UPS HR Analytics Report

Creating Our Tomorrow, Sustainably

12/10/21

Executive Summary

United Parcel Services
- World's largest package delivery service company, over 80 billion in revenue
- Publicly-traded company that employees 481,000 people globally
- Strong potential to reduce future costs through efficient manager evaluation

Managers Have Important Effect on Performance
- High competency can have as high as 17% reduction in average price per package
- High leadership ratings can reduce total package costs by 15%

Defining New Manager Performance Metrics
- Normalized the average cost per package to compare managers across geo-regions
- New metrics include delivery, reduced excess, and center efficiency KPIs

New Scorecard Leads to Improved Performance Tracking
- New scorecard can identify new top/medium performers for increased savings
- High performers can reduce costs further, by as much as 16%

Relocation and Training Initiatives can Improve Center Performance
- Performance bonuses to the best managers based on new scorecard metrics
- Training initiatives sending top performers to facilities save up to $135M annually
- Relocating top managers to high volume facilities can reduce costs another 20%

Financial Impact

North America Cost Reduction

1.6%

Return on Investment

$100 - 180M

United Parcel Services

The UPS Store®

World's Largest Package Delivery Company

- Serves 220+ countries delivering over 5.2 billion packages
- Publicly-traded company, recorded 84.6 billion in 2020 revenue
- Founded on reliability for customer service and excellent supply chain management
- Offer other services including insurance, financing, and freight forwarding

One of the Largest Workforces in the US

- Over 481,000 global employees, 50%+ of workforce is full-time
- Operate 1,800 distribution centers with 60-300 employees each
- Track record for commitment to internal talent growth, with management consistently rated as high performing
- New initiatives focused on investing in the employee experience to improve safe driving, employee wellness, and diversity + inclusion

Source: UPS Human Capital Progress Report 2018, UPS Corporate Sustainability Progress Report

Background and Key Questions

How can we effectively rate our managers?

According to a HCMI study, strong managerial leadership in distribution centers are linked to improved high performance and productivity. Another 2018 UPS study found that high management turnover resulted in lower crash and DART (Days Away, Restricted, Transferred) rates. Our goal was to evaluate the current manager scoring system and purpose adjustments to effectively identify the top managers.

How can we position our workforce in a way to maximize both productivity and potential in roles?

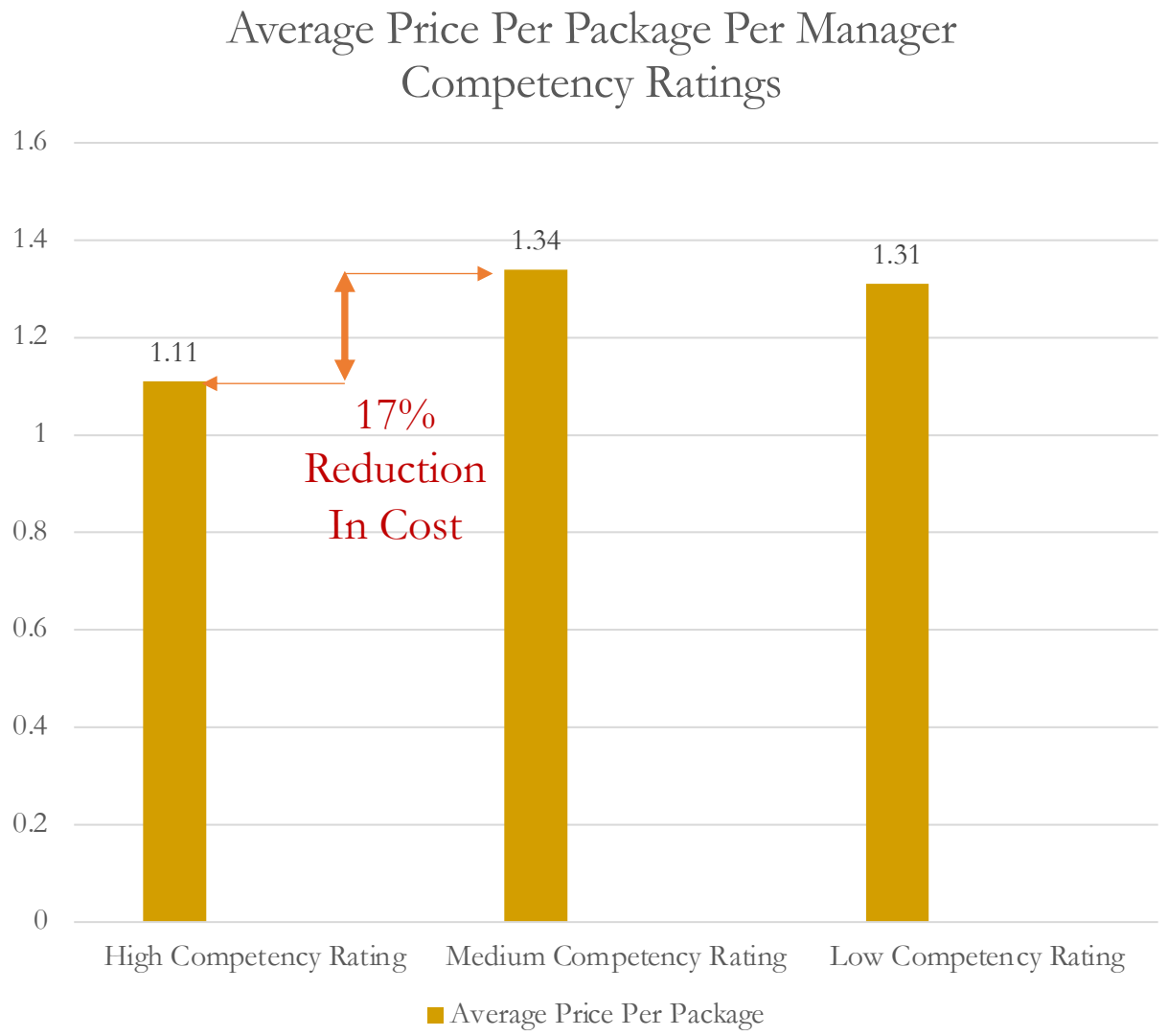
That same HCMI study discovered that top performing managers can significantly reduce cost per packages resulting in massive overall cost savings potential. By designing an effective manager rating system, we can strategically position our workforce into high volume distribution centers to boost future productivity. Additionally, identifying top managers opens new opportunities to develop training showcases to generate savings across the enterprise.

Source: UPS Human Capital Progress Report, Human Capital Management Institute UPS Case Study

Manager's Effect on Center Performance

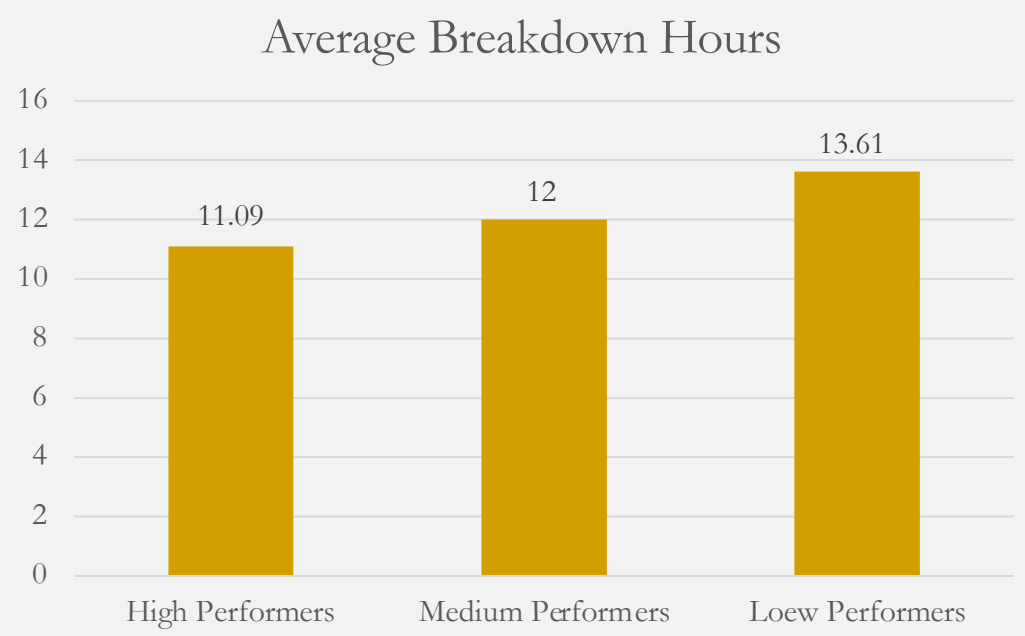
High Competency and Center Performance

- Managers that are currently identified as "High Competency" (Based on QPR Results) are linked to high performance and productive centers, reducing the average price per package at a center by as much as **17%**
- The HCMI UPS Case Study discovered as much as a **15% lower cost** when comparing the top 25% of managers to the bottom 25% of managers
- Existing method demonstrates some issues in current evaluations as Low Competency outperforms Medium Competency



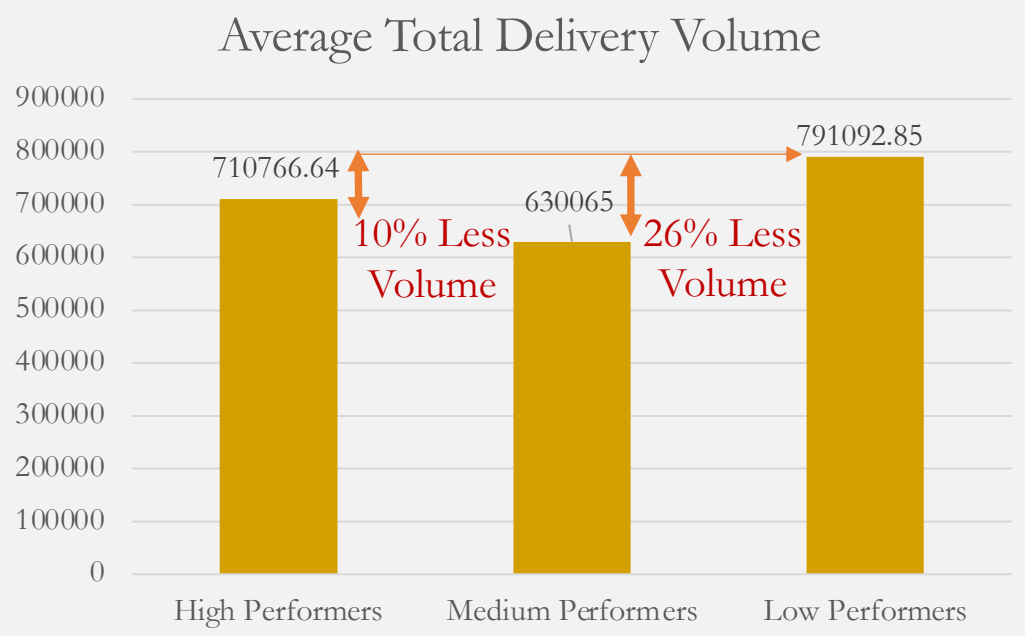
Manager's Effect on Center Performance

High Performers with Low Breakdown Hours



High performers, on average, have their centers with the least amount of breakdown hours

Low Performers Have Highest Volume



However, our low performers are seeing some of the highest volume creating an opportunity to increase savings at these locations

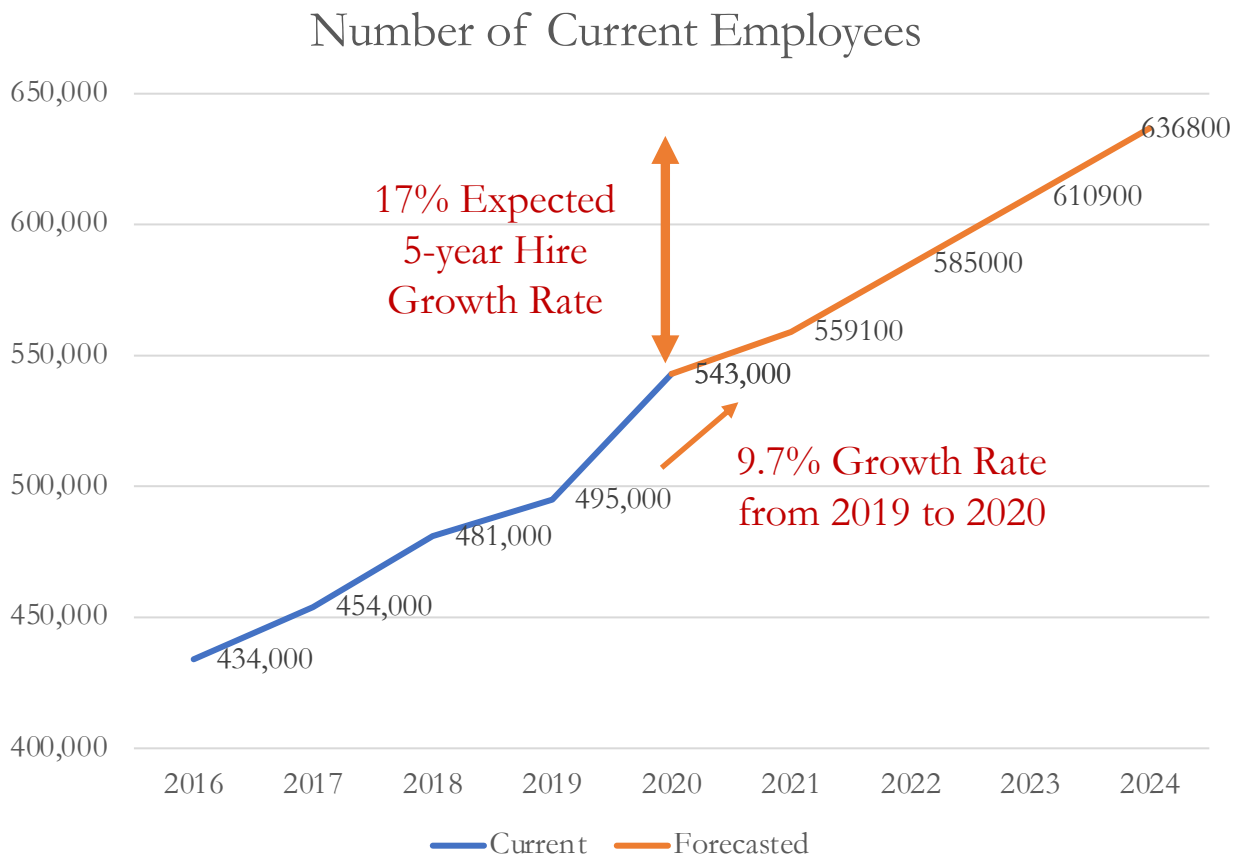
Expected Hiring Surge

Based on recent hiring patterns and expectations for a growing workforce, our forecasted 5-year hire growth rate is at **17%**

During seasonal (October – January) months, UPS needs to hire an additional 100K workers to meet the holiday demands

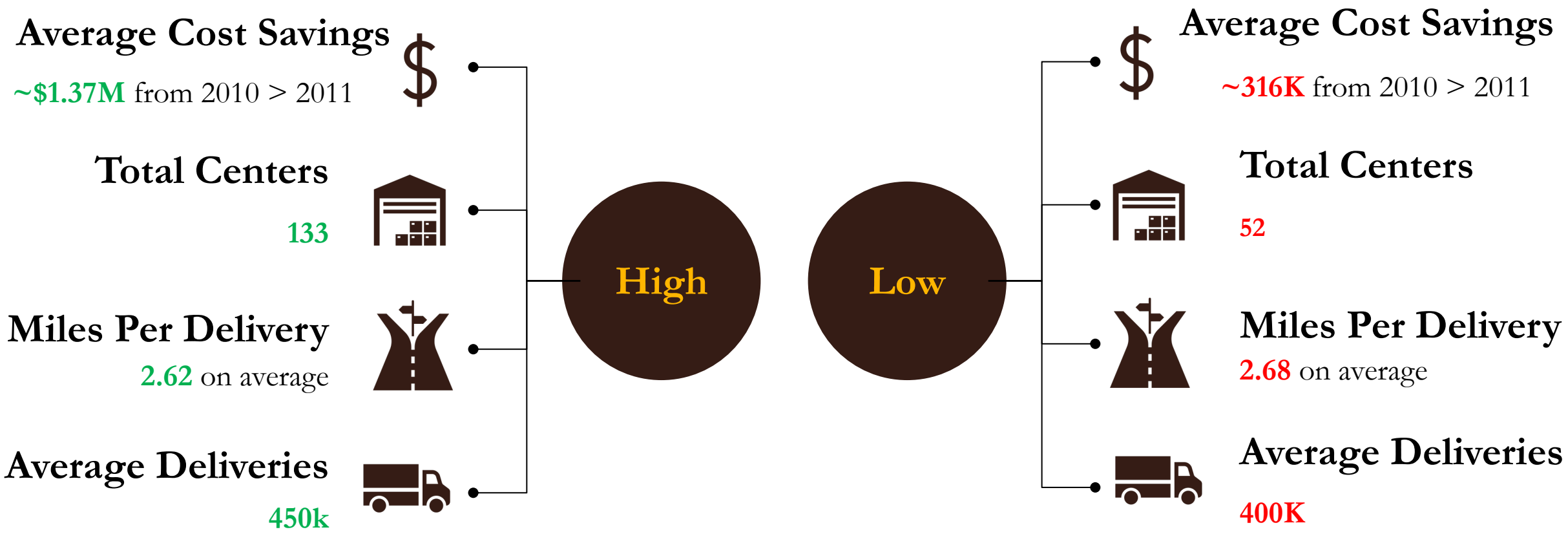
New employees will require rapid on-boarding, training, and workplace integration to maintain productivity standards

Effective placement and development of high-performance managers can create a smooth transition for the expected hiring surge to reduce initial productivity loss



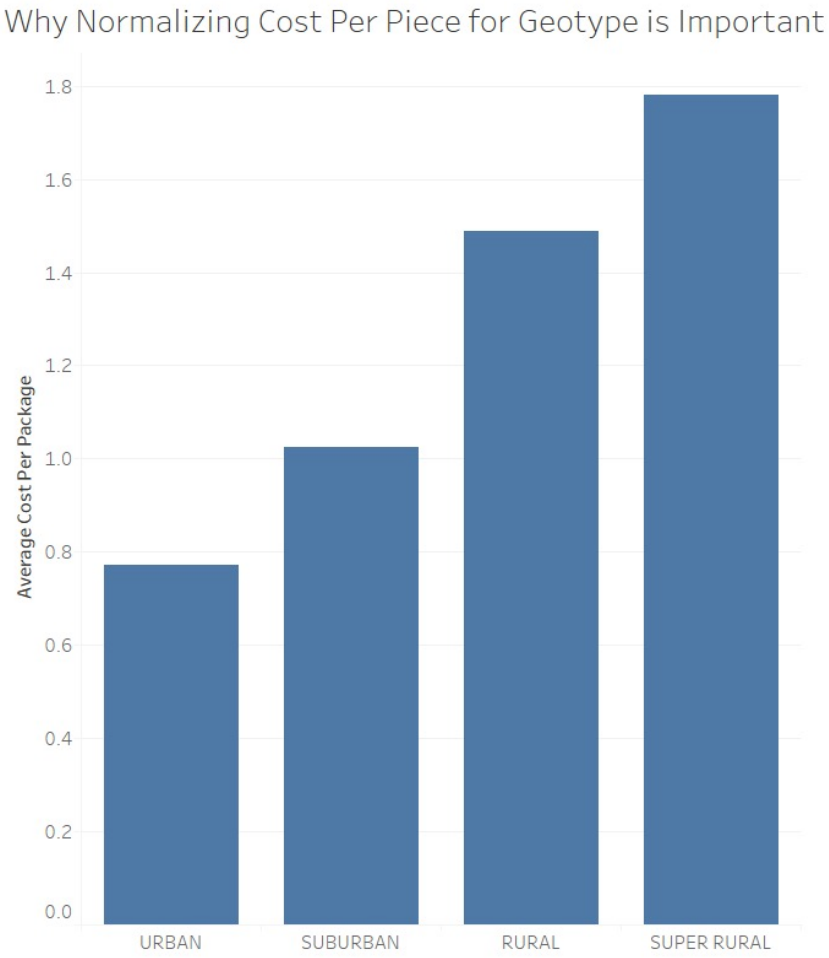
Source: UPS Macrotrends

Center Statistics



High performing centers have better overall performance which helps them keep costs low while making more deliveries.

How can we evaluate managers on what matters?(Normalized CPP)



The average in-data facility delivers 797,415 packages annually. Therefore, **Urban and Super Rural facilities** with average delivery volumes and average Geotype cost per package (CPP) **differ by $800,000 in total annual costs**, only considering differences in CPP across geotypes.

To compare employee and facility CPPs across geotypes, we created a normalized CPP metric that adjusts the CPP for each facility based on its geotype, such that average performers in Super Rural areas have the same Normalized CPP as average performers in Urban areas, for example.

We use Normalized CPP throughout our project as a key target variable, allowing us to calculate ROI and build effective scorecards that don't inherently favor employees and facilities in certain geotypes over others. In our models, the top Super Rural manager is rewarded and recognized more than the bottom Urban manager, even though the Urban manager has a lower actual CPP.

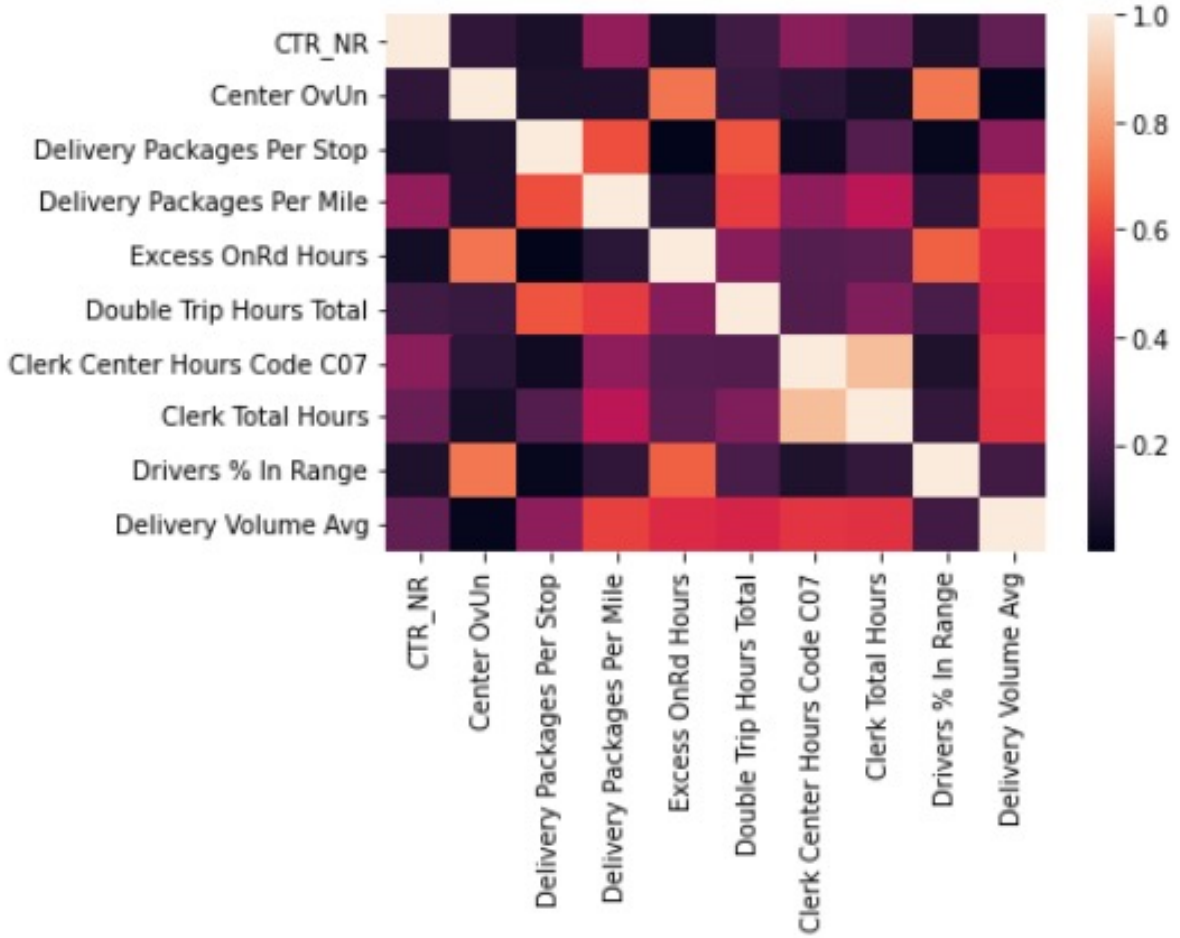
Choosing Scorecard Metrics

The heatmap examines the top 10 variables that are highly correlated with *normalized* average CPP at each center.

Variables chosen for the final model have low correlation with each other and high correlation with the normalized CPP.

Lighter colors on the heatmap show higher absolute correlation between variables. Scoring managers on two highly correlated variables would be redundant.

The final variables selected for the Manager Scorecard are **Center Over Under, Delivery Packages per Stop, Delivery Packages per Mile, Excess On Road Hours, and Employee QPR Score** (which, while not highly correlated with Normalized Avg CPP, is still an important metric with which to evaluate employee performance).



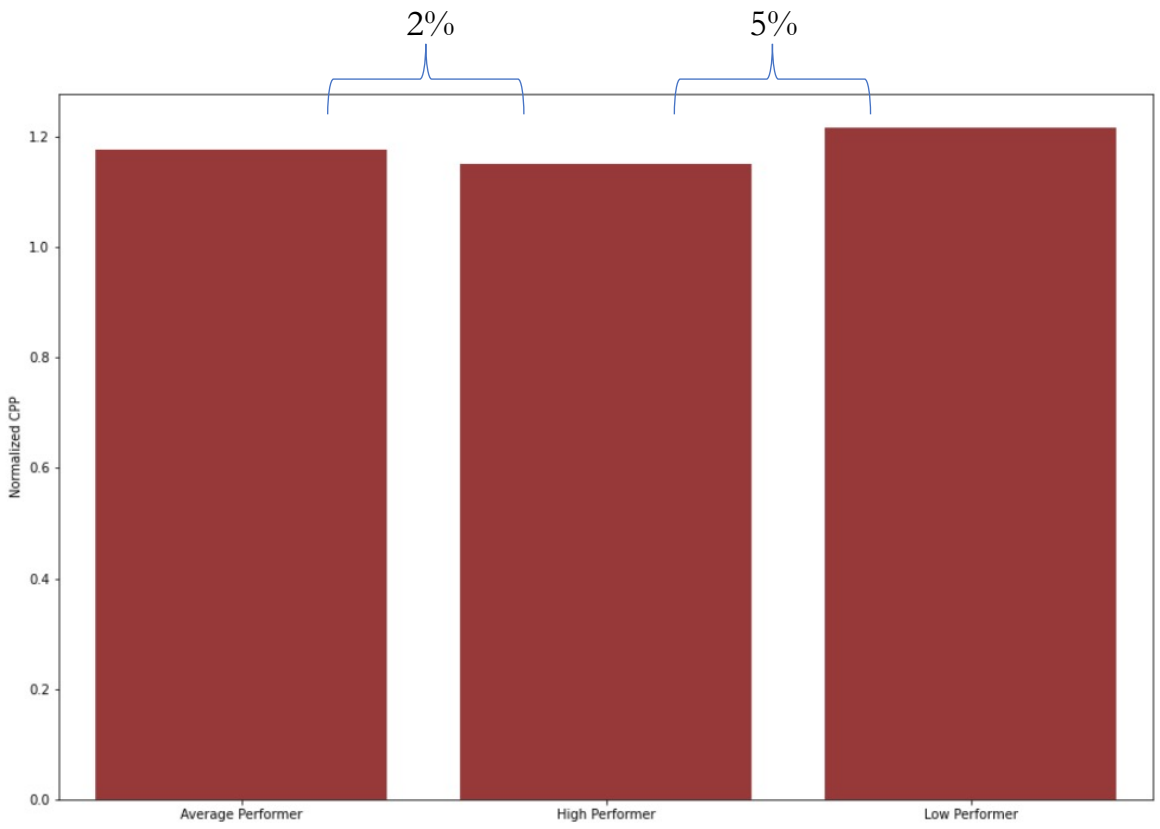
Example Scorecard

Center Efficiency	Delivery	Reduce Excess	Manager Competency
Recommended Weighting:	Recommended Weighting:	Recommended Weighting:	Recommended Weighting:
35%	35%	15%	15%
KPIs (Yearly Trend):	KPIs (Yearly Trend):	KPIs (Yearly Trend):	KPIs (Yearly Trend):
Center Over Under -0.16  Normalized CPP* 1.23 	Deliver Packages PM 5.15  Packages Per Stop 1.97 	Excess OnRd Hours 12.9 	Manager QPR Score 0.59 
Business Value:	Business Value:	Business Value:	Business Value:
Captures a mangers ability to create a highly efficient distribution center	Captures a mangers ability to improve last mile delivery metrics	Captures a mangers ability to reduce excess at facility	Captures a mangers competency based on prior UPS survey data

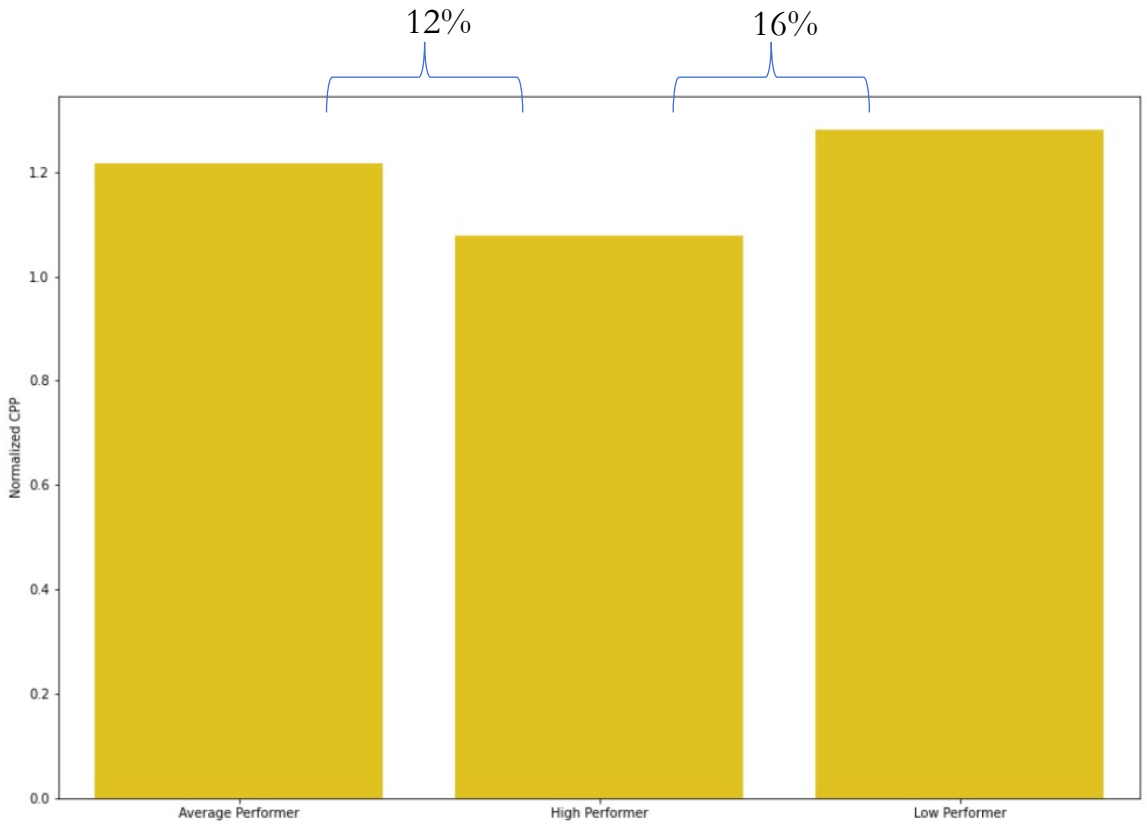
* Not computed into final scorecard output, but tracked to maintain standards

New Scorecard Measures What Matters

Existing Performance Categorization Method (QPR Score)



Recommended Performance Categorization Method (KPI Weighted Score)



Recommendation 1

Performance Scorecard Bonuses

Facts & Implementation

Top Performers proven to have positive effect on lowering costs at a facility

Updated Scorecard can identify the best performers by competency and center efficiency

Transparency for managers as performance metrics are explained in scorecard and are easily achievable

Limitations

Static Scorecard
Can misrepresent the changing needs of a center and company

Selective Process
Some managers may not receive bonus leading to potential issues for the culture

Estimated Cost

$15,000 - $20,000 annually per top manager, contingent on goals and volume

Minimum Threshold for Success

Recommended to be rewarded to at least the top 10% of managers

Recommendation 2

Relocation Incentives to Top Managers Moving to High Volume Centers

Facts & Implementation

High volume, low performance facilities have highest cost saving potential with new managers

Generous relocation package can entice top managers to take these new roles

Create clear career development opportunity and demonstrates desire to keep top talent, improving retention

Limitations

Limited Initial Success

Moving a top manager risks productivity losses at both old and new locations

Lifestyle Change

Some managers may not want to move as homeowners and/or with a family

Estimated Cost

$24K - $27K* for renters
$70K - $90 K* for homeowners
* per manager

Minimum Threshold for Success

At least 2% of managers will need to be relocated to high volume facilities for a positive ROI for this initiative

Source: Business News Daily, Worldwide ERC relocation services group

Recommendation 3

Regional Training Initiatives and Showcases From Top Performers

Facts & Implementation

Save relocation costs by designing training initiatives focused on boosting medium and low manager performance

Design showcases at top facilities where other managers can learn new skills

Creates a high efficiency culture that can continue to be replicated across the enterprise

Limitations

Productivity Loss

Top manager's original center may experience productivity loss while manager is away

Manager Dependent

Some managers may need more training or might not be receptive to new ideas

Estimated Cost

$5,000 - $10,000 weekly productivity loss while manager is away

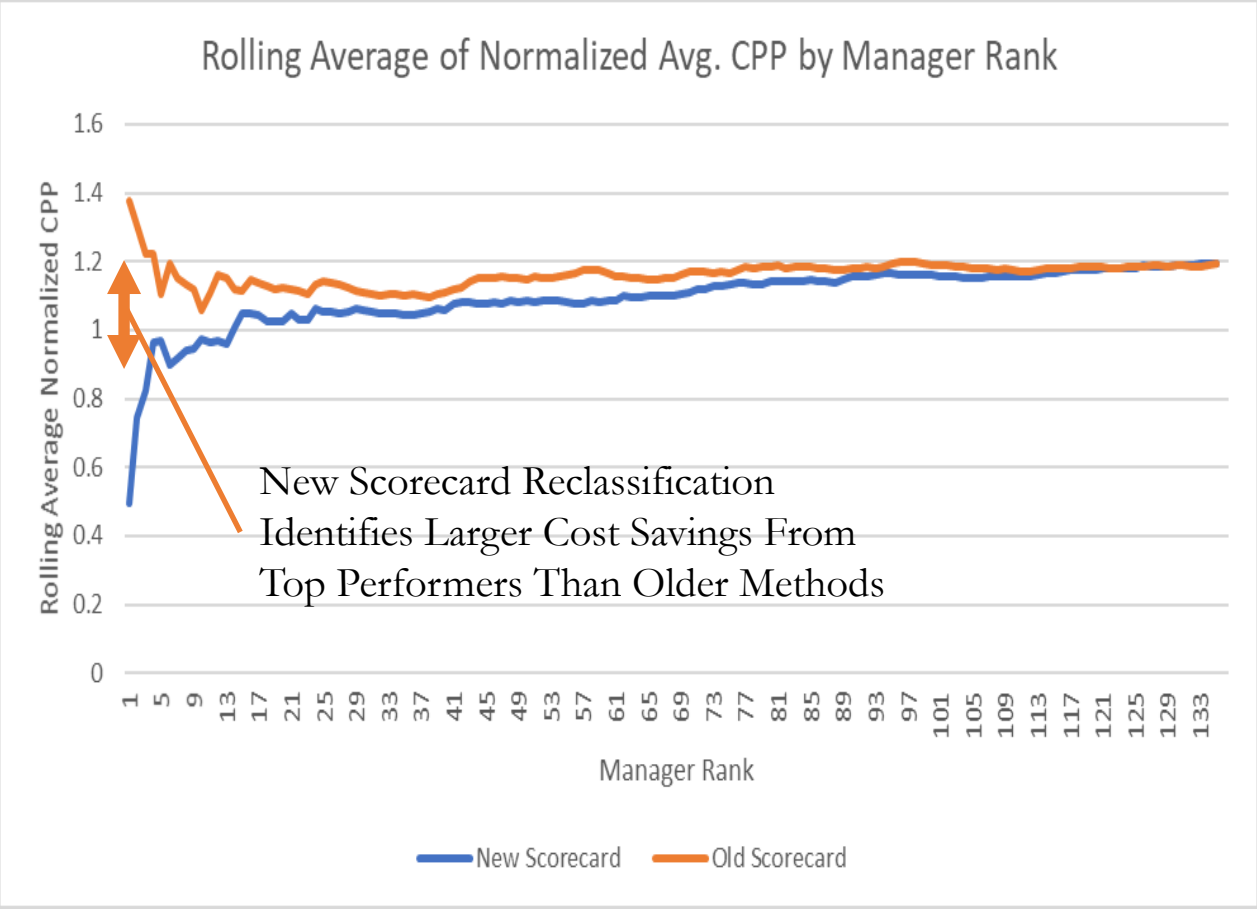
$4,500 - $7,000 for each manager sent to a new location

Minimum Threshold for Success

At least 7% of facilities should introduce new training initiatives to achieve positive net cost savings

What If UPS Did Nothing?

Identifying, rewarding, and utilizing the wrong Top Performers



Failure to realize maximal relocation/training benefits

Top 20 Performers Avg. Normalized CPP using Old Scorecard: $1.12
Top 20 Performers Avg. Normalized CPP using New Scorecard: $1.02

(Avg CPP_Old – Avg CPP_New)
X
(N Top Performers/Total In-Data Facilities)
X
(Total Number of N. American Facilities)
X
(Average Annual Package Volume per Facility)
X
(Estimated Cost Reduction Transferability)

= (.1)*(20/135)*(1800)*(800,000)*(.75) = **$16,020,000**

In other words, even if UPS executes our recommended initiatives, using the old scorecard instead of the new one will result in a loss of almost 16 million dollars in cost savings.

ROI: High Performers Training Low Performance Facilities

The Bottom N Facilities are identified by selecting the N facilities with the highest normalized average CPP.

The Top N Performers are identified by selecting the N employees with the highest weighted score (based on the new scorecard).

Note: the Cost Reduction Transfer Percentage can be thought of as a measure of how effectively a new manager will transfer their cost reduction efficacy to a new facility in the context of the proposed initiative.

Cost Savings	Bottom N Facilities Annual Volume * (Bottom N Facilities Norm. Avg CPP – Top N Performers Norm. Avg CPP) * Training Program Cost Reduction Transfer Percentage
Expenditures	Facility Training Costs * ((MAX(N Top Performers, N Bottom Facilities)) + (N Top Performers * Average Performance Scorecard Bonus)
North American ROI	(Cost Savings – Expenditures) * (1/Percentage of N. American Facilities Represented in Data)

ROI: High Performers Relocating to High Volume Facilities

The Top Volume Facilities are identified by selecting the N Top Performer facilities with the highest annual volume.

The Top N Performers are identified by selecting the N employees with the highest weighted score (based on the new scorecard).

Cost Savings	Top Volume Facilities Total Annual Volume * (Top Volume Facilities Normalized Avg. CPP – Top N Performers Normalized Avg. CPP) * Relocation Program Cost Reduction Transfer Percentage
Expenditures	N Top Performers * (Average Relocation Incentive + Average Performance Scorecard Bonus)
North American ROI	(Cost Savings – Expenditures) * (1/Percentage of N. American Facilities Represented in Data)

Final Return on Investment

Initiative One: Top Performers Training Low Performing Facilities

Cost Savings $101 - $164 M
55 – 75% of LP introduce training initiatives

Initiative Costs $19 - $38 M
50% of budget for initial loss of productivity
40% of budget for travel and accommodation
10% of budget for designing training materials

Extrapolated ROI $82 - $145 M
12.6 times factor

Return on Investment

$100 - $180M
In reduced costs

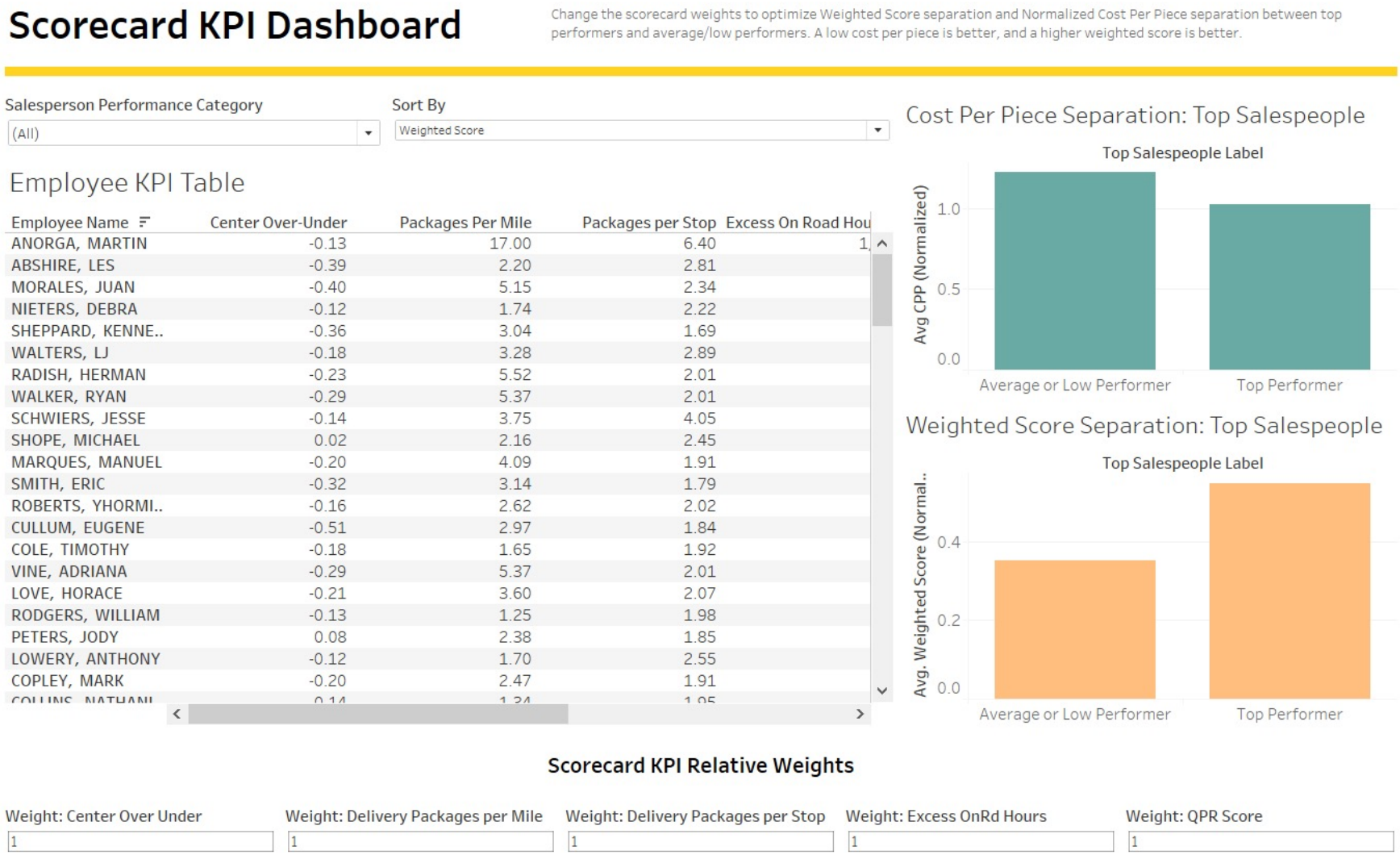
Initiative Two: Top Performers Relocated to High Volume Facilities

Cost Savings $31 - $57 M
4-8% Top Manager Relocation

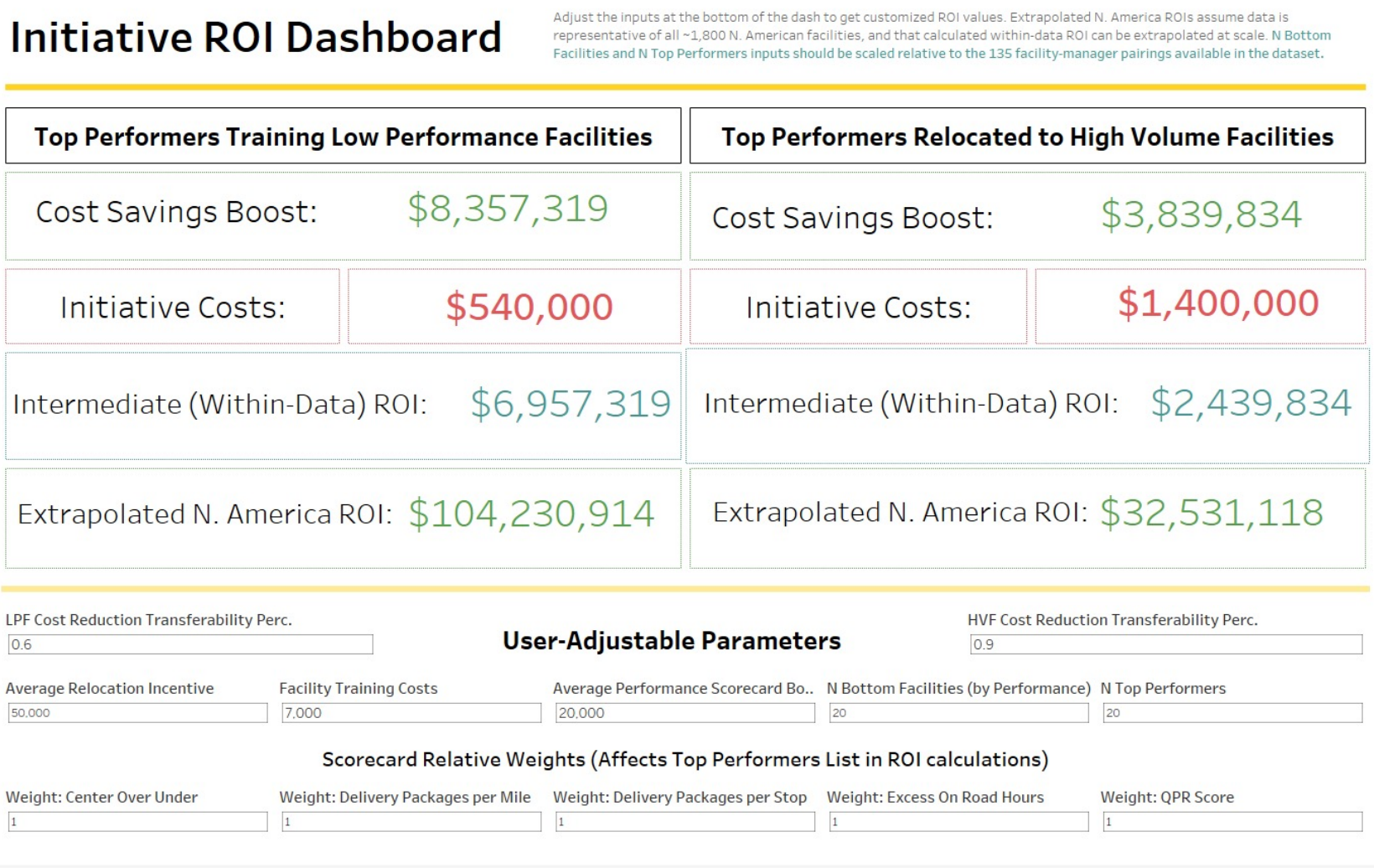
Initiative Costs $13 - $50 M
55% of budget for bonus to all top performers
40% of budget for relocation fees
5% of budget for transitioning fees

Extrapolated ROI $18 - $35 M
12.6 times factor

Scorecard KPI Dashboard Demonstration



Initiative ROI Dashboard Demonstration



Note that choice of N for Bottom Facilities and Top Performers should be set relative to the 135 managers in the dataset, not relative to the 1,800 facilities in N. America. The ROI calculation scales up the within-data ROI estimation to the continent-wide scale.

Conclusion

Current State

- World's largest package delivery company
- Delivering over 5 billion packages annually across 220 different countries
- Expected hiring need of 100,000 new full-time employees in the next five years

Manager Performance

- Existing QPR Competency Survey finds that top managers can reduce costs by 17% compared to peers
- HCMI study finds increased safety and efficiency at these branches with top managers

Scorecard

- Center Efficiency Metrics
- Delivery Metrics
- Reduced Excess Metrics
- QPR Competency Metrics

Interventions

- Bonuses awarded to all top managers according to scorecard metrics
- Relocate some top managers to high volume facilities to improve efficiency
- Send top managers to oversee/train at low performance facilities, create high performance center showcases

Future Research

- More data needed to calculate cost of interventions for return on investment
- Leverage future survey results as early indicators for manager performance when making hiring decisions
- Identify other external top drivers for finding performance success of centers

Financial Impact

1.6% Cost Reduction

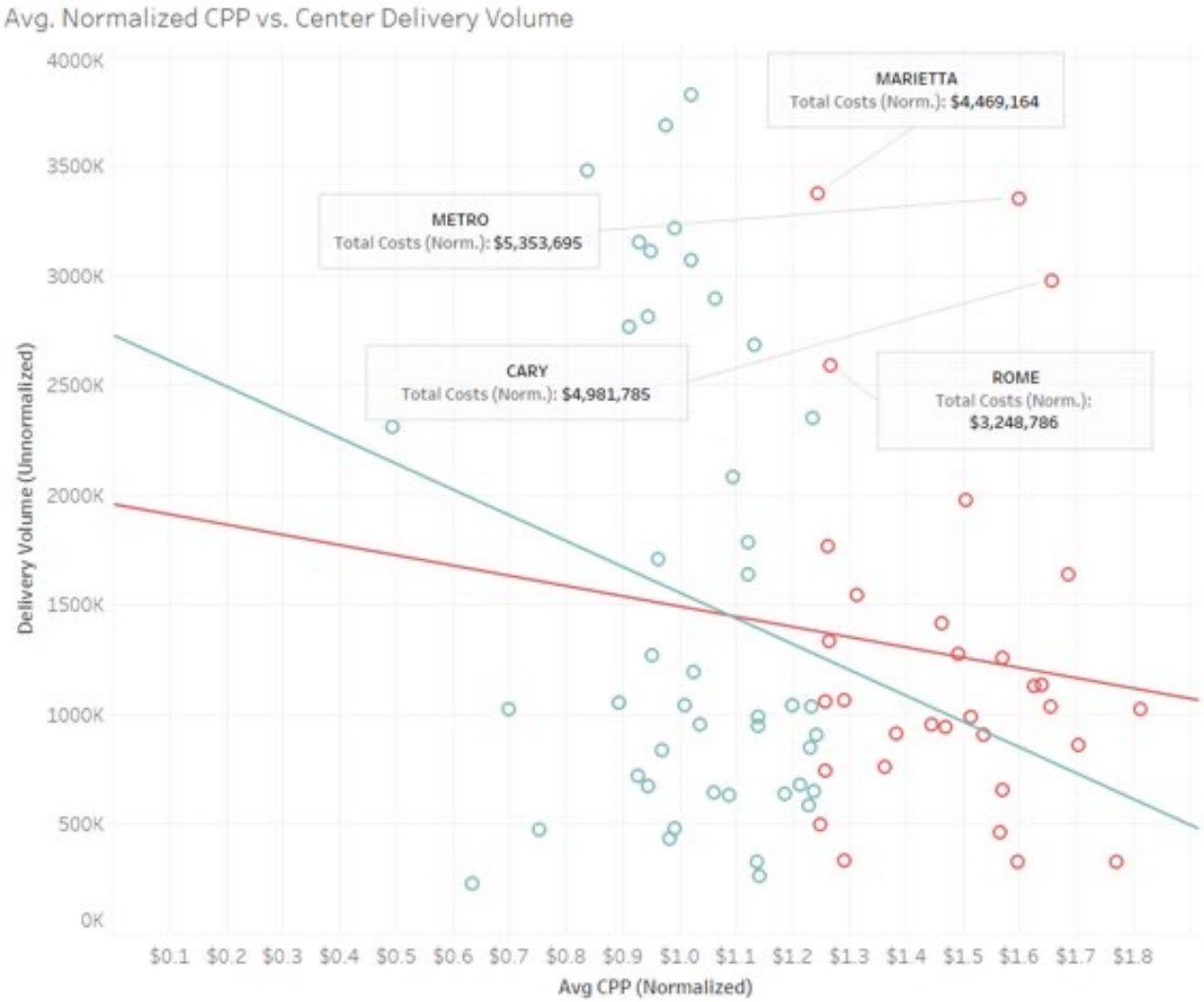
~ $140M ROI

Thank You

Appendix

ROI In Context: Hybrid Approach

- In practice, the highest impact approach would be to target the high volume, low performing facilities (upper right in the scatterplot). Since facility volume is difficult for management to alter, improving the performance of just these 4 facilities alone such that they achieve similar normalized average CPP values to the blue facilities (average to high performers) could result in cost savings of $X.



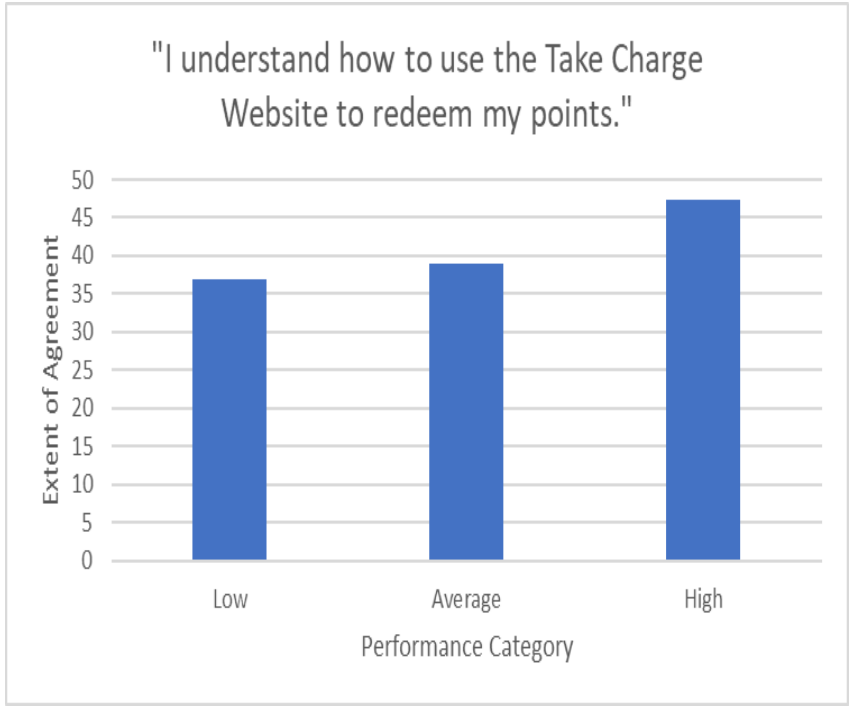
Bonus Analysis: Culture Initiatives

To explore how cultural initiatives can drive performance, we investigated the effect between mean response values on UPS survey questions for each employee and that employee's performance categorization (High, Average, and Low) according to 1/3 and 2/3 cutoffs ranked by our new scorecard output (assuming equal weights for each KPI).

Once we'd categorized employees into performance brackets, we took the grouped means for each survey question's response value column, and then ranked the questions by difference in mean response between high and low performers. On the next slide, we show the top three initiatives that were rated far higher by top performers than low performers, and the three initiatives whose mean response values were least different between the two groups.

We recommend that UPS suspend investment in the bottom three culture areas, because they didn't drive high performance (or, probably, retention of high performers) according to the data. We also recommend that UPS introduce initiatives and increase investment in the top three areas, which drove high performance or retention of high perfomers.

Key Culture Dimensions:
Best Performance Driving Initiatives



Key Culture Dimensions: Least Effective Performance Driving Initiatives

Question	Low Performer Agreement	Average Performer Agreement	High Performer Agreement
I am motivated to help my company be successful	83.35	84.20	83.34
Overall, I am satisfied with the employee benefits (such as medical, etc.) that I receive from UPS	82.51	81.20	83.02
UPS is a safe place to work	69.03	66.17	68.39

New Scorecard Construction Mathematics: Overview

- Created the normalized CPP column by Geotype
- Looked for correlations between center/manager performance variables and normalized CPP
- Used a MinMaxScaler to normalize the 5 chosen KPIs/scorecard inputs (so that they'd all be on the same scale)
  - A MinMaxScaler assigns the highest value in a distribution (a column, in this case) a value of 1 and the lowest value 0. Other values are assigned numbers between 0 and 1 based on their position in the original distribution.
- Set up weighted average scores with adjustable weights
  - For each manager, we took the sum of each scaled KPI multiplied by that KPI's assigned weight divided by the total sum of the weight values.
- Final scorecard returns a score value between 0 and 1 with 1 being best, 0 being worst

Normalizing CPP By Geotype

Center Geotype ..	
RURAL	1.487
SUBURBAN	1.025
SUPER RURAL	1.781
URBAN	0.771

- Find mean CPP grouped by Geotype
- Calculate the overall in-data mean CPP
- Calculate a normalization multiplier for each Geotype. Formula:
  - 1 + ((GeotypeMean – OverallMean)/OverallMean)
- Multiply each CPP value in the dataset by the multiplier for that row's corresponding Geotype

The end result is a column of Avg. CPP values corrected for the effect of Geotype on CPP, allowing direct calculation with and comparison of managers' and facilities' performance across Geotypes.