



# Masterclass in Resource Planning

Beyond the basic: Exploding some common misconceptions



**John Frehse** is an internationally recognised expert in the field of labour management. John's experience covers a wide array of strategic issues - from analytical resource deployment modeling to implementation planning and execution. Specific tactical problems include scheduling and shift management to increasing employee satisfaction, health, morale and performance.

John has authored numerous white papers and articles on cutting-edge labour strategies. Recent works include *The 11 Keys to Strategic Scheduling*, *The Overtime Lie*, *Death of the 8-Hour Shift*, and *The Labour Volatility Index*. His strategy papers have been awarded the Leading Idea of the Week by Booz Allen multiple times. His articles have earned him placement in the Hall of Fame edition of *Industry Week* magazine and he serves on the advisory board of HR.com with an emphasis on workforce management practices.

Prior to co-founding Core Practice, John was with Merrill Lynch and Blue Pumpkin (now Verint) as Director of Global Strategic Services.

# Sharing Best Practices from Diverse Industries

## Consumer Foods



## Power & Mining



## Healthcare & Pharma



## Automotive



## Contact Centers



## Manufacturing



## Distribution



**WHICH DO YOU PREFER?:**

**A. 8-HOUR SHIFTS**

**B. 12-HOUR SHIFTS**

# 8-Hour Shifts - 5 Day Coverage

120-40, Balanced, 1 X 3 Crew, 8-Hour, Fixed, Fixed, Every Weekend Off

Crew/ Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Totals
1	8	8	8	8	8	-	-	40
							<b>Avg.</b>	<b>40</b>

Work Days	260
Days Off	104
Weekends Off (Full)	52
Longest Break	2 days (52x)
Max. Number of Shifts in a Row	5

# 12-Hour Shifts - 5 Day Coverage

120-40, Balanced, 3 X 2-Crew, 12-Hour, Fixed, Rotating, Long Weekend

Crew/ Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Totals
1	12	12	12	-	-	-	-	36
2	-	-	12	12	12	-	-	36
3	12	12	-	12	12	-	-	48
							<b>Avg.</b>	<b>40</b>

Work Days	173
Days Off	191
Weekends Off (Full)	52
Longest Break	6 days (17x)
Max. Number of Shifts in a Row	3

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Tip 1: Understand the Cost  
of Overtime v. Idle Time

## Calculating True Labour Cost

### Calculations:

Base Wage: £10.00

Burden: 35%

Pay Ratio: 15%

### True Labour Cost:

Straight Time: £10.00 x 1.35 x 1.15 = £15.53

Overtime: £10.00 x 1.50 x 1.10 = £16.50

### Adverse Cost of Time:

Adverse Cost of Straight Time: £0.00

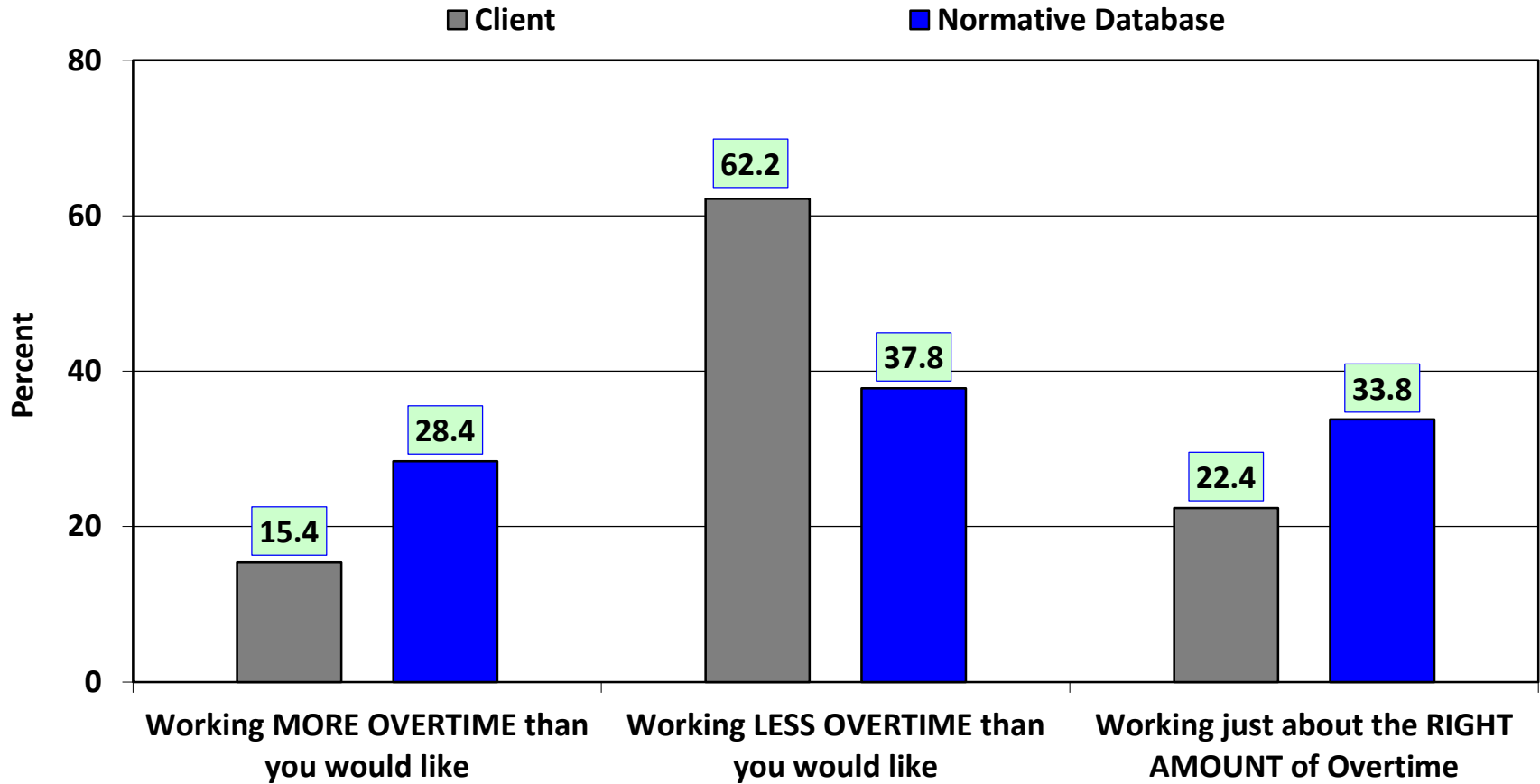
Adverse Cost of Idle Time: £15.53

Adverse Cost of Overtime: £16.50 - £15.53 = £0.97

Idle Time is 16 Times More Expensive Than Overtime



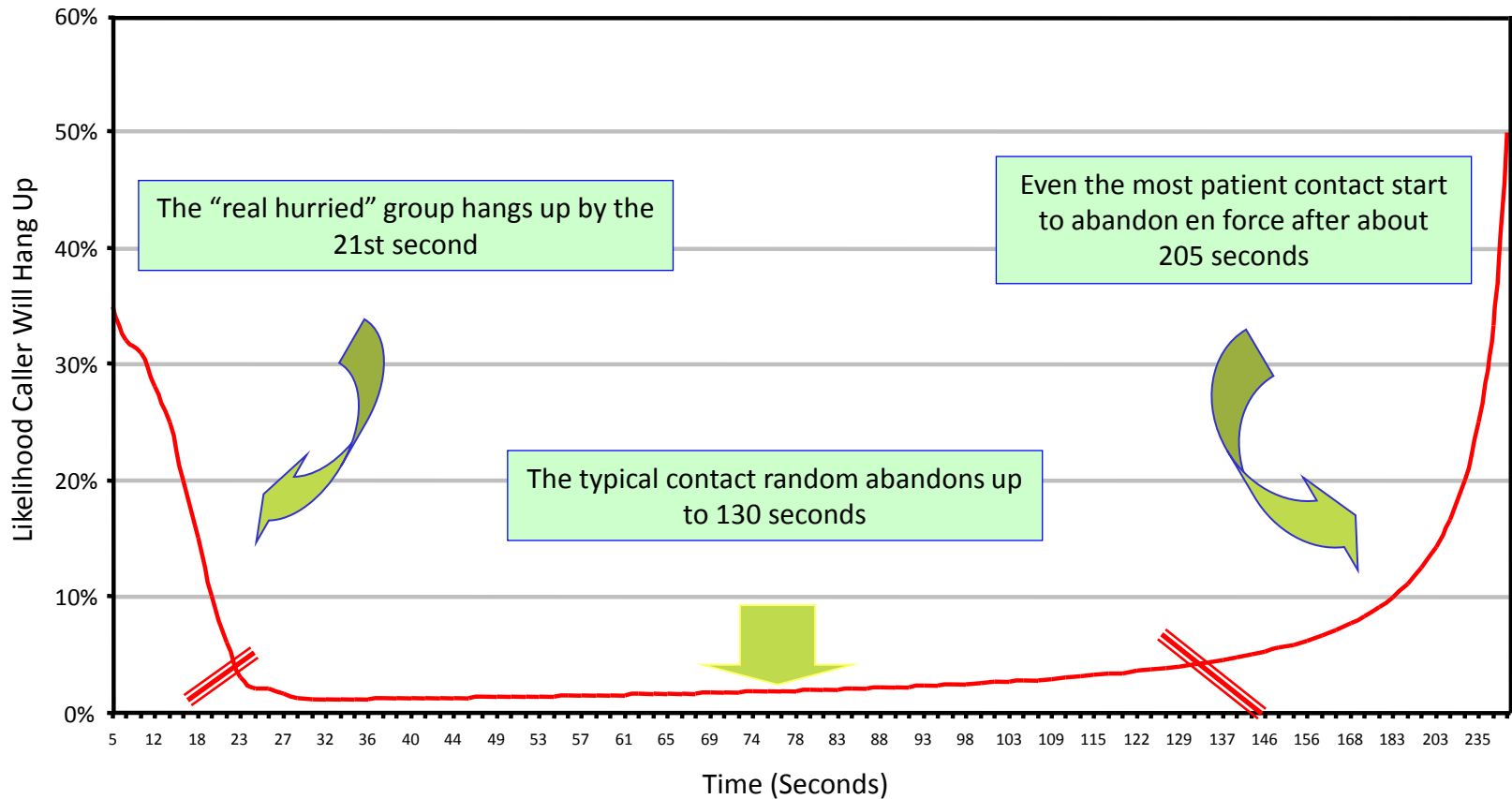
# Overtime Perceptions



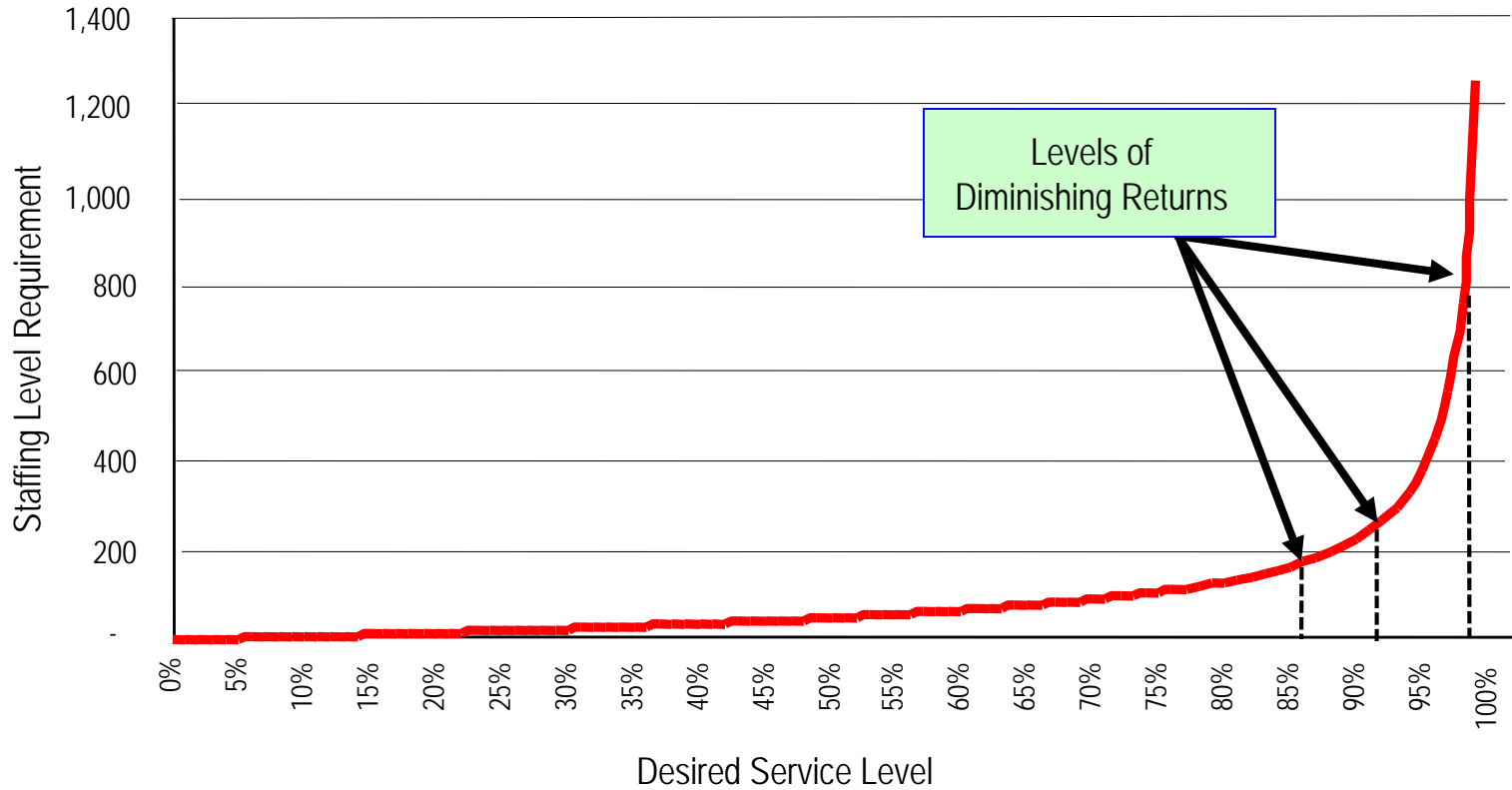
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Tip 2: Choose Service Level Wisely

# Instantaneous Abandon Rates - Hazard Curve



# Exponential Gradient of Service Level Improvements



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Tip 3: Match  
The Workforce to the Workload



# ACHIEVEMENT

YOU CAN DO ANYTHING YOU SET YOUR MIND TO WHEN YOU HAVE VISION,  
DETERMINATION, AND AN ENDLESS SUPPLY OF EXPENDABLE LABOR.

[www.despair.com](http://www.despair.com)

# Scheduling - Example Iteration No. 1

- Setup:
  - Actual customer forecast (no unusual spikes or abnormalities)
  - Service goal: 80% answered in 20 seconds
  - Prefer overstaffing and maximizing overall service level
  - No preferences nor assignment rules
  - Goal – create a schedule that meets the weekly service level goal

## Iteration 1

- All full time 8-hour shifts, 5 days per week
- Consistent start times on hour interval only
- Consistent off phone periods with fixed start times:
  - Break – 2:00 Lunch – 4:00 Break – 6:00
- Two days off in a row where one must be a weekend

Iteration	Number of FTEs		Forecasted Service Levels							
	Forecast	Required	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekly
1	310	249	75	83	88	91	72	63	65	80

## Scheduling - Example Iteration No. 2

Same as iteration 1 except the break and lunch times are expanded

### Iteration 2

- All full time 8-hour shifts, 5 days per week
- Consistent start times on hour interval only
- Consistent off phone periods with fixed start times:
- Break – 1:45-2:15 Lunch – 4:00-5:00 Break – 6:30-7:15
- Two days off in a row where one must be a weekend

Iteration	Number of FTEs		Forecasted Service Levels							
	Forecast	Required	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekly
1	310	249	75	83	88	91	72	63	65	80
2	304	249	78	85	92	92	73	60	62	80

**Cumulative Cost Savings (Assuming £37,916 per FTE): £227,496**



## Scheduling - Example Iteration No. 3

Same as iteration 2 except shifts can start on any 30-minute interval (consistent start times every day)

### Iteration 3

- All full time 8-hour shifts, 5 days per week
- Shifts start on any 30-minute interval
- Consistent off phone periods with fixed start times:
- Break – 1:45-2:15 Lunch – 4:00-5:00 Break – 6:30-7:15
- Two days off in a row where one must be a weekend

Iteration	Number of FTEs		Forecasted Service Levels							
	Forecast	Required	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekly
1	310	249	75	83	88	91	72	63	65	80
2	304	249	78	85	92	92	73	60	62	80
3	302	249	78	86	91	93	71	58	59	80

**Cumulative Cost Savings (Assuming £37,916 per FTE): £303,328**

## Scheduling - Example Iteration No. 4

Same as iteration 3 except shifts increase start windows for off phone periods

### Iteration 4

- All full time 8-hour shifts, 5 days per week
- Shifts start on any 30-minute interval
- Consistent off phone periods with fixed start times:
- Break – 1:15-2:30 Lunch – 3:30-5:00 Break – 6:45-7:30
- Two days off in a row where one must be a weekend

Iteration	Number of FTEs		Forecasted Service Levels							
	Forecast	Required	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekly
1	310	249	75	83	88	91	72	63	65	80
2	304	249	78	85	92	92	73	60	62	80
3	302	249	78	86	91	93	71	58	59	80
4	300	249	79	83	85	87	70	54	60	80

**Cumulative Cost Savings (Assuming £37,916 per FTE): £379,160**

## Scheduling - Example Iteration No. 5

Same as iteration 4 except assign new WP to all agents – four 10-hour shifts per week

### Iteration 5

- Four 10-hour shifts or five 8-hour shifts
- Shifts start on any 30-minute interval
- Consistent off phone periods with fixed start times:
- Break – 1:15-2:30 Lunch – 3:30-5:00 Break – 6:45-7:30
- Two days off in a row where one must be a weekend

Iteration	Number of FTEs		Forecasted Service Levels							
	Forecast	Required	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekly
1	310	249	75	83	88	91	72	63	65	80
2	304	249	78	85	92	92	73	60	62	80
3	302	249	78	86	91	93	71	58	59	80
4	300	249	79	83	85	87	70	54	60	80
5	293	249	79	82	84	86	72	60	61	80

Cumulative Cost Savings (Assuming £37,916 per FTE): £644,572

## Scheduling - Example Iteration No. 6

Same as iteration 5 except 10-hour employees no longer require a weekend day off

### Iteration 6

- Four 10-hour shifts or five 8-hour shifts
- Shifts start on any 30-minute interval
- Consistent off phone periods with fixed start times:
- Break – 1:15-2:30 Lunch – 3:30-5:00 Break – 6:45-7:30
- Two days off in a row

Iteration	Number of FTEs		Forecasted Service Levels							
	Forecast	Required	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekly
1	310	249	75	83	88	91	72	63	65	80
2	304	249	78	85	92	92	73	60	62	80
3	302	249	78	86	91	93	71	58	59	80
4	300	249	79	83	85	87	70	54	60	80
5	293	249	79	82	84	86	72	60	61	80
6	280	249	81	80	78	75	77	65	64	80

**Cumulative Cost Savings (Assuming £37,916 per FTE): £1,137,480**

## Scheduling - Example Iteration No. 7

Same as iteration 6 except remove the consistency requirement for Saturday and Sunday

### Iteration 7

- Four 10-hour shifts or five 8-hour shifts
- Shifts start on any 30-minute interval
- Consistent off phone periods with fixed start times (except for weekends)
- Break – 1:15-2:30 Lunch – 3:30-5:00 Break – 6:45-7:30
- Two days off in a row

Iteration	Number of FTEs		Forecasted Service Levels							
	Forecast	Required	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekly
2	304	249	78	85	92	92	73	60	62	80
3	302	249	78	86	91	93	71	58	59	80
4	300	249	79	83	85	87	70	54	60	80
5	293	249	79	82	84	86	72	60	61	80
6	280	249	81	80	78	75	77	65	64	80
7	269	249	81	80	78	75	77	71	73	80

Cumulative Cost Savings (Assuming £37,916 per FTE): £1,782,052

## Scheduling - Example Iteration No. 8

Same as iteration 7 except remove the weekend day off requirements

### Iteration 8

- Four 10-hour shifts or five 8-hour shifts
- Shifts start on any 30-minute interval
- Consistent off phone periods with fixed start times (except for weekends)
- Break – 1:15-2:30 Lunch – 3:30-5:00 Break – 6:45-7:30
- Two days off in a row (does not need to be on weekends)



Iteration	Number of FTEs		Forecasted Service Levels							
	Forecast	Required	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekly
3	302	249	78	86	91	93	71	58	59	80
4	300	249	79	83	85	87	70	54	60	80
5	293	249	79	82	84	86	72	60	61	80
6	280	249	81	80	78	75	77	65	64	80
7	269	249	81	80	78	75	77	71	73	80
8	257	249	83	79	77	78	82	81	80	80

Cumulative Cost Savings (Assuming £37,916 per FTE): £2,009,548

## Scheduling - Example Iteration No. 9

Same as iteration 8 except remove consistency requirement for off phone periods

### Iteration 9

- Four 10-hour shifts or five 8-hour shifts
- Shifts start on any 30-minute interval
- Non-consistent off phone periods with fixed start times (expect for weekends)
- Break – 1:15-2:30 Lunch – 3:30-5:00 Break – 6:45-7:30
- Two days off in a row (does not need to be on weekends)

Iteration	Number of FTEs		Forecasted Service Levels							
	Forecast	Required	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekly
4	300	249	79	83	85	87	70	54	60	80
5	293	249	79	82	84	86	72	60	61	80
6	280	249	81	80	78	75	77	65	64	80
7	269	249	81	80	78	75	77	71	73	80
8	257	249	83	79	77	78	82	81	80	80
9	253	249	81	80	79	82	80	83	78	82

Cumulative Cost Savings (Assuming £37,916 per FTE): £2,161,212

# Scheduling - Example Iteration No. 10

Same as iteration 9 except remove consistency requirement for start times

## Iteration 10

- Four 10-hour shifts or five 8-hour shifts
- Shifts start on any 30-minute interval – non-consistent
- Non-consistent off phone periods with fixed start times (expect for weekends)
- Break – 1:15-2:30 Lunch – 3:30-5:00 Break – 6:45-7:30
- Two days off in a row (does not need to be on weekends)



Iteration	Number of FTEs		Forecasted Service Levels							
	Forecast	Required	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekly
5	293	249	79	82	84	86	72	60	61	80
6	280	249	81	80	78	75	77	65	64	80
7	269	249	81	80	78	75	77	71	73	80
8	257	249	83	79	77	78	82	81	80	80
9	253	249	81	80	79	82	80	83	78	82
10	252	249	79	81	82	85	82	80	81	81

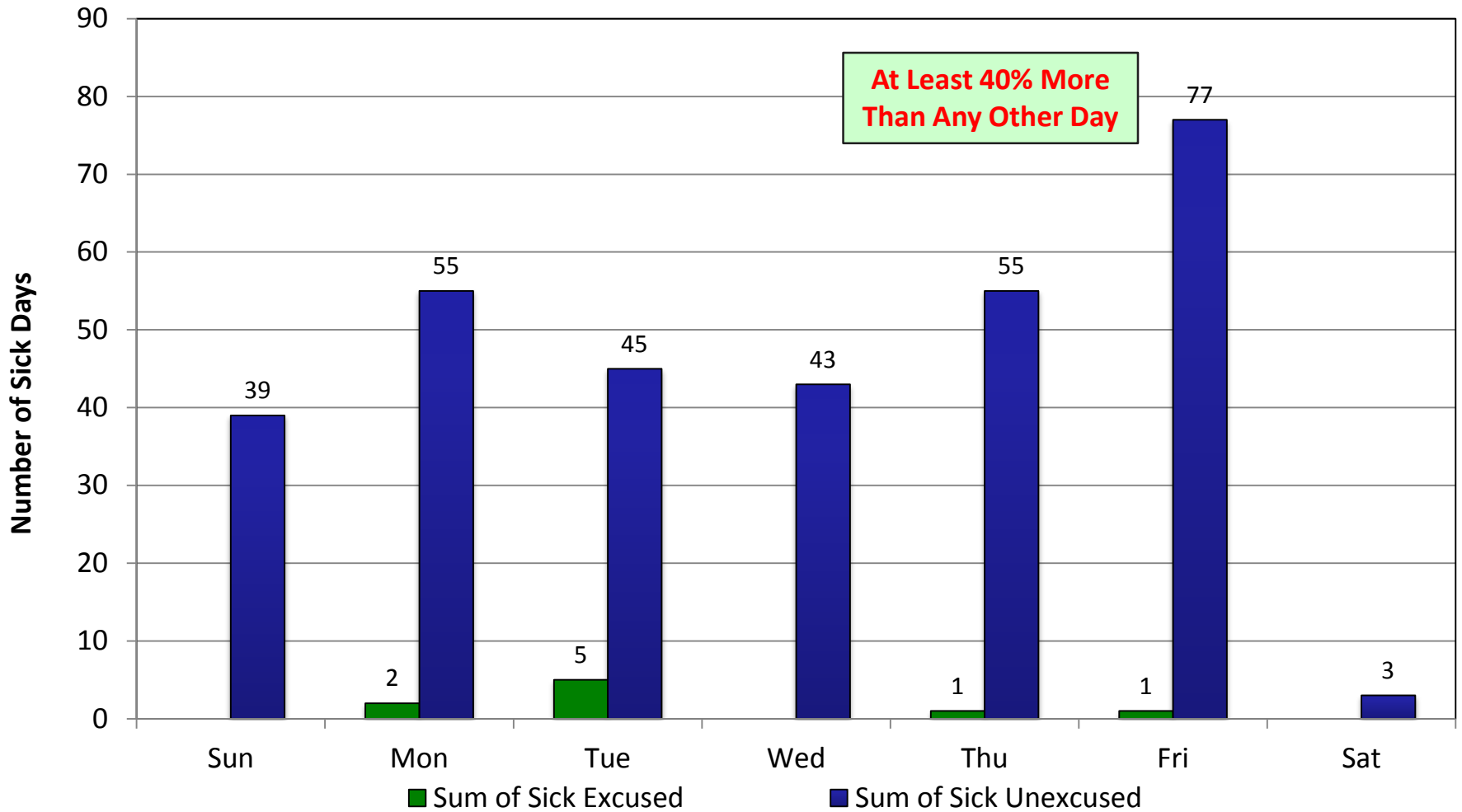
Cumulative Cost Savings (Assuming £37,916 per FTE): £2,199,128



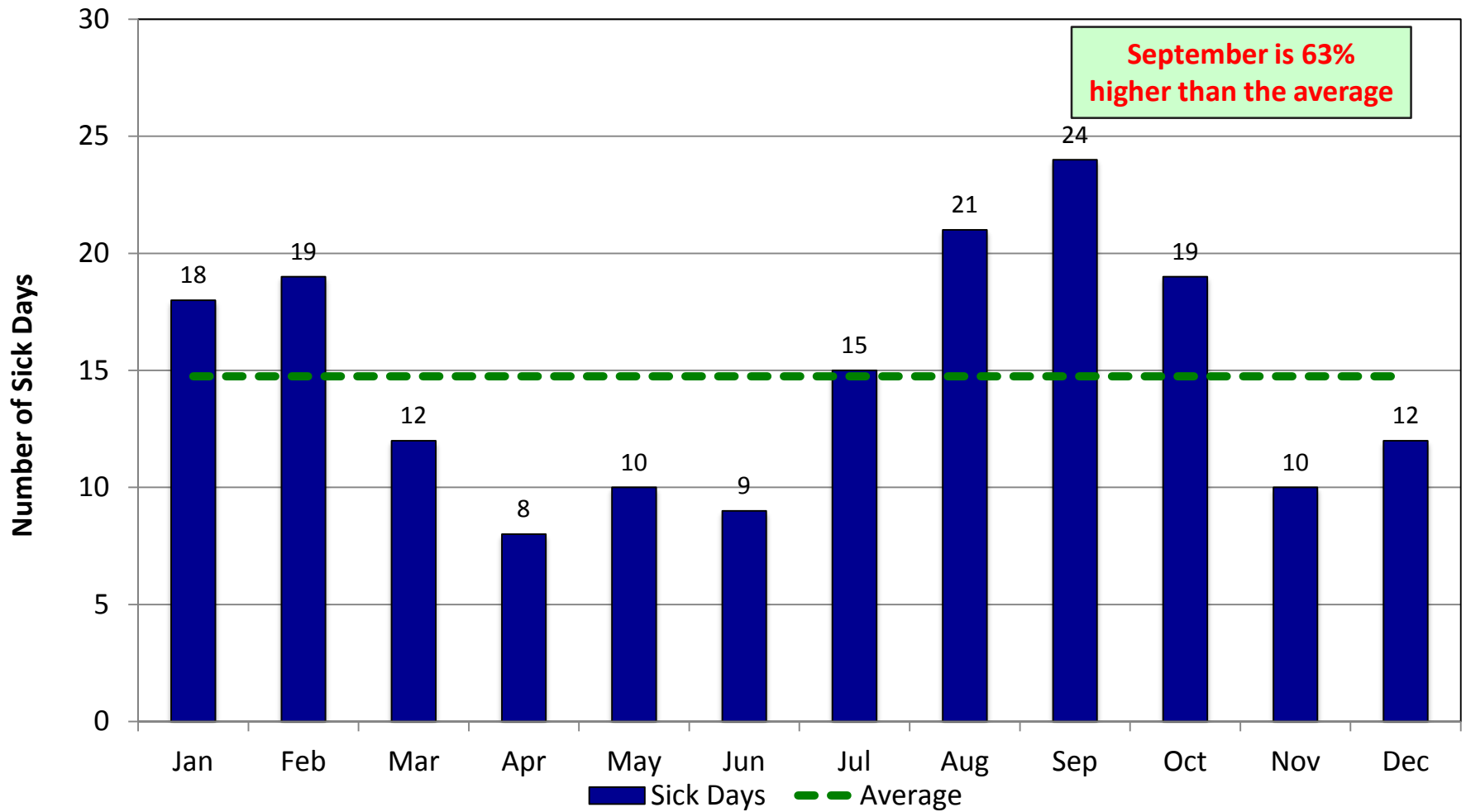
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Tip 4: Drive Future  
Agent Behaviour By Analysing  
Current Practices

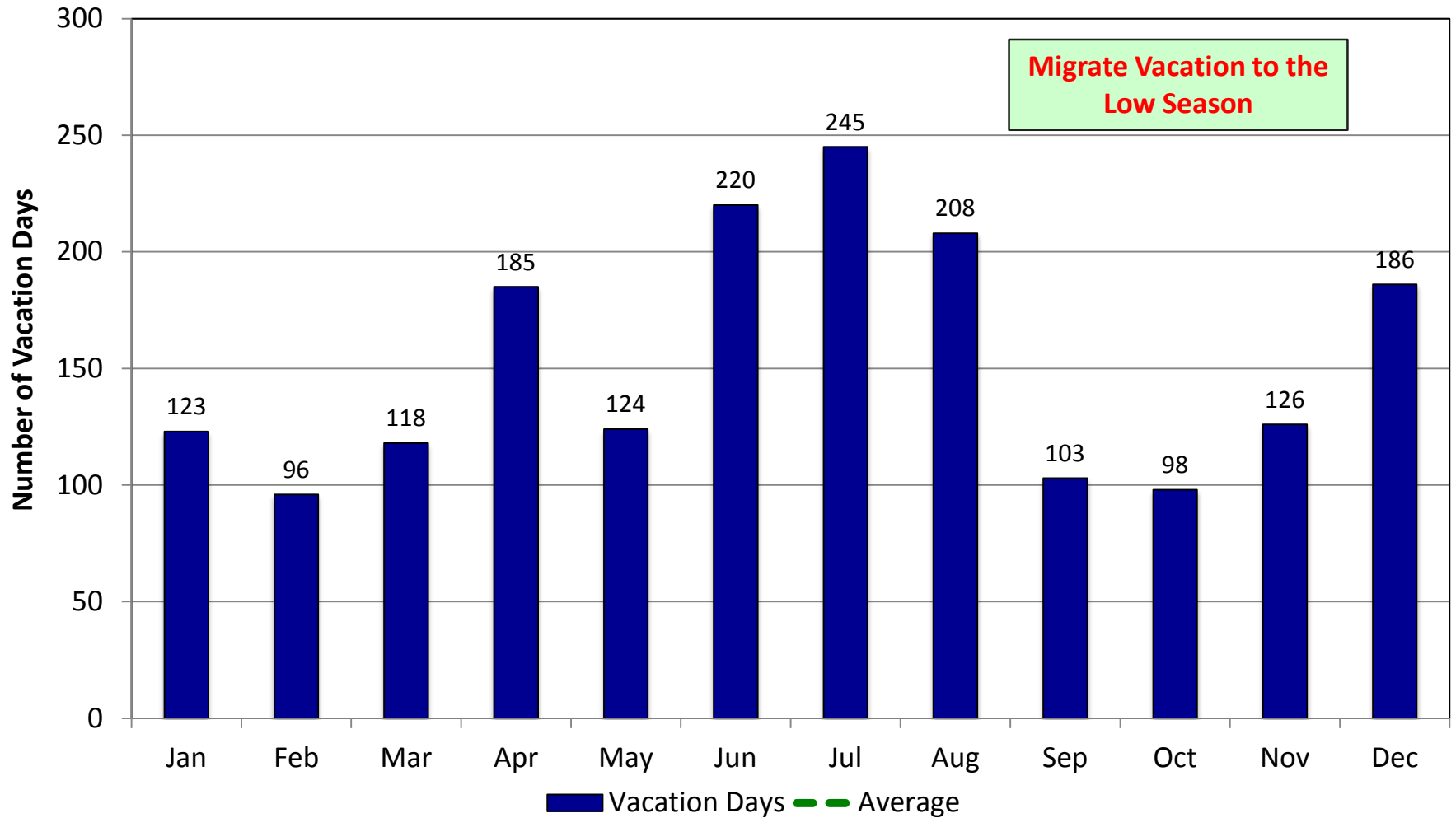
# Employees Get Sick More Often on Fridays



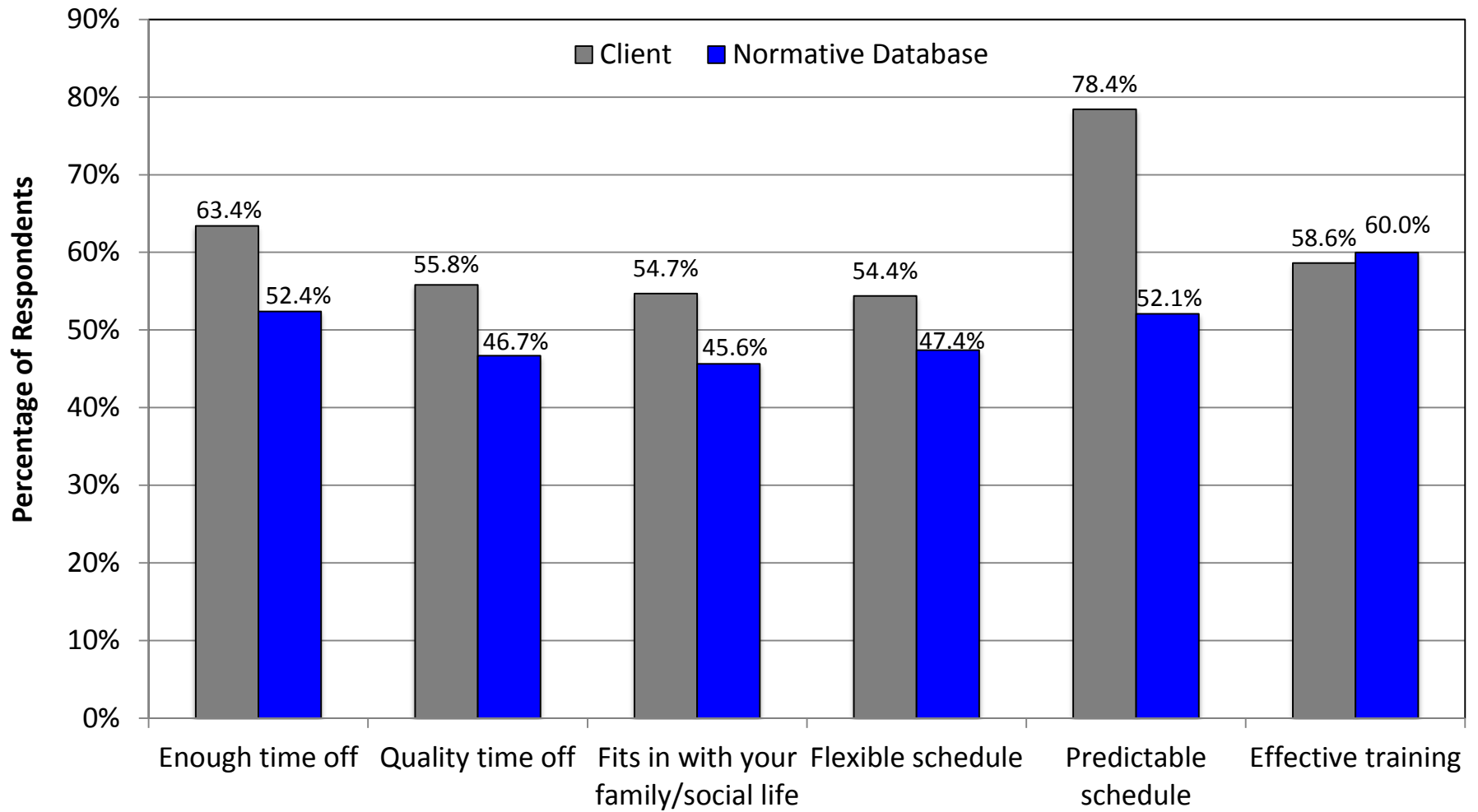
# September is the Least Healthy Month



# Vacation Distribution by Month



## Scheduled Time Off:



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## Tip 5: Uncover Hidden Costs

## Hidden Costs of Current Scheduling

- No Cost Analysis of Service Level
- Lost Revenue Opportunities
- Sub-optimal Use of Capital and Facilities
- Missed Consolidation Opportunities
- High Overtime & Idle/Open Labour Time
- High level of Schedule Inflexibility
- Employee Attrition/ Absenteeism
- Low Schedule Adherence
- Difficulty Matching Changing Workloads
- Agent KPIs Not Aligned with Business Drivers
- Inefficient Use of Breaks and Lunches
- Skill Imbalance
- Missed In/Outbound Blending Opportunities
- Improper use of Part Time vs. Full Time Staffing
- Incompatible Work and Pay Rules
- Excessive Management Time Spent Scheduling
- Low Employee Morale / Poor Quality of Life
- Other \_\_\_\_\_



Thank You!