



Greenfield Costing Methodology: An Opportunity to Deliver Transformative Change

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The U.S. Postal Service Office of Inspector General asked the consulting firm A.T. Kearney to explore a greenfield approach to the Postal Service's costing system. The following report provides the results of A.T. Kearney's research.

Greenfield Costing Methodology

**An Opportunity to Deliver
Transformative Change**

Final report U.S. Postal Service
Office of Inspector General



Introduction

A.T. Kearney prepared this report at the request of the U.S. Postal Service® Office of Inspector General in response to the USPS® OIG's request to explore a conceptual greenfield approach to Postal Service™ costing. We have written the report specifically for the OIG, while attempting to provide sufficient background for the broader community interested in Postal Service operations.

Our overarching perspective is that the Postal Service would benefit significantly from a greenfield, modern, bottom-up costing and revenue analysis system. Such a system is a basic requirement for operating effectively in today's more competitive and dynamic environment. Moreover, it will further enhance the organization's ability to fulfill its mission of "prompt, reliable, and efficient services."

The Postal Service will benefit from **bottom-up costing and revenue analysis.**

In our six-week study, we assessed the Postal Service's existing costing systems in light of changes in the environment in which it competes; we determined the greenfield costing methodology that would make the most sense for the Postal Service; and we outlined a potential high-level path forward for the organization.

Overall, we conducted more than two dozen interviews with executives and key stakeholders in functions across the organization, including finance, sales and marketing, operations, human resources, and IT. We held site visits at a destination delivery unit, a regional sorting center (processing and distribution center), and a major hub (network distribution center). We also reviewed the Postal Service's existing costing and revenue system, and past costing approaches. Finally, we leveraged costing best practices of similar firms and other postal units.

During our interviews, we heard strong support for developing a new costing system. The majority of those interviewed believe the Postal Service needs a modern, bottom-up costing system to make more-informed business decisions, based on more granular costing. There were some concerns that the organization would face significant challenges relative to Postal Regulatory Commission (PRC) adoption and existing gaps in data.

Executive Summary

The Postal Service seeks to identify a greenfield cost allocation methodology that will directly support its current and future needs. It is doing so largely because it now operates in a more dynamic environment and faces greater competition than when the current system was designed.

The current costing system was primarily designed to ensure the Postal Service's compliance under cost-of-service regulation. Its main output is a national-level cost report for different products, which is generated quarterly and published annually. Data for this report comes from national-level general ledger (GL) accounts, various sampling studies conducted throughout the year, and other special studies conducted at various times.

In contrast, competitors and companies of similar size in other industries use more versatile, dynamic costing systems to support a wide variety of decisions. They include decisions that enable performance management and cost reduction efforts, optimize the product portfolio, drive investment decisions, make effective pricing decisions, and manage the customer base for profitability.

Modern, bottom-up costing helps improve cost performance (reduction) efforts, pricing and investment decisions, **and optimizes the product portfolio.**

A number of changes in the Postal Service's environment indicate that now is the time for the organization to develop a similar versatile and dynamic costing system. First, a new incentive-based regulation has replaced the old cost-of-service regulation. Second, today's more competitive and dynamic environment requires current and granular cost data to support numerous complex product, pricing, and customer decisions. Third, more granular data is needed to identify and size future cost reduction opportunities, particularly in light of the Postal Service's recent financial performance and challenges. Finally, a number of new data sources, technology, and internal initiatives are removing traditional barriers to developing a new costing system.

To compete successfully in this environment, it will be essential for the Postal Service to develop a bottom-up costing and revenue analysis system. With a new system, the Postal Service could attach granular costs and revenues at the lowest possible level of analysis (such as for a particular type of product and product flow). It could assign and allocate all or most costs, while recognizing that different allocation assumptions are used for different purposes. It could combine granular data to generate cost and revenue information for different "views" of the business: region, facility, customer, product, and tariff (i.e., sub-products). It could cost and price every type of product flow that goes through the mail system on a daily basis, with the ability to generate P&Ls and other reports frequently and on demand throughout the year. And it could access data sources from local or facility GL accounts, operational and billing data, and selected time studies.

A modern, bottom-up costing system would provide substantial and numerous benefits to the Postal Service, similar to those enjoyed by companies of comparable size. Key examples include support for performance management and cost reduction efforts, optimizing the product portfolio, driving investment decisions, making effective pricing decisions, and managing the customer base for profitability.

As it develops a new costing system, it will be essential for the Postal Service to fully understand how to structure, design, and implement such a system. For example, due to the likelihood of gaps existing in the completeness and accuracy of the data needed for allocating cost in the new system, time studies will be necessary. In addition, existing studies may have to be leveraged to allocate some costs in the short and medium run.

Implementation will be a multiyear effort requiring cross-organization leadership and a significant investment in IT, special studies, and overall design. Although the new system will provide data that is more granular than that used today, not every activity will be measured; as a result, the data will never be perfect. And since the new system ultimately will be used to communicate with the PRC, and its buy-in is essential, the PRC should be involved in key phases of the system's development.

Estimating the cost of developing a new system is difficult at this stage. Similar systems cost between \$75 million and \$125 million—but the payback can be enormous. Once the system is built, its running costs should be lower than the current system's annual costs because it will primarily draw from automated data feeds instead of relying heavily on manual inputs, sampling, and special studies.

To develop a new system, a two-to-three-year (estimated) phased approach is recommended. An initial proof-of-concept phase would be conducted to evaluate feasibility and value before going forward with a full solution. This approach will deliver incremental capabilities that will enable the Postal Service to realize value as the project progresses and will limit execution risks.

While putting a modern, bottom-up costing system in place will be challenging, doing so will enable a transformational change in the way the Postal Service operates and communicates. The way all functions conduct business will be heavily impacted. Executives will have a common and accepted view of costs and profitability, and they will have granular cost data to enable application of different cost concepts for different purposes (such as P&L ownership and accountability).

Current Costing System Overview

The Postal Service's current costing system was largely designed to ensure the organization's compliance under cost-of-service regulation. The system's main output is a national-level cost report for different products, which is generated quarterly and published annually. Data for this report comes from national-level general ledger accounts, various sampling studies conducted throughout the year, and other special studies conducted at various frequencies.

This system was developed over a period of 40 years and is primarily used for regulatory pricing requirements. The PRC approves rate changes and workshare discounts, sets the share of institutional costs that the Postal Service's competitive products must cover, and ensures that products are not cross subsidized. The PRC also approves changes to the underlying costing methodology.

Through a financially engineered, multi-step methodology, the current system provides the Postal Service with the analysis needed to produce national-level costs. The Postal Service allocates costs through a four-step methodology. First, the GL costs are grouped into 18 cost segments, each of which has a unique cost allocation methodology. These segments include postmasters, rural carriers, transportation, general management systems, and others (see figure 1). Second, these segment costs are allocated to key activities. Third, the activity costs are separated into attributable costs (those associated with the provision of services or products) and institutional costs (those not allocated or attributed to specific services or products). And fourth, the activity costs are allocated to products based on estimated consumption. Each of the cost segments has a detailed and well-documented allocation methodology.

The Postal Service faces a number of unique challenges compared to companies of similar size. For example, it operates under a Universal Service Obligation that mandates it to provide uniform prices for First-Class Mail®, quality of service, and access to services in every part of the country. It must meet the PRC’s regulatory requirements. The pricing for its market-dominant products is subject to a Consumer Price Index cap at the class level. It operates within a multi-product

Figure 1

General ledger costs are grouped into 18 cost segments, each with its own cost allocation methodology

FY12 cost segments

| Cost segments (18 total) | Total (\$ billion) | % Inst |
|---|------------------------------|---------------|
| 1 Postmasters | \$2.23 | 82% |
| 2 Supervisors and technicians | \$3.28 | 45% |
| 3 Clerks and mail handlers (CAG A-J offices) | \$14.37 | 15% |
| 4 Clerks (CAG K offices) | \$0.01 | 46% |
| 6 City delivery carriers (office activity) | \$3.74 | 13% |
| 7 City delivery carriers (street activity) | \$12.09 | 63% |
| 8 Vehicle service drivers | \$0.59 | 40% |
| 10 Rural carriers | \$6.75 | 65% |
| 11 Custodial and maintenance services | \$3.20 | 28% |
| 12 Motor vehicle service | \$1.43 | 72% |
| 13 Miscellaneous local operations | \$0.45 | 85% |
| 14 Transportation | \$6.63 | 13% |
| 15 Building occupancy | \$1.81 | 27% |
| 16 Supplies and services | \$2.56 | 50% |
| 17 Research and development | \$0.02 | 99% |
| 18 Administration and area operations | \$19.43 | 84% |
| 19 General management systems | \$0.05 | 100% |
| 20 Other accrued expenses (servicewide) | \$2.52 | 28% |

Notes: Cost segments 5 and 9 not used in FY12 ; there are multiple techniques to allocate costs, examples listed here are non-exhaustive

Sources: “Summary Description of USPS Development of Costs by Segments and Components Fiscal Year 2012”, USPS

environment with mixed delivery of letters, flats, and parcels, each with a different handling and transport cost.

Adding to its challenges, the Postal Service has a geographic scope and network unlike any other entity. For example, it processes more than 160 billion pieces of mail each year (40 percent of the world's mail volume) and operates more than 200,000 vehicles, 21 network distribution centers, hundreds of processing and distribution centers, and nearly 31,000 managed retail offices. Approximately 520,000 career employees are on its payroll.

Industry Best Practice Costing Systems

A number of best practices in designing costing systems are found in companies much like the Postal Service. In addition, the vast majority of Fortune 500 companies use detailed, bottom-up costing systems to support key business decisions, such as those relating to:

- **Operational improvement**—by driving performance management and identifying and prioritizing cost reduction efforts
- **Strategic decisions**—by driving investment decisions and optimizing the product portfolio
- **Profitability assessment**—by improving pricing decisions and managing customer profitability

These best practice dynamic costing systems share five key attributes. Each of them:

- Enables “one system of truth” for systematically identifying and allocating costs to activities, products, and customers
- Leverages dynamic, bottom-up financial, operational, and revenue data, as well as network flows and special studies to generate allocation algorithms
- Allocates variable and fixed costs to products and customers, enabling the organization to select variable or fully distributed costs based on the particular need
- Supports customized reporting and links revenue to costing data to improve understanding of profitability drivers
- Provides multifunctional features for function-specific use (finance, operations, sales and marketing, HR, and IT) and enterprise decision making

Changes in the Postal Service's Environment

Now is the time for the Postal Service to develop a versatile and dynamic costing system such as the best practice systems used by industry leaders. Following are some of the reasons why:

- Current and more granular data is a prerequisite for the Postal Service to compete more successfully against the greater competition it now faces, including both direct and indirect sophisticated competition across all product categories. Because of this competition, the Postal Service is seeing a decline in First-Class Mail volumes and an increasing shift toward packages.
- The Postal Service now needs a new costing system to help identify and size future cost reduction opportunities and to help it regain profitability, which continues to be challenged.

- The old cost-of-service regulation has been replaced by a new incentive-based regulation that encourages additional innovation and cost cutting.
- A number of new Postal Service data sources, technology, and internal initiatives are removing traditional barriers to developing a new costing system. Today, the organization captures, and has available, a vast amount of granular data and employs a significant amount of technology to do so. In addition, it has several initiatives underway that focus on collecting new and improved data and analyses that would enable a new costing system, including:
 - Full-service intelligent barcoding
 - Next-generation scanners
 - Increased operational scanning
 - DPS imaging and machine license plate tracking
 - Carrier study–city
 - Informed visibility
 - Carrier study–rural
 - “Ship by and for”

Recommendation

It is recommended that the Postal Service develop a bottom-up costing and revenue analysis system.

A modern bottom-up costing system will enable the Postal Service to:

- Attach granular costs and revenues at the lowest possible level of analysis (such as for a particular type of product and product flow)
- Assign and allocate all or most costs, while recognizing that different cost concepts are used for different purposes
- Combine granular data to generate cost and revenue information for different “views” of the business: region, facility, customer, product, and tariff
- Analyze costs and revenues for every type of product flow that transverses the mail system on a daily basis, with the ability to generate P&Ls and other reports frequently and on demand throughout the year
- Access data sources from local or facility GL accounts, operational and billing data, and selected time studies

The recommended bottom-up costing system uses a four-step methodology to identify and allocate costs to products and customers. In these steps, it:

- **Begins with a general ledger cost segment.** The system begins with, and is directly reconciled with, a general ledger cost segment. It also starts with facility- or activity-specific GLs (such as city carrier street costs) to understand these specific costs at a more granular level. And it leverages the fine-line GL details (for example, labor codes) to allow partial alignment to activities driving them.
- **Identifies and allocates general ledger costs to key activities.** As GL accounts often span activities, the system needs a further method to segment costs to operating activities. The system will use operational data (employee time card reads or mail scans, for example) and special time studies to measure and allocate costs to specific activities, such as stem, area, or walk-up time.

- **Segments activities into fixed and variable.** The system provides a meaningful distinction between fixed costs and variable costs based on multiple methods (for example, regressions, GL coding, time/volume studies).
- **Allocates activity costs to products and customers based on use.** Ultimately, the system needs to combine all of the individual activity costs into integrated product, customer, and facility views. The system will also match revenue to the associated product, customer, and so on, to allow comprehensive P&Ls.

One key component of the recommendation is to allocate both variable and fixed costs to products and customers, enabling the organization to select variable or fully distributed costs (or other types of costs) based on the particular need. Allocating fixed costs appropriately is one of the most transformational levers in implementing modern costing systems. The Postal Service will benefit from being more systematic in understanding and allocating fixed costs to products and customers. This understanding starts with knowing what factors drive fixed costs, and asking why these factors exist if they do not support products. All functions should share the task of pursuing this knowledge, and all should be responsible for fixed cost coverage and recovery. This understanding drives fixed-cost accountability and avoids the “it is free” mentality. It also forces consideration of how fixed costs are managed and recovered.

Allocating variable and fixed costs appropriately—to products or customers—is among the most transformational levers in implementing bottom-up costing systems.

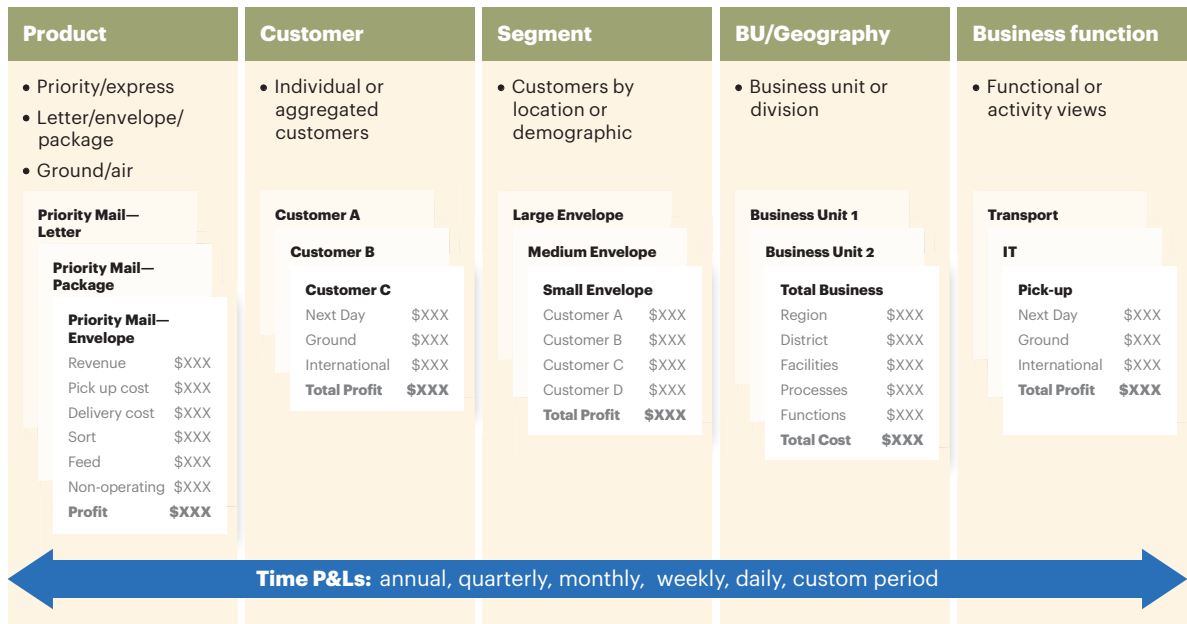
An additional key component of the recommended system is the ability of the Postal Service to create variable and fully distributed P&Ls at different levels, such as by product, customer, or business function. By creating common P&Ls and metrics, the system will align and enable decisions using common, cross-functional language and metrics (see figure 2 on page 8).

One area of complexity in implementing any costing system is data. As the Postal Service is well aware of in its current system, perfect data is rarely available and is rarely required or used for performing accurate bottom-up costing. Therefore, the Postal Service will benefit by adopting the following mindset when developing a new cost system: Ask what data is available, and how it can accelerate acquiring the rest of the needed data. One method of addressing some data complexities is to leverage up-to-date network product flows. This entails understanding in advance how any given piece of mail should flow through the network (e.g., specific post offices, sorting/processing facilities, transportation movements) and the major activities (i.e., costs-to-serve) incurred on it. With up-to-date network product flow data—date, origin, destination, shape, dimensional weight, and product and tariff type—the Postal Service can calculate accurate costs. Many networked businesses do this to make the process manageable and avoid having to recalculate each individual mail item (billions in the Postal Service case) when there are a large but finite number of mail flows.

Figure 2

A modern, bottom-up methodology will enable USPS to create variable and fully distributed P&Ls at different levels

Sample P&Ls



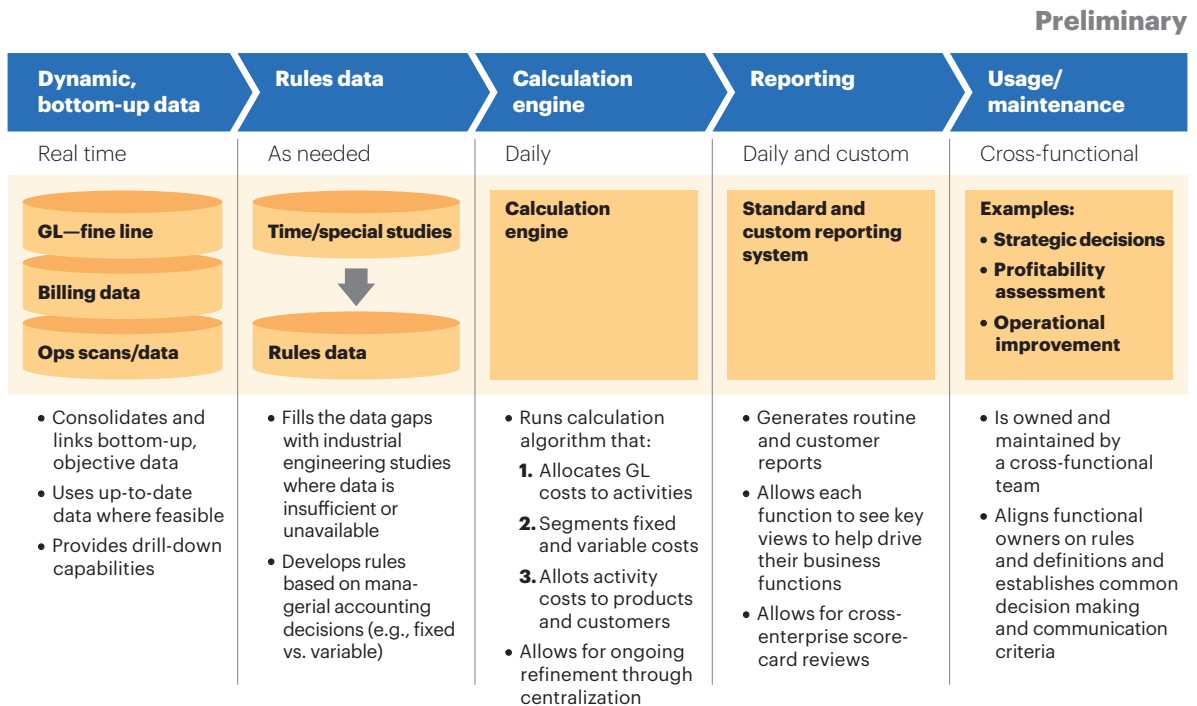
Sources: USPS interviews; A.T. Kearney analysis

To automate this modern costing system, five primary functions integrate into one conceptual architecture (see figure 3 on page 9):

- **Dynamic, bottom-up data.** The first function includes GL data for each facility’s fine-line and billing and revenue data, as well as operations data such as time cards, scans, and volume. It consolidates and links bottom-up objective data, which is real time whenever possible. It also provides drill-down capabilities.
- **Rules data.** In the second function, the allocation methodology is defined through a set of rules. The rules define how the bottom-up data should be allocated and how to segment fixed and variable costs. It should be based on a keen understanding of operations activities and how they are consumed by different products, variances, and volumes. Where data is not available or sufficient, special industrial engineering studies are used to fill the gaps. The results of these studies are incorporated into the rules data to allow for periodic updating.
- **Calculation engine.** The third function automates combining the bottom-up data and the rules data to calculate the allocations and store the results. This engine, which is centralized to allow ongoing refinement, dynamically runs without user intervention based on the rules data and reporting requirements.
- **Reporting.** In the fourth function, routine and customer reports are generated on a defined frequency (for example, daily or quarterly) or on demand (custom report). These reports enable each function to see customized views to help drive business decisions and to allow cross-enterprise scorecarding.

Figure 3

The conceptual architecture for a dynamic, bottom-up costing system typically integrates five primary functions



Sources: USPS interviews; A.T. Kearney analysis

- **Usage and maintenance.** Ultimately, the system and information are used in daily business activities for strategic and investment decisions, customer profitability analysis, pricing and new product introduction analyses, and identification of operational improvements. This overall system is owned and maintained by a cross-functional team, which agrees on the rules and definitions to establish common decision making and communication criteria.

Benefits

A bottom-up costing and revenue analysis system offers substantial and numerous benefits to the Postal Service since it would enable management to better perform a number of tasks, including:

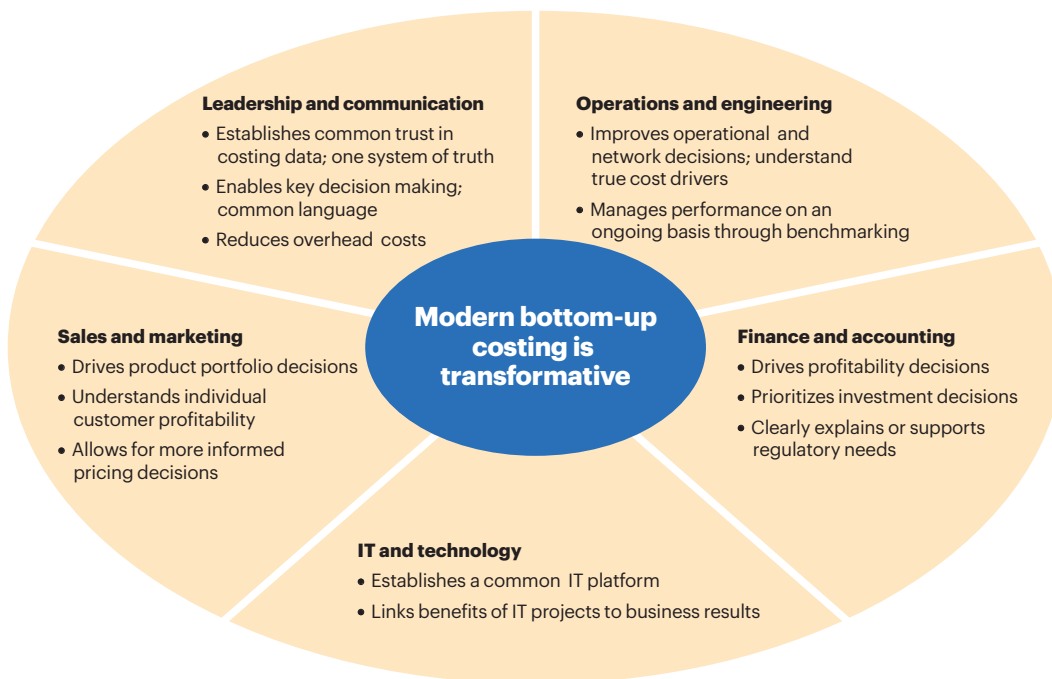
- **Performance management.** The system would enable management to benchmark facilities and carriers across the entire organization, creating and enforcing efficient standards over time.
- **Cost reduction.** The system would create more transparency and accountability for fixed costs and management could more easily identify future network optimization changes.
- **Product portfolio.** The system would give management improved confidence in product profitability information, better enabling it to decide which products to add, grow, shrink, or restructure.

- **Investments.** The system would provide up-to-date, more granular data at a facility or equipment level, giving management greater assurance in its investment decisions and enabling it to definitively establish the benefits of new investments.
- **Pricing.** The system's bottom-up data could be a key element in supporting management's pricing decisions for specific customers and new products.
- **Customer base.** The system could provide individual customer profitability analysis across the portfolio, helping management determine corrective pricing, restructuring, or other actions necessary to restore profitability.
- **Regulatory.** Management could more easily explain and support various actions using the granular data provided by the system.

A modern, bottom-up costing system is transformative to the way the Postal Service operates and communicates (see figure 4). It would, for example, enable the organization's leadership to establish a trust in, and reliance on, underlying costing data and would enable key leadership decision making with up-to-date, granular data.

Figure 4

A modern, bottom-up costing initiative transforms how USPS operates and communicates



Sources: USPS interviews; A.T. Kearney analysis

With a modern costing system, the Postal Service could make improved pricing decisions and take more systemic profitability actions. The system will better enable the organization to implement pricing rules and tools, which would allow it to build customer-specific bottom-up costs based on the shipping profile (products, volumes, origin, and destination) and determine optimal prices for new product introductions based on facility-level data. In addition, to better

manage the customer base, the Postal Service could conduct an individual customer profitability analysis that would include creating individual customer-level P&Ls and identifying corrective actions as needed for customer pricing below variable cost. Also, the organization could create strategic partnerships to identify potential collaboration opportunities to jointly better understand and reduce net costs.

A new costing system would give the Postal Service an improved ability to benchmark and identify high-value cost reduction activities. For example, it could benchmark facilities to compare their overall cost and performance, thereby improving the ability to manage and compare more costs, such as those for equipment, investment, and non-career employees. It could also benchmark carriers to compare the cost and productivity of individuals, based on route type, density, delivery types, and volumes. In addition, it could model the “true cost” of the network. With a more granular understanding of the linkages between productivity, capacity, and service levels, the Postal Service could more effectively model cost-to-serve trade-offs. It could support modeling of future network optimization impacts, based on facility-level costs, transportation costs, product volumes, and labor hours. By improving transparency, it could clearly define ownership and accountability of fixed costs and determine the cost to insource and outsource activities.

A modern, bottom-up costing system will provide Postal Service executives with a **common and accepted view of costs and profitability.**

In addition, the Postal Service could link mail flow activities across and within the network for each piece of mail. It could identify, for example, the way a package should flow through the network across the country, including the types of transportation and facilities used and even how it travels through a specific facility. It could provide this information for each specific day of the week, taking into account seasonal variations in demand.

Ultimately, using a modern, bottom-up costing system would enable Postal Service executives to have a common and accepted view of costs and profitability, allowing the organization to further streamline strategic and tactical decision making.

Potential Path Forward—Overview

Although it will bring about a transformational change felt throughout the organization, developing a robust bottom-up costing system will be a challenging and significant endeavor for the Postal Service. Essential to the effort’s success is cross-functional ownership that includes motivated, engaged executive sponsors and cross-functional executive support at the highest levels.

Furthermore, the effort is best undertaken with a recommended two-to-three-year phased approach that starts with an initial proof-of-concept phase to evaluate its feasibility and value before going forward with a full solution. This approach limits execution risks.

Although it is difficult at this stage to estimate the cost of developing a new costing and revenue analysis system, similar systems cost between \$75 million and \$125 million. The payback, however, should be huge. Once the system is built, its running costs should be lower than the current system's annual costs because it will primarily draw from automated data feeds rather than rely on manual inputs, sampling, and special issues.

Since a new system ultimately will be used to communicate with the PRC, and its buy-in is critical, the PRC should be involved in key phases of the system's development. Both the new and old systems may have to be run concurrently during an evaluation and transition period, pending the PRC's buy-in of the new system.

To ensure a successful path forward, the Postal Service should employ a few guiding principles for structuring, designing, and implementing a modern, bottom-up costing and revenue analysis system:

- Establish executive, cross-functional support
- Make the system a high priority
- Assign the best people to create a cross-functional team
- Don't shoot for perfection
- Drive change management
- Shoot for early wins
- Integrate the system with day-to-day business decisions

Conclusion

As this report shows, the Postal Service would achieve a transformational benefit from developing a modern, bottom-up costing and revenue analysis system. Now is the opportune time for this system to be developed, since a number of changes in the environment point to its development.

A modern, bottom-up system will generate significant benefits for the Postal Service, including better strategic planning and business decisions, improved profitability assessment, greater operational efficiency, and lower costs. The payback should be enormous. Equally important, it will be transformational to the way the organization operates and communicates—increasing its ability to compete successfully and profitably in today's dynamic environment and making it better able to serve the postal expectations and requirements of both large and small customers throughout the United States.

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The signature of our namesake and founder, Andrew Thomas Kearney, on the cover of this document represents our pledge to live the values he instilled in our firm and uphold his commitment to ensuring “essential rightness” in all that we do.

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