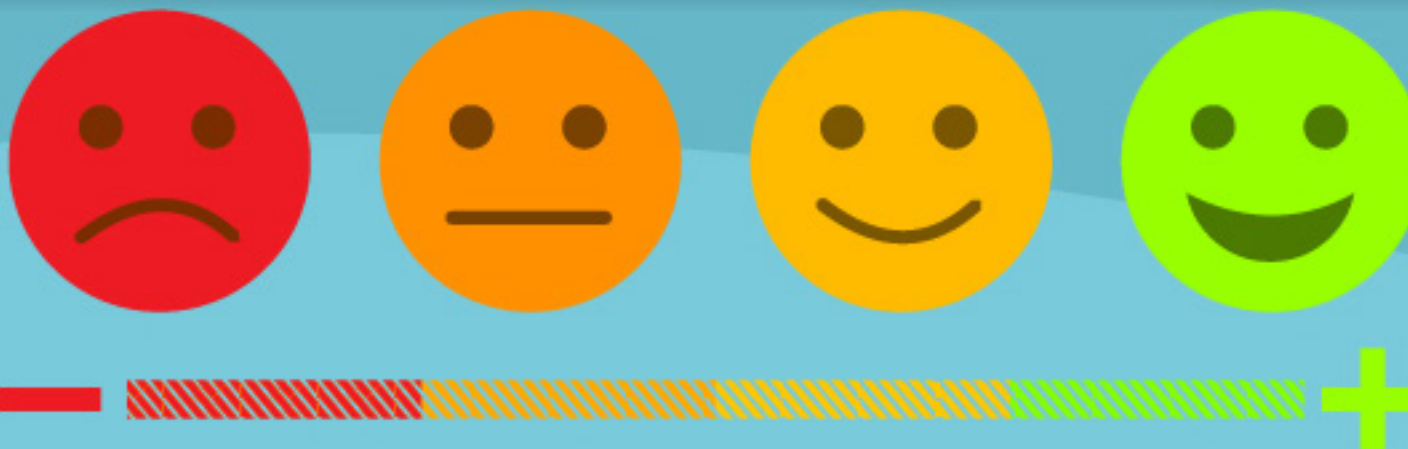


Office of Inspector General | United States Postal Service

## RARC Report

# Delivering the Best Customer Experience

Report Number RARC-WP-18-003 | December 13, 2017



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# Executive Summary

Two customers take a survey about postal delivery on the same date and report two different experiences. On Long Island, the customer is pleased: "Very satisfied with service. Mailman very friendly and helpful. Mail usually delivered at constant time." In Ohio, the customer is not: "Deliver at a consistent time of the day. Our delivery time has varied from 10:00 a.m. to 4:30 p.m. The sorting process needs to improve. We are constantly getting other businesses' mail." These narrative responses, commonly referred to as verbatims, accompany responses to multiple choice and rating questions, which together provide customer experience feedback about delivery service. At the local level, managers review them to track problems with missing mail or individual carriers. At the headquarters level, the focus is on the overall, aggregated delivery satisfaction metric. Reported to both Congress and the Postal Regulatory Commission, the delivery metric decreased in fiscal years (FY) 2015 and 2016. However, modifications to the calculation in FY 2017 and FY 2018 make further historical comparisons incongruous.

To assess customer satisfaction over time and identify improvement opportunities, the U.S. Postal Service Office of Inspector General (OIG) reviewed the FY 2016 Delivery Survey using four approaches:

- examining the answers to the rating questions, overall and by customer segment,
- analyzing the verbatims, overall and by customer segment,
- interviewing managers at the local and headquarters level to understand how the surveys are being used, and
- enlisting an expert opinion on ways to optimize the survey going forward.

## Highlights

Customer satisfaction with individual aspects of the delivery experience remained flat or decreased since FY 2015.

Dissatisfaction is highest among small and medium business customers, centralized delivery recipients, and 25-34 year olds.

Analysis of the verbatim comments uncovered highest dissatisfaction with misdelivery, delivery time, delivery location, and parcel safety or condition.

Field management uses survey responses to troubleshoot local problems. A headquarters review would address systemic concerns through macro changes to policies and procedures.

The Postal Service could make the survey more representative of the general population and validate the survey's scale to ensure its accuracy.

Our research confirmed that the Delivery Survey provides the Postal Service with valuable customer feedback. However, the agency could do more with the underlying data. The objective of this report is to illustrate how fine-tuning the survey and using its results in new ways could further improve the delivery experience for customers.



# Research Report

## Introduction

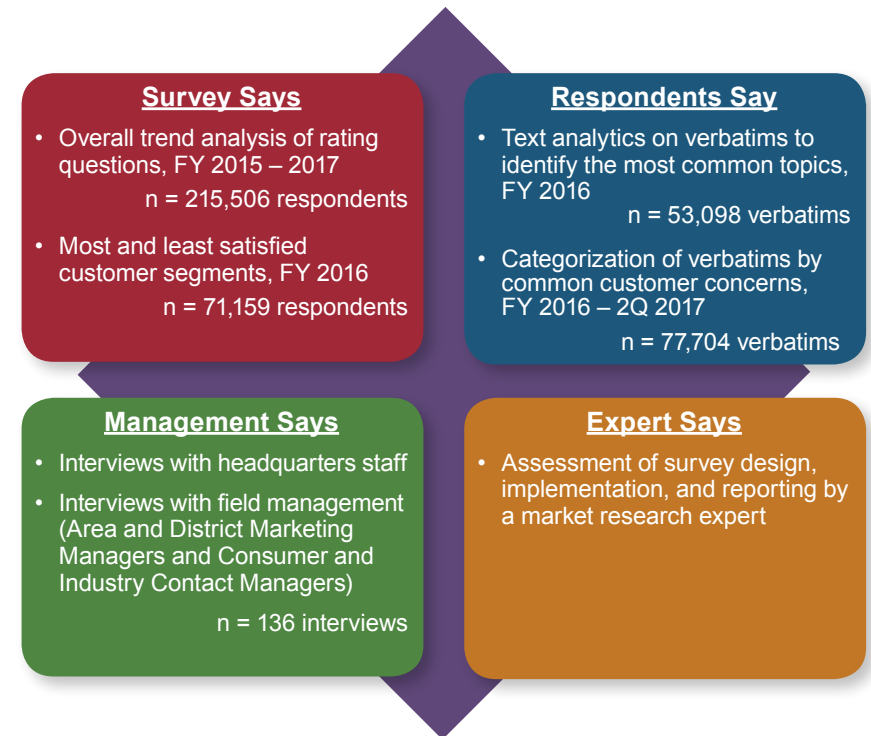
Delivery has been the cornerstone of the U.S. Postal Service's existence since its founding in 1775. Whether carrying communications between Congress and the nascent American military or the newest gadgets from the Montgomery Ward and Sears catalogs, mail carriers have connected friends and family, businesses and consumers for nearly two and a half centuries. Much has changed between then and today, but the Postal Service's reason for being has not: delivery service for every address in the nation. Tracking customer satisfaction with delivery helps the Postal Service understand how it is performing in one of its core competencies and gives it the opportunity to gather feedback on changing customer needs and expectations.

The Postal Service measures customer satisfaction with the delivery experience through a national survey sent to residences and small and medium businesses (SMBs).<sup>1</sup> Scores on individual questions have not improved since fiscal year (FY) 2015.<sup>2</sup> To understand the sources of this growing discontent and identify opportunities to improve customers' delivery experience, the Postal Service Office of Inspector General (OIG) examined the survey, its results, and current uses. After providing a brief background on the survey itself, the paper lays out findings in four sections that reflect the team's methodological approach (Figure 1):

- *Survey Says* shows overall trend analysis of rating questions and identifies the most and least satisfied customer segments.
- *Respondents Say* presents the findings of text analytics and open-ended response categorization. These narrative responses are commonly called verbatims.<sup>3</sup>
- *Management Says* summarizes the interviews with headquarters staff and field management to learn how they use the survey results to improve service.

- *Expert Says* contains an assessment of the survey design, implementation, and reporting from a market research expert.<sup>4</sup>

**Figure 1: Methodology for OIG Review of Delivery Survey**



Source: OIG.

The Delivery Survey is a critical part of the Postal Service's customer service strategy. It gives USPS valuable customer feedback, enabling the agency to understand and respond to customers' needs and expectations. However, using survey results, in new ways, could improve the customer experience, retain customers, and head off negative word-of-mouth on social media.

1 The Postal Service defines SMBs as businesses with under 250 employees. See Postal Service, "USPS Market Dominant Product Customer Satisfaction Measurement Surveys Instruments," filing USPS-FY16-38 of the FY 2016 Annual Compliance Report (ACR) to the Postal Regulatory Commission (PRC), December 29, 2016, <https://www.prc.gov/dockets/document/98477>, p. 2, hereinafter referred to as USPS-FY16-38.

2 The Postal Service reported results from FY 2014, but the scores were derived using only two months of data. The team used FY 2015 as its baseline for year over year trends because this was the first period during which the data were collected throughout the full year. See USPS-FY14-38, <https://www.prc.gov/docs/91/91051/USPS-FY14-38%20Preface.pdf>, p. 2, and USPS-FY15-38, <https://www.prc.gov/docs/94/94405/FY15-38%20Preface.pdf>, p. 3.

3 Until April 2017, the Postal Service asked only one verbatim question, seeking customer ideas to improve the delivery experience. Although USPS added a second verbatim question in April 2017, this fell outside of the team's baseline timeframe.

4 The OIG consulted with Dr. Chase Harrison, the Associate Director of the Harvard Program on Survey Research and Preceptor in Survey Methods in the Department of Government at Harvard University.

## Background: Survey Nuts and Bolts

### Survey Sample and Invitation

The Postal Service estimates it has 156 million delivery points, with over 3,700 addresses added daily.<sup>5</sup> From this enormous customer base, it uses a third-party mailing list to select a random sample of residential and SMB addresses throughout the United States. In FY 2016, it sent out more than 5.7 million survey invitations in the form of a two-sided postcard that invites customers to take the survey online or by phone. These invitations resulted in approximately 71,000 completed surveys, a 1 percent response rate.<sup>6</sup> In order to increase response rates, the Postal Service tested two other survey invitations. An oversized postcard did not make a significant difference, but a sealed envelope with an invitation on letterhead had a 7 percent response rate.<sup>7</sup> Consequently, the Postal Service adopted the sealed envelope for all invitations for FY 2018.<sup>8</sup>

### Delivery Survey in Context: The Customer Insights Index

The results of the Delivery Survey feed the Customer Insights (CI) Index, which the Postal Service uses to report customer satisfaction to Congress and the Postal Regulatory Commission (PRC).<sup>9</sup> The CI Index also factors into the National Performance Assessment, which determines management bonuses. The Index combines the main satisfaction indicators from selected customer surveys, including the Delivery Survey, into a single score to assess customer experience. While all questions are important, these self-selected indicator questions receive the most upper-management attention and, therefore, have the greatest impact on employees.

### Survey Questions

Although the specific questions have changed year over year, the basic structure of the Delivery Survey has generally stayed constant.<sup>10</sup> There are five components:

1. Overall satisfaction. In addition to a broad question asking for overall satisfaction, the Postal Service began testing an industry best practice by applying the Net Promoter Score (NPS) question across all CI Index surveys in FY 2017. This question asks how likely the respondent is to recommend USPS to friends or family.
2. Agreement questions. Respondents indicate a level of agreement with a series of positive statements about delivery service.
3. Market-dominant products. The survey asks customers to indicate which market-dominant mail products they use and their overall satisfaction with each product.<sup>11</sup>
4. Verbatims. Respondents can leave comments to discuss areas of improvement, give praise, and explain their NPS score selection.
5. Demographics. The survey collects information on gender, age, and delivery location for residential customers and business location, company size, position within company, and delivery location for SMB customers.

5 Postal Service, *Postal Facts 2017*, <http://about.usps.com/who-we-are/postal-facts/postalfacts2017-v2.pdf>, pp. 2 and 21.

6 USPS-FY16-38 preface, <https://www.prc.gov/docs/98/98477/USPS-FY16-38%20Preface.pdf>, p. 3. Prior to FY 2014, the Postal Service sent a hard copy survey for customers to complete and return. This method achieved nearly nine times as many responses: 6.2 million surveys were mailed in FY 2013, generating 600,000 responses, compared to 71,000 in FY 2016. See USPS-FY13-38, <https://www.prc.gov/docs/88/88713/USPS-FY13-38.Preface.pdf>, p. 1, and USPS-FY16-38, p. 3.

7 OIG interview with Alexander Petr, Program Manager, Multi-Channel Customer Analytics, USPS, April 19, 2017.

8 OIG interview with Alexander Petr, October 18, 2017.

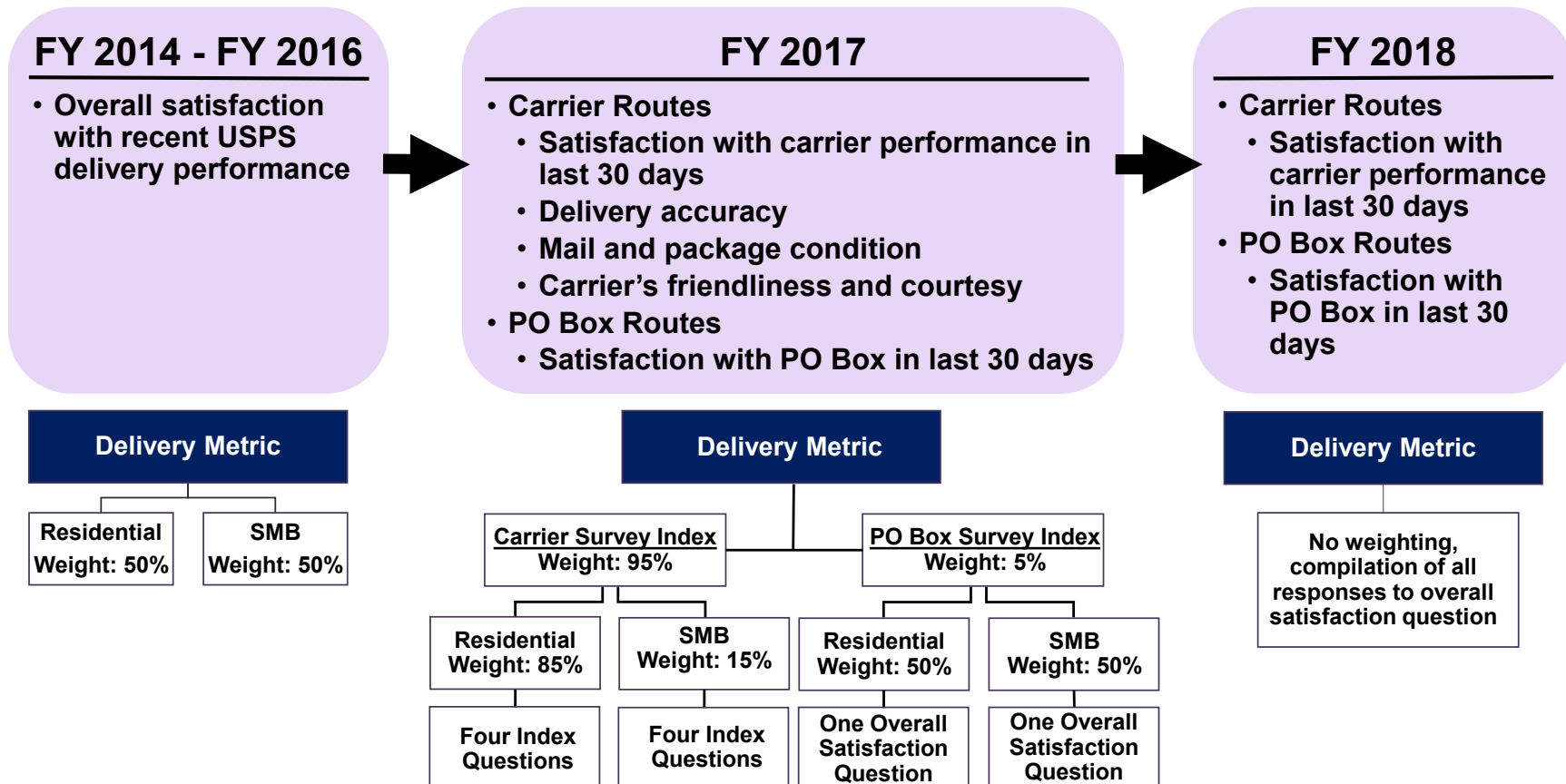
9 From its inception in FY 2014 through FY 2017, the following surveys fed the CI Index: the Business Service Network Survey, the Customer Care Center Survey, the Delivery Survey, and the Point of Sale Survey. See OIG, *Postal Customer Satisfaction: A Primer of Four Surveys*, Report No. RARC-WP-17-010, August 28, 2017, <https://www.uspsoig.gov/sites/default/files/document-library-files/2017/RARC-WP-17-010.pdf>. The Postal Service plans to add additional survey results to the CI Index for FY 2018, including surveys for users of [USPS.com](https://usps.com), Business Mail Entry Units, and Enterprise Customer Care.

10 Appendix A contains the SMB and residential Delivery Surveys for FY 2018. Appendix B illustrates how surveys have changed since FY 2014.

11 Market dominant products are products for which the Postal Service has a legal monopoly, including First Class Mail and periodicals. The team did not address the use and satisfaction with individual market dominant products in its work.

At its inception, a single question from each survey factored into the CI Index. However, in FY 2017, postal management moved the delivery metric to a composite score of multiple questions that were internally weighted by customer type and delivery type.<sup>12</sup> The Postal Service further fine-tuned the delivery metric for FY 2018. By eliminating all weighting, even for residential and SMB customers, the delivery metric will simply reflect the percentage of respondents who are very or mostly satisfied. Figure 2 shows the delivery component of the CI Index since FY 2014 and explains the complicated internal weighting used in FY 2017.

**Figure 2: Delivery Survey CI Index Changes, FY 2014 – 2018**



Source: Postal Service, *United States Postal Service FY2016 Annual Report to Congress*, December 29, 2016, <https://about.usps.com/who-we-are/financials/annual-reports/fy2016.pdf>, p. 19; USPS-FY14-38; USPS-FY15-38; USPS-FY16-38; and Interview with Alexander Petr, October 5, 2017.

<sup>12</sup> The Postal Service explained the original indicator focused too much on "consistency" and "on time" delivery, which were too subjective. The Vice President of Delivery decided to change to a composite focused on the individual carrier or PO Box, rather than on the delivery experience. Interviews with Postal Service management, July 19, 2017 and November 7, 2017.

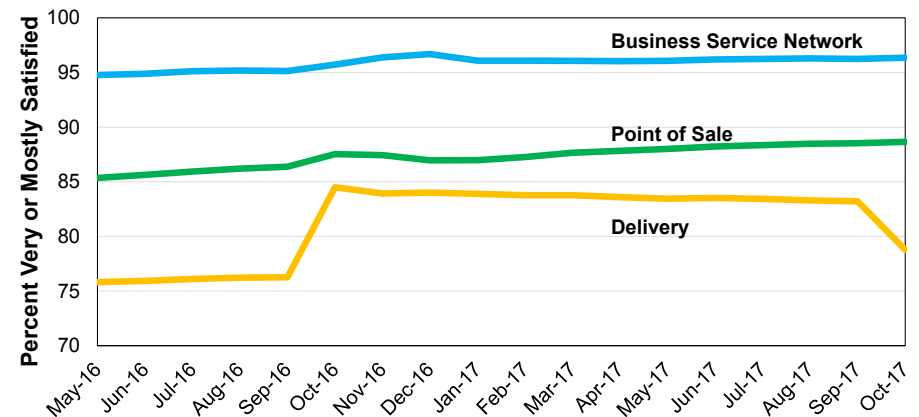
Changes to how the CI Index is calculated might seem like inside baseball to a casual observer, but the purpose is to drive improvements to customers' postal experience. Adjusting the Index is an appropriate practice, particularly if it will make the information presented to postal management more meaningful.<sup>13</sup> However, annual changes in weighting methodology make year-to-year benchmarking difficult.<sup>14</sup> During an 18-month period from May 2016 to October 2017, the Postal Service changed its delivery metric twice. Figure 3 shows how the number increased by nearly eight points in October 2016, yet dropped by roughly four points in October 2017. Without the context of question and weighting adjustments, the score changes might appear to be a result of fluctuations in customer satisfaction. Because the top-level metric is evolving, the team used FY 2016 as the baseline for its analysis.<sup>15</sup>

In FY 2016, roughly three of four customers were very or mostly satisfied with their delivery service. However, that left one of four customers who saw room for improvement. The team turned to the detailed survey responses to find out what concerned these customers.

**Figure 3: CI Index Overall Satisfaction Scores by Month**

## OVERALL SATISFACTION BY CUSTOMER TOUCHPOINT

The Postal Service changed how it calculated its delivery metric in October 2016 and again in October 2017, causing big changes in the score. The FY 2017 weighting included responses from questions where USPS typically scores higher, such as package condition and letter carrier courtesy, instead of just reflecting overall satisfaction.



Source: OIG Analysis of Postal Service Data.

<sup>13</sup> A common adjustment is to weight responses to try to achieve a survey that mirrors characteristics of the general population, such as the percentage of respondents that are male/female, from certain geographic regions, and from other demographics such as race and age. The section titled, *Expert Says*, discusses weighting in more detail.

<sup>14</sup> Section 2804(c) of Title 39 requires performance reports contain actual results for the three preceding fiscal years. In FY 2015, the Commission interpreted that actual results needed to be comparable, as well. Postal Service via PRC, *Responses of the United States Postal Service to Questions 1 and 11 of Chairman's Information Request No. 14*, Docket No. ACR2016, February 10, 2017, question 1, <https://www.prc.gov/docs/99/99025/CHIR%20No.%2014.Responses.Qs.1.11.pdf>, p. 2.

<sup>15</sup> On occasion, the team supplemented its analysis with data from prior years or the first two quarters of FY 2017 to add robustness. Any deviations from FY 2016 data are noted in footnotes.

## Survey Says

### Overall Satisfaction Trends

Are postal customers satisfied with delivery service? The answer is mixed. Figure 4 summarizes the recent rating question survey results in a simple customer satisfaction report card.<sup>16</sup>

The report card highlights that customers think the Postal Service could improve in a number of specific aspects of delivery, including letter carrier performance, tracking information, PO Box satisfaction, and how it notifies customers of missed deliveries. The Postal Service launched several initiatives in 2016 to improve

**Figure 4: Delivery Grade Card, FY 2015 - 2017**

### Delivery Satisfaction Report Card

Performance Measurement	FY 15	FY 16	FY 17
Recent USPS Delivery Performance	77%	76%	74% <sup>n</sup>
Letter Carrier Performance Over Last 30 Days	–	79%*	76%
Delivery Accuracy	84%	84%	81%
Mail and Package Condition	91%	91%	90%
Carrier Friendliness and Courtesy	88%	87%	83%
Letter Carrier Job Performance	83%	83%	–
Tracking Information Accuracy	84%	84%	79%
PO Box Satisfaction Over Last 30 Days	–	81%*	77%
PO Box Meeting Needs	–	86%*	86%
Delivered on Expected Date	–	–	81% <sup>n</sup>
Clear Missed Delivery Instructions	–	–	66% <sup>n</sup>

\*Grade calculated using survey responses May 7 - September 30, 2016.

<sup>n</sup> Grade calculated using survey responses March 31 - September 30, 2017.

Grades in **RED** have gone down from the previous year.

“–” means the question was not asked in that year.

its delivery service. For example, it analyzed misdelivered mail grievances to identify high-complaint routes for local management to address.<sup>17</sup> Another initiative was a series of Stand Up Talks, or short training sessions, on topics such as scanning, misdelivery, avoiding package damage, and customer interactions. The agency also uses technology to improve the delivery experience; headquarters' Delivery Strategy and Planning group is modifying the Mobile Delivery Device (MDD) menu to increase scanning options and improve customer visibility into the location of mail and packages.<sup>18</sup> The Postal Service also rolled out a new service this year, Informed Delivery, which previews what mail residential customers will receive each day. It includes a feature that allows users to report previewed mail that does not arrive, giving customers a way to notify the Postal Service of delivery issues. As these initiatives bear fruit, hopefully customers' perceptions of the delivery experience will improve.

Source: OIG Analysis of Postal Service Data.

<sup>16</sup> The Postal Service reports the percentage of respondents who rate an aspect of delivery in the two most positive categories of a five- or six-point scale. Depending on how the question was worded, this means respondents were very or mostly satisfied with an aspect of delivery or strongly or mostly agreed with a statement about delivery. The team equally weighted responses of SMB and residential customers. Although the Postal Service changed weighting methodologies for FY 2017, we maintained the equal weights for consistency across years.

<sup>17</sup> Postal Service, *Annual Compliance Review FY 2016*, Docket No. ACR2016, December 29, 2016, p. 77. It is difficult to correlate these complaints to Delivery Survey results because individual surveys can only be reliably traced to the five-digit ZIP Code level rather than to the delivery distribution unit or specific carrier route.

<sup>18</sup> Ibid, p. 78. See also OIG, *Mobile Delivery Device Program*, Report No. CP-AR-17-008, April 28, 2017, <https://www.uspsigov/sites/default/files/document-library-files/2017/CP-AR-17-008.pdf>.



## Satisfaction Findings by Customer Segment

With an average of less than 1,100 survey results per district, per year, it would be difficult for field managers to conduct meaningful comparisons across customer segments to identify those in need of more attention.<sup>19</sup> A nationwide analysis could reveal insights that are not obvious at the local level. To test this, the OIG used the survey's embedded geographic identifiers and demographic questions to test for statistically significant differences in satisfaction between different customer segments.<sup>20</sup> The team found noteworthy differences among residential and SMB customers, customers with different delivery locations, and different residential age groups, described in more detail below. [Appendix C](#) shows the mean customer satisfaction scores for all tested customer segments.

### Residential Customers More Satisfied than SMB Customers

*Residential customers were significantly more satisfied than SMB customers across all aspects of delivery measured.* Residential sentiment was particularly strong on overall delivery satisfaction, delivery accuracy, and letter carrier performance. For example, 80 percent of residential customers were very or mostly satisfied with their overall delivery experience, compared to 73 percent of SMB customers.<sup>21</sup>

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***“You do a great job. I run a small business and only use USPS. Don’t change.”***

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Source: Delivery Customer, January 15, 2016.

*Smaller companies were more satisfied than larger companies.* The majority of SMB respondents represented companies with between one and four

employees, often referred to as microbusinesses.<sup>22</sup> These microbusinesses were the most satisfied of all SMB customers.

*SMB customers with stand-alone addresses were more satisfied than those in buildings with multiple businesses.* Although only 7 percent of survey respondents had a storefront like a retail business, the rest were fairly evenly split between home offices, buildings with multiple businesses, and buildings with a single business.<sup>23</sup> Respondents with storefronts and home offices were the most satisfied.

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***“Deliver mail to correct addressee in an office building. If the addressee is not known, stop into an office and ask. Don’t just toss the mail on the window sill.”***

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Source: Delivery Customer, October 25, 2016.

### Delivery Location Matters

*Customers were most satisfied with street address delivery and least satisfied with centralized delivery.* The Delivery Survey asks customers to self-identify where they receive mail, giving the options of street address, PO Box, centralized/cluster mailbox, or other. Customers with street address delivery were the most satisfied, followed by PO Box customers. Centralized delivery customers were the least satisfied. When the OIG compared the percentage of survey respondents with centralized delivery to the percentage of all postal customers with centralized delivery, the team found that the survey underrepresented this customer segment,

<sup>19</sup> The Postal Service administratively divides the United States into 7 areas and 67 districts.

<sup>20</sup> The team tested for statistically significant differences at the 95 percent confidence level.

<sup>21</sup> Eighty-six percent of residential customers agreed that mail and packages were delivered accurately compared to only 81 percent of SMB customers. Eighty-four percent of residential customers agreed that letter carriers performed their jobs well compared to only 81 percent of SMB customers. See USPS-FY16-38.

<sup>22</sup> Among SMBs reporting the size of their business, 56 percent had less than five employees; 20 percent had five to 10 employees; 20 percent had 11 to 100 employees; 2 percent had 101 to 249 employees; and 2 percent had more than 250 employees. This last group does not meet the intended target demographic of the Delivery Survey, but their responses are included in the results.

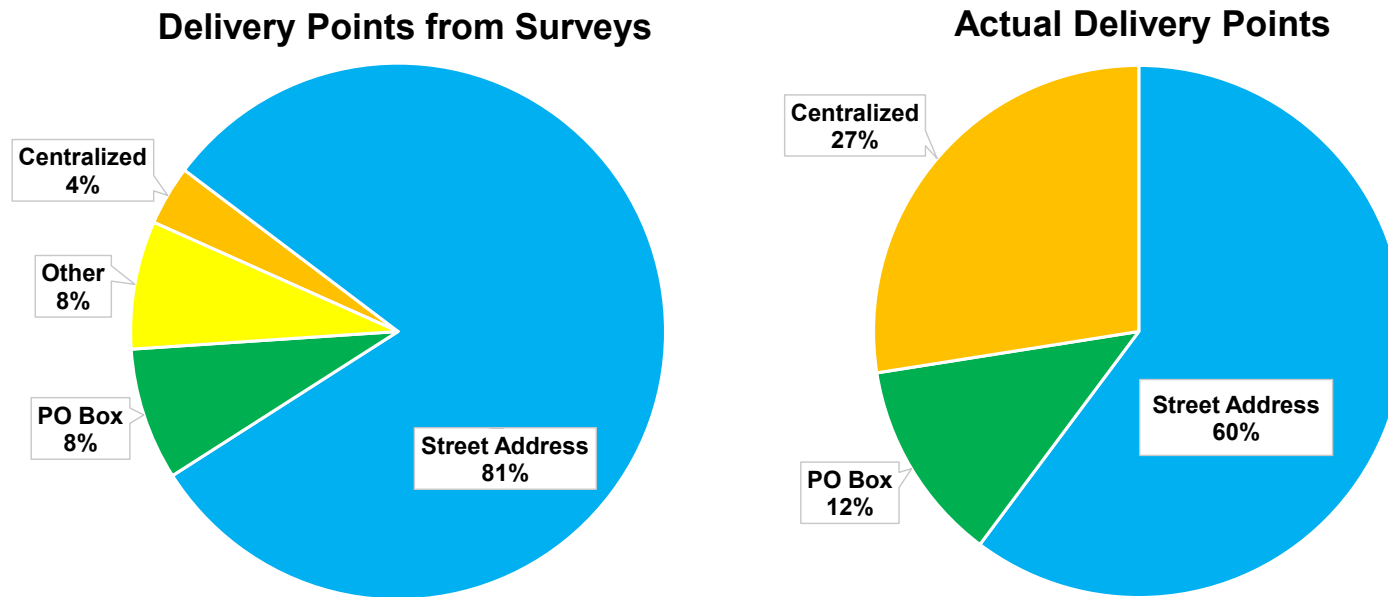
<sup>23</sup> Among those answering the question, “Where is your business located?”, 32 percent chose home office; 27 percent responded buildings with only their business; 25 percent were located in a building with multiple businesses; 7 percent had a storefront; and 8 percent selected other.

as illustrated in Figure 5. If the Postal Service moves toward centralized delivery, accurately representing the perceptions of this customer segment will give a better overall picture of customer satisfaction with delivery.<sup>24</sup>

**Figure 5: Survey Respondent Delivery Points Versus Postal Delivery Points, FY 2016**

### **CENTRALIZED DELIVERY LOCATIONS WERE UNDERREPRESENTED**

Centralized delivery locations represented only 4 percent of the Delivery Survey responses in FY 2016 but accounted for 27 percent of deliveries across the United States. The disparity between the survey's centralized-delivery sample and the actual delivery points is important: these customers are less satisfied, but because they account for a disproportionately small amount of survey responses, it is easy to overlook their delivery concerns.



Notes: Survey respondents self-reported their delivery point from the following choices: Street address; PO Box; Centralized or cluster mailbox; or Other. To avoid relying on self-reported data, perhaps the Postal Service could gather this information from mailing list attributes, as discussed in Expert Says. Actual delivery points are derived from Address Management System data. Street address data include curblin delivery, sidewalk delivery, and other delivery, such as to-the-door. Centralized data include centralized box units or other centralized delivery where the carrier has access to more than one customer's mail receptacle, usually secured by an arrow lock. Numbers may not add to 100 percent due to rounding.

Source: OIG Analysis of Postal Service Data.

<sup>24</sup> From 2016 to 2017, the number of centralized delivery points rose faster than street address delivery points. Centralized deliveries rose by about 892,000 to nearly 44 million delivery points. Street address delivery points rose by only 355,000 delivery points to about 94 million. There are roughly 156 million delivery points nationwide. See Postal Service, "Delivery Statistics," *Addressing & Geospatial Technology*, <http://amshq/index.cfm>.

## Age Matters

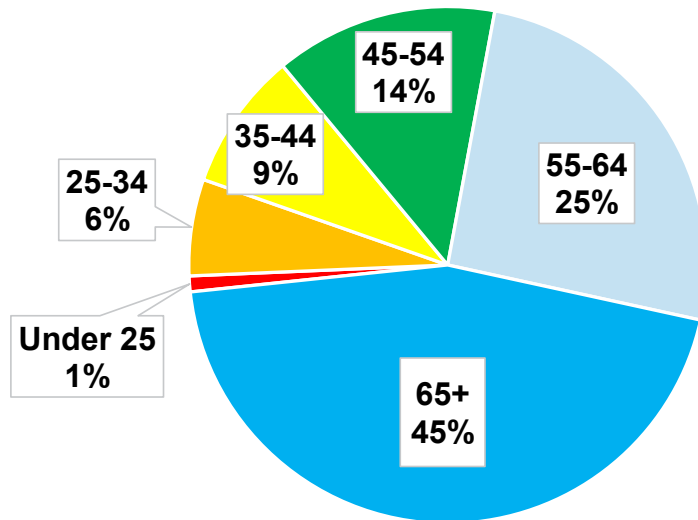
Older survey respondents were more satisfied than younger survey respondents. Customers older than 65 were the most satisfied, and respondents aged 25-34 were the least satisfied.<sup>25</sup> Only 69 percent of this younger group was very or mostly satisfied with their overall delivery experience. This age cohort reported higher levels of dissatisfaction across all aspects of delivery measured. Roughly 20 percent of respondents in this age group did not believe that letter carriers perform their job well nor that mail is delivered accurately.<sup>26</sup> Figure 6 demonstrates that the Delivery Survey underrepresents younger customers and over-represents older customers. By not capturing a nationally representative sample of customers by age, the survey may not accurately reflect true levels of customer experience throughout the nation.

**Figure 6: Age of Survey Respondents vs. General Population**

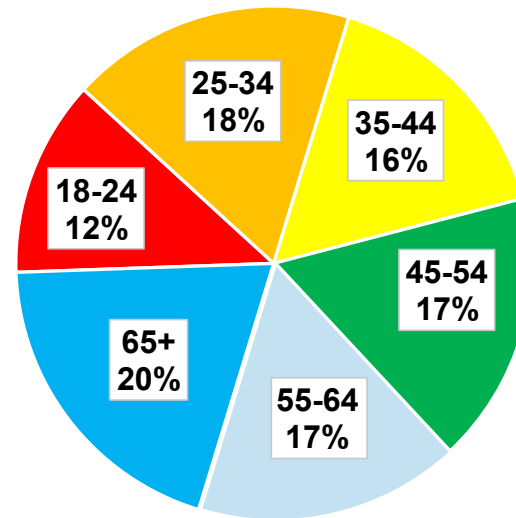
### DELIVERY SURVEY RESPONSES OVERREPRESENT OLDER CUSTOMERS

In FY 2016, 94 percent of residential respondents noted their age on the Delivery Survey. Seventy percent of those respondents were over the age of 54 — an age cohort that is a much smaller percentage of the overall U.S. population. Younger age groups are similarly underrepresented in survey responses compared to the overall U.S. population. Since the oldest age cohort was significantly more satisfied than the others, this disproportionate polling might give a positively-skewed, misleading picture of the satisfaction of all delivery recipients.

**Survey Respondents by Age, FY 2016\***



**Census Age Breakouts, 2016**



Notes: Census age breakout statistics show percentages of people between the ages of 18 and 100 years old based on 2016 estimates by the U.S. Census Bureau. The team assumed respondents to the Delivery Survey under age 25 were between the ages of 18 and 24, and respondents over 64 are between the ages of 65 and 100.

\* Does not include the 6 percent of respondents who did not provide their age.

Source: OIG Analysis of Postal Service Data and Census Bureau Data.

25 Only residential customers reported ages. The survey does not ask residential customers to note what type of dwelling they have, marital status, or the number of household members. It is possible that multiple variables influence age's correlation with decreased satisfaction. The Postal Service could add additional demographic questions if it is interested in exploring whether there is more than one explanatory variable.

26 Roughly one in ten 25-34 year olds did not think tracking was accurate, that letter carriers were friendly and courteous, or that packages were delivered in good condition.

OIG analysis of the Delivery Survey's rating questions revealed noteworthy variations in customer satisfaction by demographic characteristics. Specifically, customer type, delivery location, and age all appear correlated with higher or lower satisfaction. By analyzing the Delivery Survey data in a similar way, the Postal Service could use customer insights to inform the development of future policies or product offerings. Information from the survey's verbatims, discussed in the next section, could also be useful for strategic decision-making.

## Respondents Say

The verbatims are the least explored part of the Delivery Survey results and cannot be simplified into a report card calculation. Since its inception, the survey has asked respondents, "In the future, what should the USPS do to improve your satisfaction with how we DELIVER your mail or packages?"<sup>27</sup> Three-quarters of survey respondents answered the optional question in FY 2016.<sup>28</sup> Although a large number of these are short quips — with phrases like "no comment," "keep it as is," and "doing good" — other verbatims are much longer. The longest response of 2016 came in at 405 words, more than double the length of this paragraph.

## What We Did

The Postal Service deployed a new tool for reviewing survey results in October 2016, called the CI 2.0 Platform (see box). Although the new tool has a verbatim-analysis feature, the OIG pursued its own methodology for greater categorization flexibility.<sup>29</sup> First, we used a text analytics program, sometimes referred to as text mining, to identify the most common words in the data set of more than 71,000 responses. From there, the team grouped words into key terms. For a fuller description of this methodology — hereinafter referred to as "text analytics" — see [Appendix D](#).

### CI 2.0 Platform

In addition to presenting the results of rating questions in easy-to-digest graphs by postal district, area, and nationwide, the Platform gives managers high-level data on the nature of verbatims. It groups verbatims into major themes, such as deliveries, employees, and products. These categories often have subcategories, where the user can review all comments related to stamps or certified mail, for example, with minimal clicks. The Platform also incorporates a push feature, enabling field managers to set up parameters for automatic reports rather than forcing them to pull the data at regular intervals. It is unclear if headquarters consistently and holistically analyzes the data.

The text analytics created the path for the second part of our analysis. Referred to below as "categorization," the team sorted verbatims into categories informed by the key terms identified in step 1. For example, we grouped phrases such as "correct box," "right address," and "other people's mail" into a category for wrong address complaints. Then, the team ran tests to ensure the search terms did not capture false positives.<sup>30</sup> Finally, the team manually categorized the remaining verbatims that the formulas did not capture. The team categorized the full data set and then reviewed the categorization for the three least-satisfied customer segments.<sup>31</sup>

The OIG's analysis illustrates the type of insights possible from detailed, national-level examination of verbatims. Customer suggestions could help postal leadership select new, technology-driven pilots; plan future Stand Up Talks; and update carrier handbooks and training materials.

27 In FY 2017, the Postal Service added an NPS verbatim to give respondents an opportunity to explain why they gave their score for that question. The team did not analyze these verbatims because the NPS question was still in the testing stage in FY 2017.

28 Of 71,159 survey responses, 53,098 people, or 75 percent, provided verbatim comments.

29 Limitations of the Postal Service's tool include the inability to customize output by creating new categories of customer complaints, to re-classify a verbatim from one category to another, or to see which verbatims fell into multiple categories. However, the biggest limitation was that FY 2016 Delivery Survey verbatims were not available in the tool. The Postal Service intends to revisit its categories to make them more useful and add older data as time and resources allow.

30 For example, the search term "fee" captured customers discussing "feedback." We modified the query to omit "feedback" when we were analyzing comments on pricing.

31 We expanded the data set to include 18 months' of data from FY 2016 through the first two quarters of FY 2017 to increase the robustness of the analysis for the least satisfied groups. With 18 months of data, our verbatim categorization dataset was n=77,704 non-blank responses. Total non-blank verbatims analyzed per segment are n=40,302 for SMB customers; n=4,469 for centralized delivery recipients; and n= 2,264 for 25-34 year olds.



## What They Said: The Good News

Most customers' verbatim comments indicate a positive delivery experience. Grouped together, complimentary adjectives — such as great, friendly, and satisfied — were second only to the term “mail” among verbatim responses. Figure 7 shows the most common verbatim topics uncovered with text analytics.

A key theme found in the verbatims is that customers looked forward to seeing the same carrier daily, praising them for quality service, package condition, and a positive attitude.<sup>32</sup> Customers often cited problems when their “regular” carrier was out.

**Figure 7: Top 10 Verbatim Terms, FY 2016**

1. Mail	6. Packages
2. Positive Adjectives	7. Negative Adjectives
3. Letter Carriers	8. Address
4. Delivery*	9. Service
5. Delivery Time*	10. Receive

\* For analysis purposes, the team combined the noun delivery and the verb deliver, as well as the terms delivery time and time.

Source: OIG Analysis of Postal Service Data.

*“Our mail person is the hardest working, most efficient carrier we have ever had. We get our mail early a.m., please do not change anything.”*

Source: Delivery Customer, November 11, 2016.

## What They Said: The Opportunities for Improvement

Although many comments were positive, text analytics and categorization showed that many responses also included pain points and specific ideas for improvement.<sup>33</sup> Verbatim categorization also illustrated the interconnections among issues that customers often experienced or perceived. Our analysis further revealed that the least satisfied groups' complaints, as shown in Figure 8, mirrored those of the entire data set. The most common customer concerns were reducing misdeliveries, ensuring a reliable delivery location, reducing parcel and mail damage, and providing a consistent delivery time.<sup>34</sup> These themes warrant strategic consideration by Postal Service management.

**Figure 8: Segment-Specific Top Verbatim Areas of Concern\***

	All Respondents	SMB	Centralized Box	25-34 Year Olds
1.	Misdelivery	Delivery Time	Misdelivery	Misdelivery
2.	Delivery Time	Misdelivery	Delivery Time	Delivery Location
3.	Delivery Location	Delivery Location	Delivery Location	Damage
4.	Damage	Post Office	Damage	Delivery Time
5.	Post Office	Damage	Post Office	Tracking/ Notification

\*For a full breakdown of the areas of concern for these segments, see [Appendix E](#).

Source: OIG Analysis of Postal Service Data.

<sup>32</sup> These positive comments about letter carriers seem at odds with the low satisfaction marks customers gave their carriers on rating questions. The OIG observed that many verbatims with compliments also contained suggestions for improvement, which could explain the apparent disconnect. Market research literature on why customers leave verbatims could also illuminate possible reasons.

<sup>33</sup> The OIG's methodology allowed a single verbatim to be classified as both a compliment and one or more concerns.

<sup>34</sup> See [Appendix D](#), Figure 10 for the concept links and word clusters from text analytics that relate to the key findings described below.

*Misdelivery.* Customers reported receiving their neighbors' mail, worried that their own was wrongly delivered, were dissatisfied with the change-of-address system, and often received past tenants' mail despite living in a place for years. Many also attributed misdelivery to "substitute" carriers completing the route. Centralized box recipients complained that some carriers left the mail for a section of homes in one cluster box, rather than sorting to individual boxes. Similarly, some SMB customers complained that carriers delivered mail to one box or office in a multi-business building rather than sorting mail to each business within the building. As more part-time and contract employees begin to deliver mail, it is important that the Postal Service make it easy for customers to report misdeliveries. Informed Delivery, which digitally notifies users in advance of delivery of physical mail, allows users to report mail that was previewed in an email but does not arrive.<sup>35</sup> Perhaps the Informed Delivery platform could expand to accept notification of misdeliveries or chronic problems with receipt of past tenants' mail.<sup>36</sup> Ensuring that customers have an easy, effective way to report different types of misdeliveries could give the Postal Service actionable information so it can solve problems before they become customer complaints.

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***"Accuracy with delivery is most important.  
Generally, service has been good."***

***"Deliver the correct mail to the correct address.  
Incorrect deliveries are occurring with too great of  
frequency."***

Source: Delivery Customers, October 30, 2015 and March 6, 2017.

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*Delivery Location.* In this category, the OIG captured comments about both package and mail placement as well as disadvantages of centralized delivery or PO Boxes. For packages, respondents were appreciative that postal carriers

placed parcels out of the elements. Others expressed specific preferences for where carriers should leave parcels. Still others noted concerns about audible notification related to where parcels are placed. Many customers relayed delivery preferences to their "regular" carrier that were not communicated to other carriers. Also noteworthy, delivery location and parcel damage were correlated in the text analytics. For example, roughly one-third of those with complaints about damage also mentioned delivery location. Delivery location was a common concern for centralized delivery customers, some of whom noted that lockers were too small or lacked a working lock and key. Some SMB customers preferred delivery to their suites rather than to a concierge or central location in their building. For mail, a number of customers complained about the lack of home delivery in their neighborhoods.

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***"I appreciate those that are left on our front porch  
under the cover!"***

***"Get rid of the box clusters and deliver to the  
individual homes!"***

Source: Delivery Customers, January 20, 2017 and December 4, 2016.

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The Postal Service would be hard-pressed to meet the many and varied customer expectations about delivery location and maintain consistency at a reasonable cost. However, if customers could easily communicate reasonable preferences to USPS, many delivery nuisances could be avoided. [USPS.com](https://usps.com) and Informed Delivery could be two avenues to express delivery preferences. Once submitted, the local postmaster could approve and possibly automatically trigger direct uploads into carriers' MDDs. Even without a formal communication mechanism, incentivizing carriers to provide more route details on their MDDs could help substitutes save time and provide better service.

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<sup>35</sup> See "Informed Delivery," <https://informeddelivery.usps.com/>. Currently, USPS only offers the service to residential customers, including PO Box customers.

<sup>36</sup> The Postal Service indicated that this is one feature under consideration for future iterations of Informed Delivery. It is collaborating with the mailing industry on future features, and this feature might enable them to improve the reliability of address lists. Interview with Robert Dixon, Director, Product Technology Innovation, USPS, September 15, 2017.

**Safety and Damage.** Respondents expected packages to be safe from theft, damage-free, and easy to find. Customers with centralized delivery boxes complained that carriers stuffed mail and parcels into the box to avoid bringing the extra mail or parcels to the door.<sup>37</sup> People also complained that mailboxes cannot close when overly full, leading to the possibility of weather damage or theft. The Postal Service now offers a next-generation mailbox to accommodate a variety of parcels to address damage and location issues.<sup>38</sup> Mining the delivery verbatims might give the Postal Service insight into customers' priorities for the new mailboxes, helping to fine-tune the shape and security features. Now that parcel delivery has become such an important part of the customer's delivery experience, a review of delivery manuals could ensure that carriers have current, explicit instructions for proper package delivery. Mail and parcel volumes have changed dramatically since 2001, the date of the most recent city delivery manual.

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***“The banks of boxes being left open or unlocked is the source of many complaints as people expect their mail to be secure until they unlock their box to retrieve.”***

***“I appreciate the consistent condition of my mail delivered into my mailbox. Never wet or mangled.”***

Source: Delivery Customers, December 2, 2016 and October 28, 2016.

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**Delivery Time.** Inconsistent delivery times were a common concern among all groups and was the most frequent complaint topic for SMB customers. SMB customers expressed a desire for same-time-of-day delivery and pickup of outgoing mail (although preferences varied between early and late delivery), citing

a business need of predictability to ensure timely correspondence.<sup>39</sup> The concern about delivery time among centralized delivery customers could be due to the fact that they have to walk or drive to check their box, so they are more aware of late delivery. By mining delivery time complaints, the Postal Service could gain insight into pertinent product enhancements for key segments.

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***“Doing a great job now. Deliveries always about same time daily.”***

***“Have a consistent time for delivery. Sometimes we get it after 6 p.m. We have no outgoing mail boxes near us, so we rely on the mail carrier to pick up outgoing, and if they come that late it does not go out. Our regular carrier is great, but too many subs work this route.”***

Source: Delivery Customers, April 5, 2016 and October 17, 2016.

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Listening to the voice of the customer helps the Postal Service understand and meet delivery expectations. Local management review of post office-specific complaints can address many issues. Based on OIG's discussions with USPS, it was not clear that the CI 2.0 Platform's full analytic capabilities are being used consistently at the headquarters level. In the absence of this analysis, many overarching concerns as well as specific customer segment needs might be overlooked. Headquarters makes policies and procedures, sets delivery standards, and prioritizes investment in new technology, so analyzing verbatims at a macro level is an efficient way to identify and act on strategic issues that are causing dissatisfaction.

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<sup>37</sup> If a parcel is too large for the mailbox, carriers are required to attempt a to-the-door delivery. Postal Service, “Update to Handbook M-41, “City Delivery Carriers Duties and Responsibilities,” April 5, 2001, [http://blue.usps.gov/delret/\\_pdf/m41.pdf](http://blue.usps.gov/delret/_pdf/m41.pdf), p. 46.

<sup>38</sup> See Postal Service, “The Next Generation of Mailboxes,” <https://www.usps.com/packagemailbox>.

<sup>39</sup> The Postal Service asked a temporary question about same-time delivery for part of FY 2016 but did not retain the question because a consistent delivery time is not a USPS promise. Interview with Alexander Petr, April 19, 2017.

## Management Says

### What We Did

Based on the premise that survey data could reveal both systemic and local opportunities to improve the delivery experience, the OIG wanted to understand who reads and acts upon the Delivery Survey responses. The Acting Manager of Delivery stated that this responsibility falls to area and district marketing managers and consumer and industry contact (C&IC) managers.<sup>40</sup> With seven areas and 67 districts, this equates to about 150 sets of eyes on the survey responses. The OIG reached out to all of these individuals, making contact with 136 field managers. We started each discussion with the question, “Do you use the results of customer surveys, such as the Point of Sale (POS) and Delivery Surveys, in your job?” If the answer was yes, we asked how they were used. The following section summarizes what field managers told the OIG.

### What We Heard: The Good News

Seventy-three field managers, or 54 percent of those we interviewed, reported using the Delivery Survey. Many obtain region-specific reports from the CI 2.0 Platform, then share the results with local postmasters and station managers through teleconferences, meetings, emails, and site visits. Some offices post the results on internal websites or huddle boards — a tool that helps teams visualize all the tasks necessary to complete a project — to make all employees aware of what the region’s customers think. When asked how they use the survey information to improve service, managers listed a variety of ways:

1. Drilling down to five-digit ZIP code levels to identify where problems are occurring.
2. Cross-referencing survey data with customer complaint cases tracked in the enterprise customer care (eCC) system or Where Is My Package (WIMP) cases. Some managers require post offices with high numbers of complaints and low scores to develop action plans to fix problems.

3. Mining survey results for training topics or to coach staff on expected levels of service. One manager sends out a “misdelivery accuracy” packet to post offices receiving low satisfaction ratings.

Managers also share positive feedback. For example, one manager noted, “We share delivery verbatims weekly with management and ask that they share the responses with the carriers and congratulate or coach as the comments indicate.”<sup>41</sup> Units are rank-ordered on a variety of metrics, including their overall CI Index score, and managers often mentioned using these rankings to motivate staff to maintain current levels of excellent service or to improve.

### What We Heard: The Opportunities for Improvement

Half of the managers did not discuss the Delivery Survey at all, and almost a third of those that mentioned using the Delivery Survey felt they did not receive sufficient information or know how to use it to enact positive change.<sup>42</sup> The Postal Service needs to receive 270 surveys (combining residential and SMB responses) per district each year for survey results to be statistically valid.<sup>43</sup> Although it meets the goal, field managers raised three main critiques about the quantity and quality of the survey results.

*Delivery Survey results do not easily translate into corrective action.* More than two dozen managers reported that they do not receive enough Delivery Survey responses to make meaningful changes, calling the data “random” or “thin.”<sup>44</sup> For example, one manager noted that a customer might leave praise for his carrier in the same verbatim in which he complains about a bad experience six months in the past.<sup>45</sup> Some expressed frustration that they only get a handful of survey responses. One said that after coaching carriers in an office with low satisfaction ratings, the region received no survey results the next quarter, making it hard to determine if the talks were effective or if more initiatives were needed.<sup>46</sup> To boost responses without sending additional mailings, the Postal Service could pursue other invitation avenues, such as including a Delivery Survey invitation

<sup>40</sup> Interview with Jennifer Vo, Acting Headquarters Manager of Delivery, USPS, May 25, 2017.

<sup>41</sup> Interview with a district marketing manager, July 20, 2017.

<sup>42</sup> The OIG asked an open-ended question. Those managers who did not bring up the Delivery Survey or any delivery issues specifically are not included in this number.

<sup>43</sup> Receiving 270 responses per district *per year* equates to statistical validity at a district level with 90 percent confidence and a  $\pm 5$  confidence interval. The confidence level increases if the survey generates 270 responses per district *per quarter*. Docket No. ACR2015, Responses of the United States Postal Service to Questions 1-12, 16-18 of Chairman’s Information Request No. 13, February 18, 2016, question 1, <https://www.prc.gov/docs/95/95041/CHIR%20No.%2013.First.Response.Set.pdf>.

<sup>44</sup> Interview with an area marketing manager, June 29, 2017, and interviews with two separate district marketing managers, June 16, 2017 and June 28, 2017.

<sup>45</sup> Interview with a district marketing manager, June 16, 2017.

<sup>46</sup> Interview with a district C&IC manager, July 7, 2017.



on its Informed Delivery emails, package delivery notifications, or on [USPS.com](https://usps.com). Linking to the survey from these vehicles gives unhappy customers an avenue to voice their complaints rather than calling the customer care center or turning to social media, but it could detract from the survey's random sampling technique. If the Postal Service chooses to pursue any of these additional survey invitation methods, it might want to track the responses separately. This would offer new complaint avenues while maintaining the integrity of the Delivery Survey as a randomly-generated survey of all delivery customers useful for monitoring trends and gaps.

*The Delivery Survey measures satisfaction with events outside of managers' control.* One manager said she controls counter to curb, but much of the delivery experience relies on operations.<sup>47</sup> In a similar vein, other managers felt Delivery Survey results were harder to interpret because they are not tied to a specific, traceable event.<sup>48</sup> In contrast, the POS Survey is tied to a specific retail transaction. A suggestion offered by two field managers to overcome this concern is to immediately trigger the Delivery Survey from a specific event, such as a package delivery. The Postal Service recently launched the Perfect Package Experience to ensure frictionless package delivery from the customer's perspective. The initiative will attempt to quantify customer satisfaction with aspects of package delivery such as expected delivery date and correct delivery location. This initiative could give local units actionable information on the delivery experience not currently available from the Delivery Survey. If the Postal Service wants to generate additional feedback for field managers by generating a survey invitation from a package delivery, it might want to analyze survey data generated from package deliveries separately so it can continue to treat the Delivery Survey as the key measure of customer satisfaction.

*The design of the Delivery Survey may be flawed.* Some managers see a disconnect between the ratings they receive on an individual survey, which might be poor, and the complimentary nature of the corresponding verbatim. They

believe that customers are confused by the 1 to 6 rating scale, where 1 is the most positive rating. Even though customers do not see numbers when making their ratings online, the perception that the survey is flawed leads some field managers to distrust survey responses.<sup>49</sup>

In short, just over half of the field managers we spoke to use the Delivery Survey results, although the level of attention paid to the survey differs. Some simply forward it to subordinates, while others do more complex cross-referencing against eCC cases and WIMP complaints. Headquarters guidance on how to use survey results or dissemination of best practices could clarify expectations for how field managers should interpret and apply results. For example, with headquarters guidance, area managers could propose region-specific solutions for region-specific problems. To address field management concerns with the survey instrument, the OIG turned to an expert in survey methodology to assess the design, implementation, and results-reporting of the survey.

## Expert Says

The team enlisted the opinion of Dr. Chase Harrison, a survey methodology expert.<sup>50</sup> He determined that the Delivery Survey instrument is adequate for collecting customer satisfaction data but suggested several improvements to enhance its use, specifically by addressing the representativeness of the survey. The complexity and cost of some of the proposed changes warrant a cost-benefit analysis to assess to what extent each modification would be worthwhile.

## Representativeness

The expert suggested three ways to improve the representativeness of the delivery survey. These include: 1) weighting the sample to diminish the potential for non-response biases based on measurable characteristics; 2) applying smoothing weights to account for seasonal variations in data; and 3) improving the response rate.

<sup>47</sup> Interview with an area marketing manager, June 29, 2017.

<sup>48</sup> Interviews with two separate area C&IC managers, June 30, 2017.

<sup>49</sup> The Postal Service evaluated all of its customer satisfaction surveys, including language, rating scales, and question order, and standardized them for FY 2018. In addition, it is experimenting with features to acknowledge when users give poor ratings, allowing respondents to correct any accidental ratings. Interview with Alexander Petr, October 19, 2017. Another way to test the scale's clarity is to conduct a scale validation study to see if a different structure's results more closely align with sentiments expressed in verbatims. See *Expert Says* for more on the value of conducting a scale validation study.

<sup>50</sup> Dr. Harrison is the Associate Director of the Harvard Program on Survey Research and Preceptor in Survey Methods in the Department of Government at Harvard University. He has a Master of Arts in Survey Research and a Ph.D. in Political Science.

## ***Weighting the Sample***

Under the current model, the Postal Service's contractor selects random samples of addresses from a nationwide list of household addresses and sends the same number of invitations to each postal-designated district. This leads to two types of representation disparities: district population and customer demographic. First, mailing the same number of invitations to each district does not take into account fluctuating district population size, so the current methodology oversamples smaller districts while under-sampling large districts.<sup>51</sup> Second, the Postal Service does not employ any method to adjust for customer populations that, for one reason or another, are less likely to take the survey. This potentially results in non-response bias. The expert described how typically, non-English-speaking populations and people living in transient, urban areas are generally less likely to respond to surveys.<sup>52</sup> The OIG's analysis in *Survey Says* also demonstrated that young people and centralized delivery recipients are under-represented. A non-response bias study could help the Postal Service determine if the advantages of reaching these customers are worth the cost.<sup>53</sup>

Although sampling weights and non-response weights represent conceptually different sources of survey error, adjustments could potentially address both issues simultaneously. Management could either: 1) apply weights after survey responses are received; or 2) adjust the sample design — in other words, self-weight the sample — to account for varying population size and likely non-response. These approaches could also be used in combination. Both approaches would compensate for the disproportionate probability of being selected during the sampling. In the self-weighting approach, the Postal Service would adjust the number of survey invitations sent to each district to match their proportion of all delivery customers. It could also account for the low response groups and try to oversample these populations. Self-weighting to account for multiple variables can be a complex endeavor because non-responders are

likely spread unevenly throughout districts. In order to figure out where these populations are located, the Postal Service would need to use mailing list attributes, such as dwelling type.

## ***Smoothing the Data for Seasonality***

Some weeks see a larger number of survey returns than others, although the surveys are sent out at the same rate. Since field managers receive the data in weekly installments, they must be able to easily assess whether fluctuations in survey results are due to changes in service or outside factors. It is common practice to apply weights that account for natural seasonal patterns that could affect the underlying data. By implementing this approach and applying seasonal weights on a monthly basis, the comparability of the data would be enhanced as it is reviewed throughout the year. If these weights were applied within geographic regions, they would also naturally account for the seasonal movements of populations.<sup>54</sup>

## ***Increasing the Response Rate***

The survey's response rate of 1 percent is rather low. The Office of Management and Budget has published Standards and Guidelines for Statistical Surveys, which call for target response rates of 95 percent for federal surveys. For any survey expected to receive a response rate lower than 80 percent, the agency must plan to conduct a non-response bias study.<sup>55</sup> Although the Postal Service is not required to meet these standards, results from a survey with such a low response rate may not be a reliable indicator of the delivery experience.

A non-response bias study could allow the Postal Service to try new techniques to increase participation by low-responding groups. A non-response bias study could also help the Postal Service identify which survey approaches are the most cost-effective ways of maximizing response rates while minimizing differences

<sup>51</sup> This results in records being selected with non-equal sampling probabilities based on districts.

<sup>52</sup> Another factor influencing non-response could be that while the survey invitation arrives by mail, respondents can only complete the survey online or by phone.

<sup>53</sup> A non-response bias study shows how well the opinions of those not answering the survey are represented in the current results. Different approaches can be used to evaluate whether differences between respondents and non-respondents affect overall survey results. As one approach, the Postal Service could incentivize a sub-sample of non-respondents to take the survey, comparing their results to those who do respond. The study would identify whether the Postal Service should weight survey data to account for the likely responses of currently underrepresented populations.

<sup>54</sup> Mailing list attributes could be useful for smoothing. Dwelling type could be used to assess the transient quality of different populations. For example, single-family homeowners are more likely to take vacation and live in one place for a longer period.

<sup>55</sup> Office of Management and Budget, *Standards and Guidelines for Statistical Surveys*, September 2006, [https://www.ftc.gov/system/files/attachments/data-quality-act/standards\\_and\\_guidelines\\_for\\_statistical\\_surveys\\_-\\_omb\\_-\\_sept\\_2006.pdf](https://www.ftc.gov/system/files/attachments/data-quality-act/standards_and_guidelines_for_statistical_surveys_-_omb_-_sept_2006.pdf), p. 8.

between responders and non-responders. Outside of a formal non-response bias study, the Postal Service could continue to test different survey invitations. The Postal Service already changed its invitation from the postcard, used since FY 2014, to a sealed envelope, which pilot testing indicated could increase response rates to 7 percent. Dr. Harrison specifically suggested testing invitations in multiple languages, depending on delivery location, by cross-referencing the address list with Census data. He also suggested testing invitations addressed more broadly, to a “postal customer” rather than an addressee, particularly in transient areas, like university towns. Ideally, further research would test different approaches across different geographies or respondent characteristics. This sort of responsive design might result in slightly different protocols or approaches for different target populations, designed to maximize responses while minimizing bias across the study as a whole.

## Improving the Utility of the Response

Dr. Harrison identified two ways to make survey responses more actionable: clarify the questionnaire and conduct a scale validation study.

### Clarifying Questions

Some survey questions might pack too much content into a single question. For example, in FY 2017, the survey asked, “Just thinking about your overall experience with the mail or packages you have received in the last 30 days, how satisfied are you with the performance of your letter carrier?” While including a specific period rather than a less specific term, like “recent,” is a good start, the bundling of sentiment about mail, packages, and the letter carrier into one satisfaction question can be confusing and lead to inaccurate results. Do customers have different perceptions of mail delivery than they do package delivery? How would they answer the question if they liked their carrier but were unhappy that a package arrived later than expected? Making the questions as specific as possible decreases respondent confusion and makes the survey results more consistent and reliable.

## Validating the Scale

The scale for rating questions might not necessarily measure what the Postal Service intends to measure.<sup>56</sup> When designing a survey, benchmarking and evaluating scores against independent sources of data can help determine if the scale is calibrated correctly. For example, the Postal Service could compare high and low scores on the survey against the number of customer complaints logged at its contact centers from a particular ZIP code or other measures of service performance or customer satisfaction. A scale validation study could test for this difference and ensure that the agency is asking and evaluating questions in a way that aligns with what the Postal Service wants to measure.

The study could also help evaluate whether the scale intervals are reliable and consistent measures of the underlying item for all respondents. For instance, the Postal Service asks customers if they are “very,” “mostly,” or “somewhat” satisfied. Would respondents answer differently if the choices were “extremely,” “very,” and “somewhat”? The Postal Service tries to avoid confusion among these categories by grouping responses into a “top two” category. In other words, it does not separately report the number who are very satisfied versus the number who are mostly satisfied. Instead, it combines these “top two” categories together. This approach, however, discards data, calling into question why the survey uses a six-point scale in the first place. A scale validation study could also uncover when respondents answer in ways that are not clear, consistent across groups, or clean measures of their underlying attitudes. For example, satisficing — a phenomenon where respondents choose a satisfactory answer rather than the optimum answer — is one type of concern that occurs because respondents prefer to be agreeable and rate a product or service highly on a scale.<sup>57</sup> Satisficing may be more likely to occur on satisfaction scales lacking a midpoint, like the one the Postal Service uses to gauge overall satisfaction with delivery. In general, scales with midpoints are found to have higher levels of reliability and validity.<sup>58</sup>

Each of these suggestions comes with a cost in terms of effort, money, or both. In an ideal world, a survey would be a perfect representation of the population

<sup>56</sup> Overall satisfaction was measured on a scale of Very Satisfied, Mostly Satisfied, Somewhat Satisfied, Somewhat Dissatisfied, Mostly Dissatisfied, and Very Dissatisfied. Respondents were also asked to agree with statements about delivery on a scale of Strongly Agree, Somewhat Agree, Neither Agree nor Disagree, Somewhat Disagree, and Strongly Disagree.

<sup>57</sup> “Herbert Simon,” *The Economist*, March 20, 2009, <http://www.economist.com/node/13350892>.

<sup>58</sup> A scale with a “midpoint” gives the respondent a neutral option of “Neither Agree nor Disagree” or “Neither Satisfied nor Dissatisfied.” For a general summary of issues regarding scale reliability in survey questions, see J.A. Krosnick and S. Presser, “Questions and Questionnaire Design” in P.V. Marsden and J. Wright, *Handbook of Survey Research*, Second Edition, 2010.

base and accurately capture customer sentiment. But limited resources force market researchers to determine when a survey has become accurate enough. In some cases, the costs associated with enhancing survey responses and increasing data precision could be offset by the need to send fewer survey invitations. Further, if the Postal Service intends to use the survey to make resource decisions, such as whether to fund new features and capacity for MDDs, small studies to understand the strengths and limits of the survey may yield larger savings in operational costs. At the same time, though the survey may not be perfect in its current form, it provides a bellwether of customer sentiment.

## Conclusion

The Postal Service collects a significant amount of data on customer perceptions of delivery service. From more than 71,000 annual survey responses, the agency can get a sense for both the overall satisfaction of customers and what specific aspects of delivery service they would like to see improve or change. The majority of customers indicate that they are satisfied with their service, although they are less satisfied than in years past.

The OIG analysis highlighted three particular segments that are less satisfied than their counterparts: SMB customers, centralized delivery customers, and customers aged 25 to 34. When prompted for ways USPS could improve the delivery experience, these customers mirrored the responses of the entire respondent population, most often writing about misdelivery, inconsistent delivery time, delivery location, and damage to mail and packages. Field managers are eager to correct these problems but express concern that they do not get enough information from the Delivery Survey to address customer frustrations. Some

remedies are out of their control and might require national analysis and policy changes at the headquarters level. These could prove the most difficult to enact. The Postal Service would need to conduct cost-benefit analyses to determine if policies that would improve customer satisfaction are both feasible and affordable.

Enhancements to the survey design and sample techniques could help increase the representativeness and the accuracy of the survey, providing the most actionable feedback for improving delivery service. With small adjustments to survey administration and results interpretation, the Postal Service could enhance this valuable market research tool to further improve the customer's delivery experience.

## Management's Comments

Management acknowledged that the report was a thorough analysis that highlighted some noteworthy opportunities for the Postal Service. They noted initiatives underway to improve the structure of the Delivery Survey, capture customer sentiment, and better use survey data to drive improvement. USPS disagreed with some of the OIG's characterizations and specific suggestions.

See [Appendix F](#) for management's comments in their entirety.

## Evaluation of Management's Comments

As noted in our paper, the OIG is pleased that the Postal Service is taking steps to improve its customer satisfaction survey program. We carefully reviewed their comments but do not believe they warrant changes to the report. Regarding the Postal Service's disagreement with our verbatim categorization, the OIG used methodologies widely employed by experts in text mining.



# Appendices

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# Appendix A: FY 2018 Delivery Survey

## FY 2018 Delivery Survey – Residential July 31, 2017

*If coming in from current static URL:*

Welcome to the U.S. Postal Service Customer Experience Questionnaire site. Please select your language preference.

English  
Spanish

### INTRODUCTION SCREEN

Thank you for participating in the U.S. Postal Service Customer Experience Questionnaire. Your responses are important to help us improve postal services in your area.

This survey takes about 5 minutes to complete and should be completed by a person who receives mail at the address where your invitation postcard was delivered. Your responses will be kept strictly confidential.

Please enter your invitation number from the postcard (see below). Once you've entered your invitation number, please click the "Begin Survey" button to continue.

UserID: \_\_\_\_\_  
Password: \_\_\_\_\_

<Begin Questionnaire>

*If coming in from dynamic QR with USER and PASSWORD imbedded:*

Welcome to the U.S. Postal Service Customer Experience Questionnaire site. Please select your language preference.

English  
Spanish

### INTRODUCTION SCREEN

Thank you for participating in the U.S. Postal Service Customer Experience Questionnaire. Your responses are important to help us improve postal services in your area.

This survey takes about 5 minutes to complete and should be completed by a person who receives mail at the address where your invitation postcard was delivered.

<Begin Questionnaire>

1

## FY 2018 Delivery Survey – Residential July 31, 2017

*Programmer Note: force respondent to answer S1, Q1, and the Q2s. Others are optional unless noted.*

### S1. Where do you normally receive mail and packages? (check one)

1. At my street address
2. At a PO Box
5. At a centralized/cluster mailbox
4. Other

*If response to S1 is 1, 5, or 4 the following question is presented.*

**OSAT\_C. Thinking about your overall experience with receiving mail and/or packages delivered by USPS recently, how satisfied are you?**

- 1- Very Satisfied
- 2- Mostly Satisfied
- 3- Somewhat Satisfied
- 4- Somewhat Dissatisfied
- 5- Mostly Dissatisfied
- 6- Very Dissatisfied

*If response to S1 is 2 the following question is presented.*

**OSAT\_PO. Thinking about your overall experience with your Post Office Box, how satisfied are you?**

- 1- Very Satisfied
- 2- Mostly Satisfied
- 3- Somewhat Satisfied
- 4- Somewhat Dissatisfied
- 5- Mostly Dissatisfied
- 6- Very Dissatisfied

*If response to S1 is 1, 3, or 4 the following question is presented.*

**NPSC. [Required Question] Thinking about your overall experience with receiving mail and/or packages delivered by USPS recently, how likely are you to recommend the USPS to a friend or family member?**

0 1 2 3 4 5 6 7 8 9 10  
Not At Extremely  
All Likely Likely

*If response to S1 is 2 the following question is presented.*

**NPSP. [Required Question] Thinking about your overall experience with the Post Office Box, how likely are you to recommend the USPS to a friend or family member?**

0 1 2 3 4 5 6 7 8 9 10  
Not At Extremely  
All Likely Likely

2

FY 2018 Delivery Survey – Residential  
July 31, 2017

NPSOE. [Optional Open End Question] What is the primary reason behind your rating? Character limit: 500

*If response to S1 is 1, 3, or 4 the following question is presented.*

Q1C. [Component of Customer Insight Composite score] Just thinking about your overall experience with the mail or packages you have RECEIVED in the last 30 days, how satisfied are you with the performance of your Letter Carrier?

- 1- Very Satisfied
- 2- Mostly Satisfied
- 3- Somewhat Satisfied
- 4- Somewhat Dissatisfied
- 5- Mostly Dissatisfied
- 6- Very Dissatisfied

*If response to S1 is 2 the following question is presented.*

Q1PO. [Component of Customer Insight Composite score] Just thinking about the last 30 days, how satisfied are you with your Post Office Box?

- 1- Very Satisfied
- 2- Mostly Satisfied
- 3- Somewhat Satisfied
- 4- Somewhat Dissatisfied
- 5- Mostly Dissatisfied
- 6- Very Dissatisfied

3

FY 2018 Delivery Survey – Residential  
July 31, 2017

Q2. Please indicate your agreement with the following statements based on your experiences with the mail or packages you recently RECEIVED: *randomize order presentation, the new h, i, and j are NOT required*

- a. Mail or packages are delivered to the correct address.
- b. Mail or packages are delivered in good condition.
- h. Packages are delivered on time based on expected day of delivery.
- i. Tracking information for packages is accurate.
- j. Instructions for what to do after receiving a missed delivery notice are clear.

*If response to S1 is 1,5, or 4 the following question is presented in question grid*

c. Letter carriers are friendly and courteous.

*If response to S1 is 2 the following question is presented in question grid*

g. The PO Box is meeting my needs

- 1- Strongly Agree
- 2- Somewhat Agree
- 3 -Neither Agree nor Disagree
- 4- Somewhat Disagree
- 5- Strongly Disagree

*(If Q2b answer is 4 or 5, then present Q2-1, otherwise skip to Q3)*

Q2-1. Was the mail or package you received marked with a Stamp / Sticker or an explanation indicating why it was damaged?

- 1- Yes
- 2- No

Q3. In the future, what should the USPS do to improve your satisfaction with how we DELIVER your mail or packages? *(Allow 2000 characters)*

4

FY 2018 Delivery Survey – Residential  
July 31, 2017

Q4. In the past year, what types of mail products have you used? (check all that apply)

- ☐ First-Class Mail®  
(postcards, letters, bills, large envelopes)
- ☐ Priority Mail®  
(non-guaranteed 1, 2 or 3 day letter and packages)
- ☐ Priority Mail Express™  
(guaranteed overnight delivery to most U.S. locations)
- ☐ Periodicals  
(newspapers and magazines)
- ☐ USPS Marketing Mail™ (formerly Standard Mail®)  
(advertising, catalog, non-profit)
- ☐ USPS Retail Ground™ (formerly Standard Post™)  
(lower cost service, surface transportation)
- ☐ Media Mail®  
(books, videos, CDs, DVDs)
- ☐ Library Mail  
(film and music for schools and libraries)
- ☐ Single-Piece International  
(includes letters, postcards, packages)

Q5. Now thinking about your experience with [insert first checked product], what is your satisfaction with [insert first checked product]?

- 1- Very Satisfied
- 2- Mostly Satisfied
- 3- Somewhat Satisfied
- 4- Somewhat Dissatisfied
- 5- Mostly Dissatisfied
- 6- Very Dissatisfied

Repeat for each checked product from Q4.

5

FY 2018 Delivery Survey – Residential  
July 31, 2017

Finally, a few questions for classification purposes only. (Different data columns for Res and SMB demos- each question has a unique field)

1. What is your gender?

- 1 Male
- 2 Female

2. What is your age?

- 1 Under 25 years
- 2 25-34 years
- 3 35-44 years
- 4 45-54 years
- 5 55-64 years
- 6 65 years or older

Thank you for completing the U.S. Postal Service Customer Feedback Survey.  
Your time and business are appreciated.

[THIS NOTE SHOULD APPEAR AT THE BOTTOM OF EACH PAGE IN THE SURVEY]

If you need help with this survey, please send an email to  
[postalexperience@maritzcx.com](mailto:postalexperience@maritzcx.com)  
[Maritz Privacy Policy](#) | [USPS Privacy Policy](#)

Links are:  
<http://www.maritzcx.com/privacy-policy/>  
<http://www.usps.com/privacypolicy>

6



FY 2018 Delivery Survey – Small Business  
July 31, 2017

If coming in from current static URL:

Welcome to the U.S. Postal Service Customer Experience Questionnaire site. Please select your language preference.

English  
Spanish

**INTRODUCTION SCREEN**

Thank you for participating in the U.S. Postal Service Customer Experience Questionnaire. Your responses are important to help us improve postal services in your area.

This survey takes about 5 minutes to complete and should be completed by a employee who receives mail at the address where your invitation postcard was delivered. Your responses will be kept strictly confidential.

Please enter your invitation number from the postcard (see below). Once you've entered your invitation number, please click the "Begin Survey" button to continue.

User ID: \_\_\_\_\_  
Password: \_\_\_\_\_

<Begin Questionnaire>

If coming in from dynamic QR with USER and PASSWORD imbedded:

Welcome to the U.S. Postal Service Customer Experience Questionnaire site. Please select your language preference.

English  
Spanish

**INTRODUCTION SCREEN**

Thank you for participating in the U.S. Postal Service Customer Experience Questionnaire. Your responses are important to help us improve postal services in your area.

This survey takes about 5 minutes to complete and should be completed by a person who receives mail at the address where your invitation postcard was delivered.

<Begin Questionnaire>

1

FY 2018 Delivery Survey – Small Business  
July 31, 2017

Programmer Note: force respondent to answer S1, Q1, and the Q2s. Others are optional unless noted.

S1. Where does your business normally receive mail and packages? (check one)

1. At the business's street address
2. At a PO Box
- 5 At a centralized/cluster mailbox
- 4 Other

If response to S1 is 1, 5, or 4 the following question is presented.

OSAT\_C. Thinking about your overall experience with receiving mail and/or packages delivered by USPS recently, how satisfied are you?

- 1- Very Satisfied
- 2- Mostly Satisfied
- 3- Somewhat Satisfied
- 4- Somewhat Dissatisfied
- 5- Mostly Dissatisfied
- 6- Very Dissatisfied

If response to S1 is 2 the following question is presented.

OSAT\_PO. Thinking about your overall experience with your Post Office Box, how satisfied are you?

- 1- Very Satisfied
- 2- Mostly Satisfied
- 3- Somewhat Satisfied
- 4- Somewhat Dissatisfied
- 5- Mostly Dissatisfied
- 6- Very Dissatisfied

NPSC. [Required Question] Thinking about your overall experience with receiving mail and/or packages delivered by USPS recently, how likely are you to recommend the USPS to a colleague?

0 1 2 3 4 5 6 7 8 9 10  
Not At Extremely  
All Likely Likely

If response to S1 is 2 the following question is presented.

NPSP\_O. [Required Question] Thinking about your overall experience with the Post Office Box, how likely are you to recommend the USPS to a colleague?

0 1 2 3 4 5 6 7 8 9 10  
Not At Extremely  
All Likely Likely

2

FY 2018 Delivery Survey – Small Business

July 31, 2017

NPSOE. [Optional Open End Question] What is the primary reason behind your rating? Character limit: 500

*If response to S1 is 1, 3, or 4 the following question is presented.*

Q1C. [Component of Customer Insight Composite score] Just thinking about your overall experience with the mail or packages you have RECEIVED in the last 30 days, how satisfied are you with the performance of your Letter Carrier?

- 1- Very Satisfied
- 2- Mostly Satisfied
- 3- Somewhat Satisfied
- 4- Somewhat Dissatisfied
- 5- Mostly Dissatisfied
- 6- Very Dissatisfied

*If response to S1 is 2 the following question is presented.*

Q1PO. [Component of Customer Insight Composite score] Just thinking about the last 30 days, how satisfied are you with your Post Office Box?

- 1- Very Satisfied
- 2- Mostly Satisfied
- 3- Somewhat Satisfied
- 4- Somewhat Dissatisfied
- 5- Mostly Dissatisfied
- 6- Very Dissatisfied

3

FY 2018 Delivery Survey – Small Business

July 31, 2017

Q2. Please indicate your agreement with the following statements based on your experiences with the mail or packages you recently RECEIVED: *randomize order presentation, the new h and i are NOT required*

- a. Mail or packages are delivered to the correct address.
- b. Mail or packages are delivered in good condition.
- h. Packages are delivered on time based on expected day of delivery.
- i. Tracking information for packages is accurate.

*If response to S1 is 1,5, or 4 the following question is presented in question grid*

- c. Letter carriers are friendly and courteous.

*If response to S1 is 2 the following question is presented in question grid*

- g. The PO Box is meeting my needs

- 1- Strongly Agree
- 2- Somewhat Agree
- 3 -Neither Agree nor Disagree
- 4- Somewhat Disagree
- 5- Strongly Disagree

*(If Q2b answer is 4 or 5, then present Q2-1, otherwise skip to Q3)*

Q2-1. Was the mail or package you received marked with a Stamp / Sticker or an explanation indicating why it was damaged?

- 1- Yes
- 2- No

Q3. In the future, what should the USPS do to improve your satisfaction with how we DELIVER your mail or packages? *(Allow 2000 characters)*

4

FY 2018 Delivery Survey – Small Business  
July 31, 2017

**Q4. In the past year, what types of mail products have you used? (check all that apply)**

- ☐ First-Class Mail®  
(postcards, letters, bills, large envelopes)
- ☐ Priority Mail®  
(non-guaranteed, 1, 2 or 3 day letter and packages)
- ☐ Priority Mail Express™  
(guaranteed overnight delivery to most U.S. locations)
- ☐ Periodicals  
(newspapers and magazines)
- ☐ USPS Marketing Mail™ (formerly Standard Mail®)  
(advertising, catalog, non-profit)
- ☐ USPS Retail Ground™ (formerly Standard Post™)  
(lower cost service, surface transportation)
- ☐ Media Mail®  
(books, videos, CDs, DVDs)
- ☐ Bound Printed Matter  
(bound directories, trade journals)
- ☐ Library Mail  
(film and music for schools and libraries)
- ☐ Single-Piece International  
(includes letters, postcards, packages)

**Q5. Now thinking about your experience with [insert first checked product], what is your satisfaction with [insert first checked product]?**

- 1- Very Satisfied
- 2- Mostly Satisfied
- 3- Somewhat Satisfied
- 4- Somewhat Dissatisfied
- 5- Mostly Dissatisfied
- 6- Very Dissatisfied

Repeat for each checked product from Q4.

5

FY 2018 Delivery Survey – Small Business  
July 31, 2017

Finally, a few questions for classification purposes only. (Different data columns for Res and SMB demos- each question has a unique field)

**6. Where is your business located?**

- Storefront
- Home office
- Building with multiple businesses
- Building with only your business
- Other

**8 About how many people are employed at your location?**

- 1-4
- 5-10
- 11-100
- 101-249
- 250+

**9 Which of the following best describes your job position?**

- Corporate Officer/Owner
- Financial operations
- Office manager
- Mail operations
- Clerical
- Other

Thank you for completing the U.S. Postal Service Customer Feedback Survey.  
Your time and business are appreciated.

THIS NOTE SHOULD APPEAR AT THE BOTTOM OF EACH PAGE IN THE SURVEY]

If you need help with this survey, please send an email to [postalexperience@maritzcx.com](mailto:postalexperience@maritzcx.com)  
[Maritz Privacy Policy](#) | [USPS Privacy Policy](#)

Links are:  
<http://www.maritzcx.com/privacy-policy/>  
<http://www.usps.com/privacypolicy>

6

# Appendix B: Evolution of Delivery Survey Questions, FY 2014 – 2018

The Postal Service has made several changes to the Delivery Survey since FY 2014. The figure below illustrates:

- *Added questions.* Notably, the Postal Service first specifically asked about PO Box satisfaction in FY 2016, added NPS in FY 2017, and will collect data on perception of on-time package delivery for FY 2018.
- *Questions dropped and subsequently resumed.* This includes an overall satisfaction question and perception of accurate tracking information.
- *Approved FY 2018 changes.* There are a number of similar, overall satisfaction questions that will be asked in FY 2018 to ensure backward and forward historical comparability.

**Figure 9: Changes to Delivery Survey Questionnaires, FY 2014 - 2018**

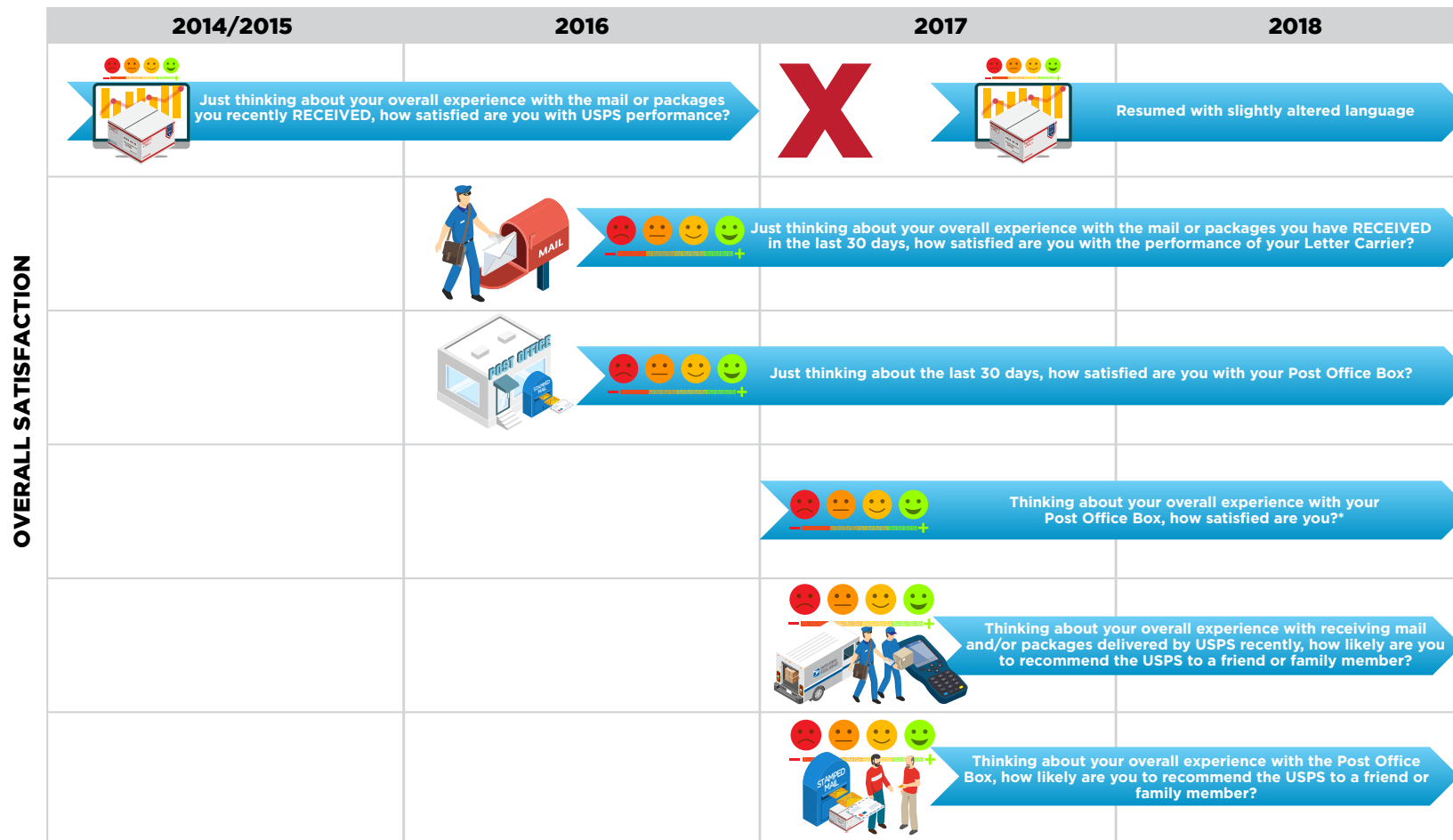












Figure 9: Continued from Previous Page

	2014/2015	2016	2017	2018
AGREEMENT	 CORRECT ADDRESS			
	 GOOD CONDITION			
	 FRIENDLY/COURTEOUS CARRIERS**			
	 CARRIERS PERFORM JOB WELL		X	
	 ACCURATE TRACKING INFORMATION		X	 ACCURATE TRACKING INFORMATION
		 SAME TIME***	X	
		 PO BOX MEETING MY NEEDS		
			 ON TIME PACKAGE DELIVERY	
			 MISSED DELIVERY NOTICE IS CLEAR****	

Note: The Postal Service introduced new questions at various times during the fiscal year.

\* The Postal Service asked this PO Box question throughout FY 2017, but only about 3,000 customers answered it. Because of its relatively low number of responses and its similarity to the preceding PO Box question, the OIG omitted it from its report card analysis in Figure 4.

\*\* The Postal Service indicated this question would only be asked of SMB customers in FY 2018. However, when the OIG reviewed the online residential survey on November 14, 2017, the question was asked.

\*\*\* The Postal Service asked this question for part of FY 2016. Because it did not report the results to the PRC and dropped the question from its FY 2017 survey, the OIG treated it as a temporary question and omitted it from its report card analysis in Figure 4.

\*\*\*\* The Postal Service indicated this question would only be asked of residential customers in FY 2018; the OIG verified it was asked on the online residential survey on November 14, 2017 but did not review the online SMB survey.



# Appendix C: Satisfaction by Customer Segment

Table 1 displays the mean overall satisfaction score for the single CI Index question used in FY 2016 for a selection of different customer segments. The Postal Service assigns a score of 1 to respondents who answer Very Satisfied and 6 to those who answer Very Dissatisfied. Think of the scores in the table like a round of golf: the happiest customers have the lowest scores.

**Table 1: Satisfaction Levels by Customer Segment, FY 2016**

<i>Just thinking about your overall experience with the mail or packages you recently RECEIVED, how satisfied are you with USPS performance? 1 = Very Satisfied, 2 = Mostly Satisfied, 3 = Somewhat Satisfied, 4 = Somewhat Dissatisfied, 5 = Mostly Dissatisfied, 6 = Very Dissatisfied</i>		
	Customer Segments	Mean Score
Delivery Location	Street Address	1.83
	PO Box	1.95
	Centralixed Box	2.17
Customer Type	Residential	1.86
	SMB	2.15
	SMB Subset Characteristic: # of Employees	
	Mean Score	
	1-4 Employees	
	2.02	
	5-10 Employees	
	2.26	
	101-249 Employees	
	2.29	
	11-100 Employees	
	2.31	
	250+ Employees	
	2.41	
	SMB Subset Characteristic: Business Location	
	Mean Score	
	Home Office	
	1.99	
	Storefront	
	2.02	
	Building with Single Business	
	2.12	
	Other	
	2.28	
	Building with Multiple Businesses	
	2.37	
Residential Age	Ages 65+	1.67
	Ages 55-64	1.87
	Under Age 25	2.04
	Ages 45-54	2.05
	Ages 35-44	2.17
	Ages 25-34	2.27

*Just thinking about your overall experience with the mail or packages you recently RECEIVED, how satisfied are you with USPS performance?  
1 = Very Satisfied, 2 = Mostly Satisfied, 3 = Somewhat Satisfied, 4 = Somewhat Dissatisfied, 5 = Mostly Dissatisfied, 6 = Very Dissatisfied*

	Customer Segments	Mean Score
Postal Area	Eastern	1.93
	Great Lakes	1.96
	Northeast	1.99
	Western	2.00
	Capital Metro	2.05
	Pacific	2.06
	Southern	2.07
Gender	Male	1.83
	Female	1.89
Language	Spanish	1.66
	English	2.01

Note: Very few customers answered the survey in Spanish: only 600 of 71,000 surveys were completed in Spanish. The team also decided that gender segmentation was too general; other characteristics would have to be included to draw meaningful conclusions.

Source: OIG Analysis of Postal Service Data.

# Appendix D: Detailed Text Mining Methodology

The OIG used SAS Text Miner to perform text analytics on the FY 2016 verbatim comments. This appendix briefly describes the team's methodology.

## Text Parsing and Filtering to Understand the Most Common Topics

Text Miner enables the analysis of patterns, relationships, and key information from large, unstructured text data sources.<sup>59</sup> The program suggests groupings of similar words and words to omit that do not have meaning on their own. The program understands language at a basic level and categorizes words by part of speech. For example, it identifies the word mail as a verb in the phrase, "I mail a package," and identifies the word mail as a noun in, "I pick up my mail." The program also identifies words that are coupled together as terms, such as "letter carrier." When the OIG ran the verbatims through the program, this text parsing resulted in 20,000 unique terms. In SAS Text Miner, the word "term" refers either to a single word (mail), a compound word (letter carrier), or set of words that have the same meaning (do, doing, does).

To achieve the balance of presenting a complete picture of the data yet also identifying key topics, the team fine-tuned the number of terms further. Strategies included:

1. Combining like words under a single term. This gave more meaning to the connections recognized by the program. Grouping words like carrier, mailman, and delivery person into a single term — "letter carrier" — allowed the program to determine what aspects of delivery, like "condition," were paired with such terms. The team also checked terms to ensure that all possible spellings of the same word were grouped together.
2. Eliminating meaningless words. Words like "to be" showed strong correlations with other terms, but did not add meaning to the analysis. Something is just as likely "to be" good as it is "to be" bad.

3. Removing words that appeared less than 100 times. With over 50,000 records and 20,000 parsed terms, a single verbatim about a carrier tripping over a "rock" is not going to move the needle.

These three techniques reduced the list to 4,012 terms. Of these, 2,654 had been grouped with other terms to create a single, stronger term.

Then, the program applied a text-weighting tool to the data set. This tool combines frequency weighting — a count of how many times a word appears in the set of verbatims — and an algorithmic weighting that identifies words that may only appear in a few documents but have high importance within those documents.<sup>60</sup> Frequency weighting provided valuable insight into which topics to explore further. This stage of analysis created a list of top terms, displayed in Figure 7: Top 10 Verbatim Terms, FY 2016.

## Concept Linking, Clustering, and Topic Extraction

The team then used the software's concept-linking, clustering, and topic-creation features on the most common terms. Concept linking identifies terms that commonly show up together in verbatims.<sup>61</sup> Before clustering the data, the data must be decomposed and organized using techniques such as Latent Semantic Indexing. Latent Semantic Indexing facilitates organizing the data by reducing dimensionality and preserving meaningful information (e.g., meaning of a word not only in isolation but also in the context of a sentence, paragraph, or page). Once organized, cluster algorithms decide how to group a verbatim or parts of a verbatim by calculating its primary sentiment. It allows users to understand core, recurring themes throughout the entire body of text analyzed. Topic creation uses a similar methodology to clustering, but instead of categorizing each verbatim into a single grouping, verbatims can count towards multiple groups.<sup>62</sup> This feature gives a fuller picture of verbatims that included multiple suggestions.

59 Mary-Elizabeth Eddlestone, SAS, "Capturing the Value of Unstructured Data: Introduction to Text Mining," [http://www.sascommunity.org/mwiki/images/1/1c/Introduction\\_to\\_Text\\_Mining\\_and\\_SAS%C2%AE\\_Text\\_Miner.pdf](http://www.sascommunity.org/mwiki/images/1/1c/Introduction_to_Text_Mining_and_SAS%C2%AE_Text_Miner.pdf), slides 4 and 12.

60 Goutam Chakraborty, Murali Pagolu, and Satish Garla, *Text Mining and Analysis: Practical Methods, Examples and Case Studies Using SAS* ©, 2013, pp. 98-99.

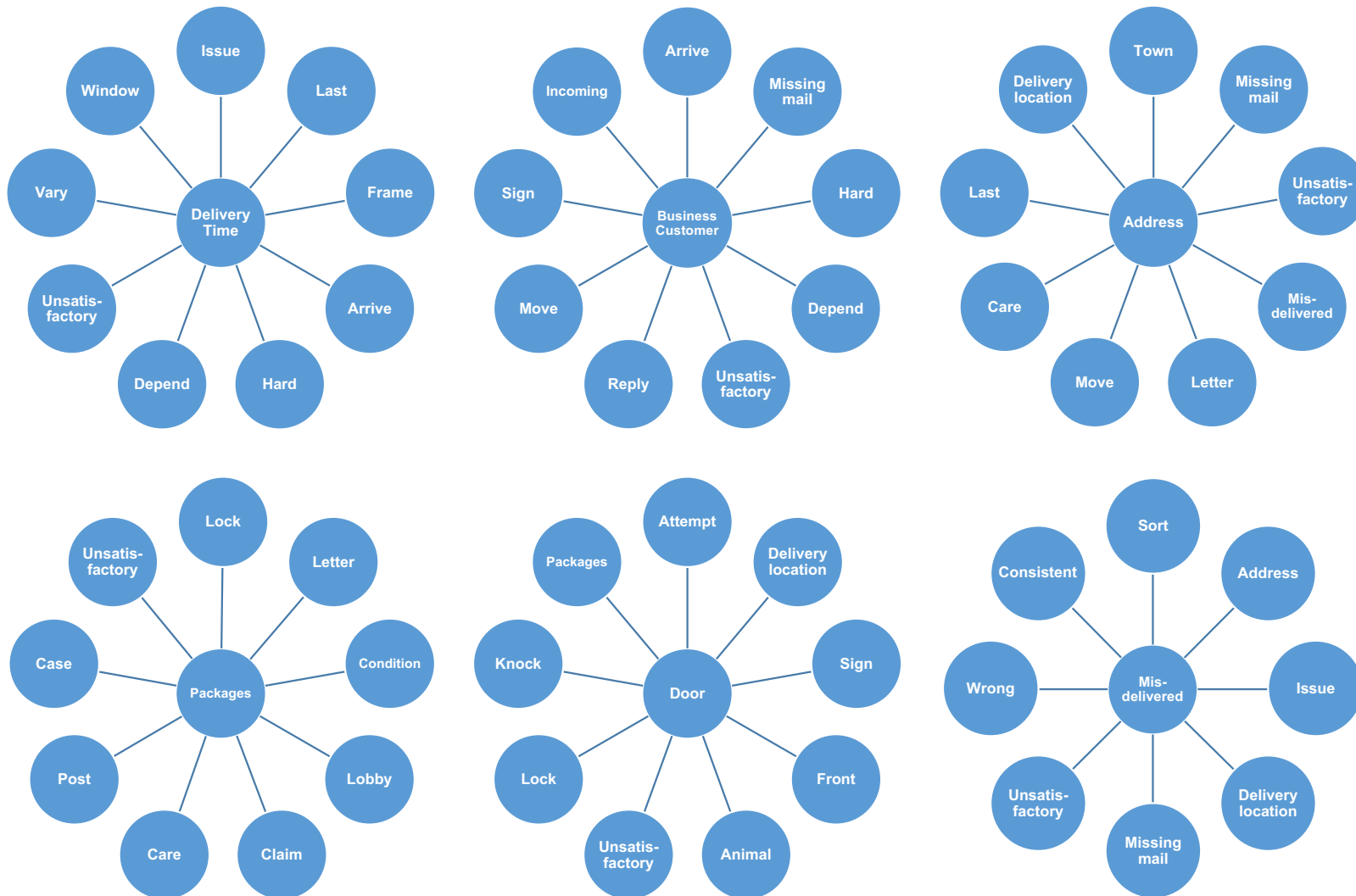
61 Eddlestone, slides 9 and 15.

62 Chakraborty, Pagolu, and Garla, p. 123.

## Concept Linking

In this analysis, the user selects the term and the program presents a hub-and-spoke representation of associated words.<sup>63</sup> Figure 10 illustrates concept links that relate to the findings in the four most common customer complaints described in *Respondents Say*: misdelivery, damage, delivery location, and delivery time.

**Figure 10: Verbatim Concept Links**



Source: OIG Analysis of Postal Service Data.

<sup>63</sup> Chakraborty, Pagolu, and Garla, p. 106.

## Clustering and Word Topics

The clusters and topics created by Text Miner had similar themes. The best way to demonstrate the value of information provided by this analysis is to show examples of clusters.<sup>64</sup>

**Table 2: Delivery Verbatim Clusters, Identified by SAS Text Miner**

	Clustered Terms	Examples of OIG Categorization
1	+mail +address +deliver +correct box +mailbox +other 'correct address' wrong put +people years location +please +when	Misdelivery Previous tenant
2	+service +delivery carrier satisfied great postal +usps good name friendly excellent happy carriers +think regular	Compliments
3	+job good great keep carrier +work satisfied name 'great job' friendly 'good work' +service fine 'good job' excellent	Compliments
4	+time +delivery delivered +same +deliver business earlier times +sometimes +late +consistent +route hours regular +more	Delivery Time
5	+office +post packages 'post office' +door package +local leave left +front box location +when postal +mailbox	Delivery Location Post Office
6	+not packages +receive week problem +other received package more weeks +last frequently +people delivered wrong	Misdelivery Delivery Frequency

Source: OIG Analysis of Postal Service Data.

Clusters illustrate that verbatims can fit into many categories or require subjective, manual binning. Cluster 6, for example, contains words associated with both misdelivery and delivery frequency. Others give more insight into common complaints and compliments. Cluster 1 demonstrates the common complaints surrounding misdelivery. Cluster 4 demonstrates the desire for consistent delivery time. Similar results from Text Miner's topic creation also informed the team's categorization analysis.

In sum, text analytics enabled the team to understand core themes in the verbatims and avoid the bias that could come from reading a random selection of verbatims for the same purpose.

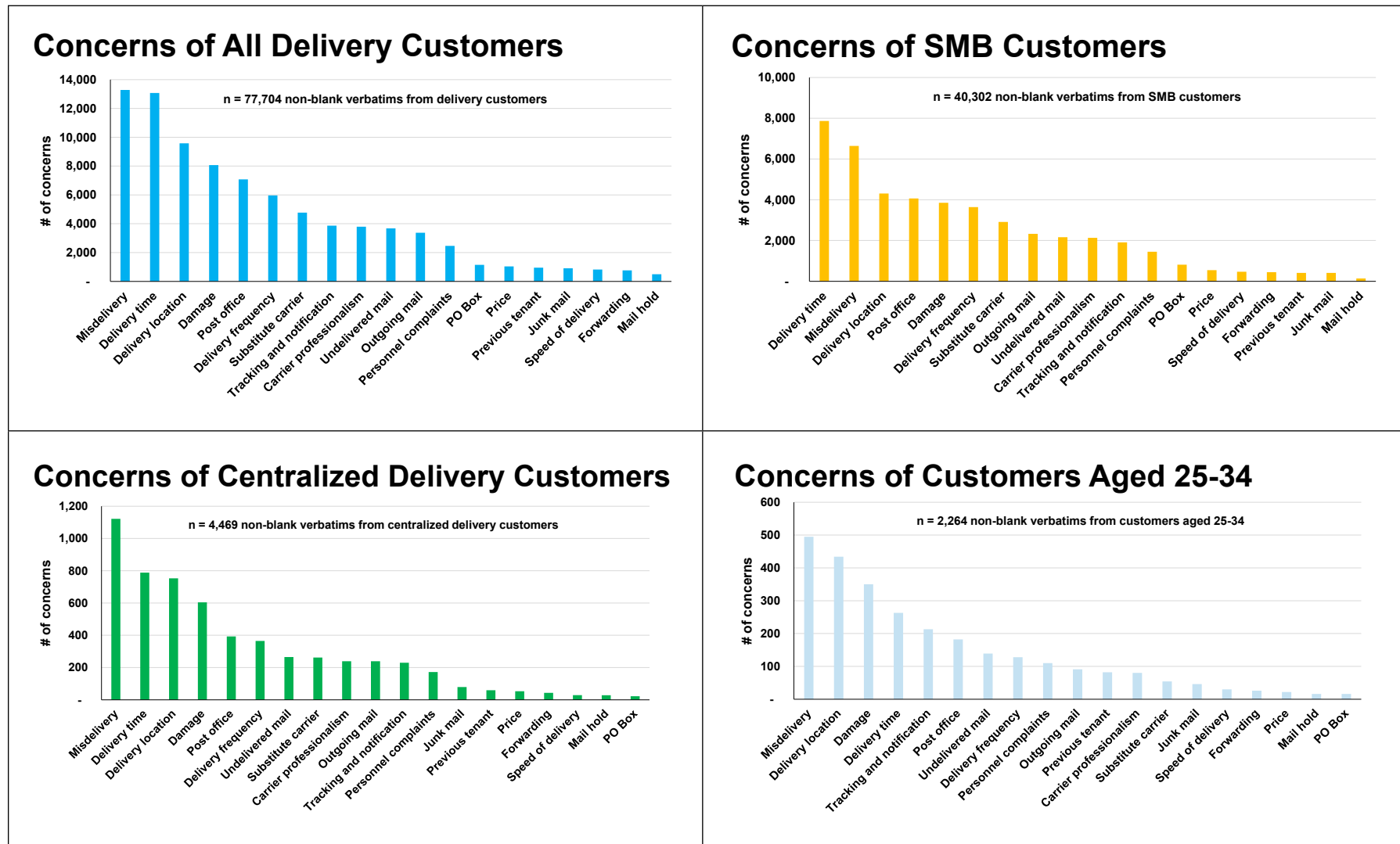
<sup>64</sup> The team combined terms with a plus sign with other terms through the three text filtering techniques. The software treats short phrases in quotes, such as "good job," as compound words.



# Appendix E: Common Delivery Concerns by Customer Segment

Figure 11 below shows how the team sorted verbatims into common complaint categories.<sup>65</sup>

**Figure 11: Common Delivery Concerns by Customer Segment**



Source: OIG Analysis of Postal Service Data.

<sup>65</sup> The date range for this analysis is FY 2016 - 2Q 2017. This analysis omits compliments and statements of no comment. Comments could fall into more than one category.

# Appendix F: Management's Comments



December 1, 2017

AMANDA MARTINEZ  
MANAGER, RARC, CENTRAL  
RISK ANALYSIS RESEARCH CENTER

SUBJECT: Delivering the Best Customer Experience  
(RARC-WP-18-XXX)

The Office of Inspector General (OIG) Delivering the Best Customer Experience report provides a thorough analysis of the USPS delivery survey, and highlights some noteworthy opportunities for the USPS to better use delivery survey data to drive customer-centric improvements.

The Postal Service has already taken steps to improve the structure of the delivery survey, capture customer sentiment, and better use survey data to drive improvement. Examples include:

- Inclusion of new FY18 Overall Satisfaction (OSAT) delivery question in NPA CI Composite, versus separate Letter Carrier and PO Box Satisfaction questions<sup>1</sup>
- Inclusion of Net Promotor Score (NPS) in the survey, as well as an open-end question asking the respondent to justify their given NPS score
- Communications to the field regarding current delivery survey OSAT scores and recommendations for improving the delivery experience

Additionally, several initiatives are currently underway to enhance the delivery survey structure, improve response rate, and inspire action based on survey data. Specific planned actions include:

- Addition of questions to measure on-time delivery and accurate tracking information:
  - **Residential Survey:** Q5. Please indicate your agreement with the following statements based on your experiences with the mail or packages you recently RECEIVED:
    - c. Packages are delivered on time based on expected day of delivery.
    - d. Tracking information for packages is accurate.
    - e. Instructions for what to do after receiving a missed delivery notice are clear.

<sup>1</sup>"Thinking about your overall experience with receiving mail and/or packages delivered by USPS recently, how satisfied are you?" (% Top 2 Box | 6-Point Scale).

- **Small Business Survey:** Q5. Please indicate your agreement with the following statements based on your experiences with the mail or packages you recently RECEIVED:
    - c. Packages are delivered on time based on expected day of delivery.
    - d. Tracking information for packages is accurate.
- Updating logic for OSAT question whereby a negative response leads to a “We apologize for falling short” message and a positive response leads to a “We are happy to hear” message
- Analysis to determine weighting to account for non-response bias
- Exploration of multi-channel options for survey distribution, i.e. by email or telephone
- Qualitative research with respondents to better understand the delivery experience and pain points to identify new survey questions
- Examine survey language that may be unfamiliar to respondents to reduce confusion
- Highlight anchor points (Strongly Agree/Strongly Disagree) for attribute questions when they are presented in a table

Lastly, there are specific comments with which we disagree. The following are our contentions to OIG comments contained in the report:

**OIG comment: Highlights Section paragraph 3 page i**

Analysis of the verbatim comments uncovered highest dissatisfaction with misdelivery, delivery time, delivery location, and parcel safety or condition.

**USPS comments:** While we agree to the potential of text analytics for exploratory analysis and topics for further examination, we disagree with drawing inferences from them as they are more prone to subjective interpretation.

**OIG Comment: Introductory Section, Page 1**

The Postal Service measures customer satisfaction with the delivery experience through a national survey sent to residences and small and medium businesses (SMBs). Scores on individual questions have not improved since fiscal year (FY) 2015. To understand the sources of this growing discontent and identify opportunities to improve customers’ delivery experience, the Postal Service Office of Inspector General (OIG) examined the survey, its results, and current uses

**USPS Comment:** There is no evidence to demonstrate that survey scores which remain flat or show no improvement indicate growing discontent.

**OIG Comments: Page 4, Paragraph 1**

The results of the Delivery Survey feed the Customer Insights (CI) Index, which the Postal Service uses to report customer satisfaction to Congress and the Postal Regulatory Commission (PRC). The Index also factors into the National Performance Assessment, which determines management bonuses.

**USPS Comment:** The National Performance Assessment (NPA) is a pay for performance system as opposed to general increase or bonus system.

**OIG Comments: Page 8**

*Customers were most satisfied with street address delivery and least satisfied with centralized delivery.* The Delivery Survey asks customers to self-identify where they receive mail, giving the options of street address, PO Box, centralized/cluster mailbox, or other. Customers with street address delivery were the most satisfied, followed by PO Box customers. Centralized delivery customers were the least satisfied

**USPS Comments:** We believe that our customers lack familiarity with postal service terms, specifically with regard to modes of delivery (e.g., centralized delivery or street address). As we noted above, we are working to ensure all of our customer surveys use layperson language where possible. Given the potential for misunderstanding, we recommend removal of this chart, as we believe it could be derived from misinterpreted categorizations.

**OIG Comments: Page 10**

The text analytics created the path for the second part of our analysis. Referred to below as “categorization,” the team sorted verbatims into categories informed by the key terms identified in step 1. For example, we grouped phrases such as “correct box,” “right address” and “other people’s mail” into a category for wrong address complaints.

**USPS Comments:** We disagree with the OIG’s “categorization” methodology. We understand that text analytics technology is being used to glean the data but it is not 100 percent reliable and could be subjective in nature.

**OIG Comments: Page 12**

Informed Delivery, which digitally notifies users in advance of delivery of physical mail, allows users to report mail that was previewed in an email but does not arrive. Perhaps the Informed Delivery platform could expand to accept notification of misdeliveries or chronic problems with receipt of past tenants’ mail.

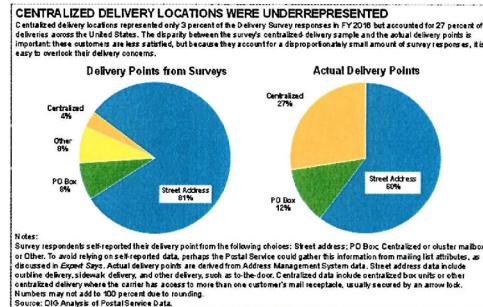
**USPS Comment:** We disagree with the OIG's recommendation to use Informed Delivery as a platform for customers to lodge complaints. The Postal Service has already established a system which is currently being used by customers for mail delivery inquiries and complaints.

**OIG Comment: Page 13**

Also noteworthy, delivery location and parcel damage were correlated in the text analytics. For example, roughly one-third of those with complaints about damage also mentioned delivery location. Delivery location was a common concern for centralized delivery customers, some of whom noted that lockers were too small or lacked a working lock and key.

**USPS Comment:** In addition to our concerns raised above about the categorization methodology, we also disagree with any strong inferences drawn from this data. As you note in Figure 5, 81 percent of the survey respondents (Delivery Points from Survey) stated that they receive mail to a street address but, in actuality, only 60 percent of our customers (Actual Delivery Points) receive mail to a street address as their mode of delivery. We have so few centralized respondents in the survey pool, it is inappropriate to draw conclusions from an analysis of the verbatims from these respondents.

Figure 5: Survey Respondent Delivery Points Versus Postal Delivery Points, FY 2016



**OIG Comment: Page 13**

USPS.com and Informed Delivery could be two avenues to express delivery preferences. Once submitted, the local postmaster could approve and possibly automatically trigger direct uploads into carriers' MDDs. Even without a formal communication mechanism, incentivizing carriers to provide more route details on their MDDs could help substitutes save time and provide better service.



**USPS Comments:** Routes and delivery points are pre-established. Therefore, using the Informed Delivery platform as means for allowing customers to establish delivery preferences is not conducive to the current route makeup or to the efficiency of a delivery operation.

**OIG Comment: Page 13**

*Safety and Damage.* Respondents expected packages to be safe from theft, damage-free, and easy to find. Customers with centralized delivery boxes complained that carriers stuffed mail and parcels into the box to avoid bringing the extra mail or parcels to the door. People also complained that mailboxes cannot close when overly full, leading to the possibility of weather damage or theft.

**USPS Comment:** Cluster Box Units (CBUs) offer a more secure form of parcel delivery as compared to individual/ centralized (APT) mail boxes. CBUs allow for parcels to be securely left in a location such as a parcel locker rather than unsecured at a residence door. Additionally, headquarters Delivery Operations is reviewing delivery manuals to determine whether revisions are necessary for delivery to CBUs.

**OIG Comment: Page 13**

Now that parcel delivery has become such an important part of the customer's delivery experience, a review of delivery manuals could ensure that carriers have current, explicit instructions for proper package delivery. Mail and parcel volumes have changed dramatically since 2001, the date of the most recent city delivery manual.

**USPS Comments:** As noted above, headquarters Delivery Operations is reviewing delivery manuals to determine whether revisions are necessary.

**OIG Comment: Page 14**

The concern about delivery time among centralized delivery customers could be due to the fact that they have to walk or drive to check their box, so they are more aware of late delivery.

**USPS Comment:** We believe the concern regarding delivery time for centralized delivery is an assumption and not fact-based. This question was removed from this section due to the ambiguous definition of "time". Customers can perceived "time" as time of day, transit time, and or time to process. These are many variables for any conclusion to be made.


In summary of the above comments, we disagree with the OIG's conclusion that a flat response indicates decreased customer satisfaction. Furthermore, we disagree with many of the OIG's conclusions regarding centralized delivery

customers as these may be due to unfamiliarity with USPS terminology, non-response bias, or other factors not related to customer experience.

Thank you for your consideration and analysis. The United States Postal Service will continue to drive toward changes in delivery operations that improve the customer experience.



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**We conducted work for this white paper in accordance with the Council of the Inspectors General on Integrity and Efficiency's Quality Standards for Inspection and Evaluation (January 2012).**