



GAP Analysis

Using Traditional Pre-Employment Tools to Identify Skill Gaps in Incumbent Populations

Michael Blair, CenturyLink

Amanda Evans, PreVisor

Andy Solomonson, PreVisor

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PreVisor

CenturyLink

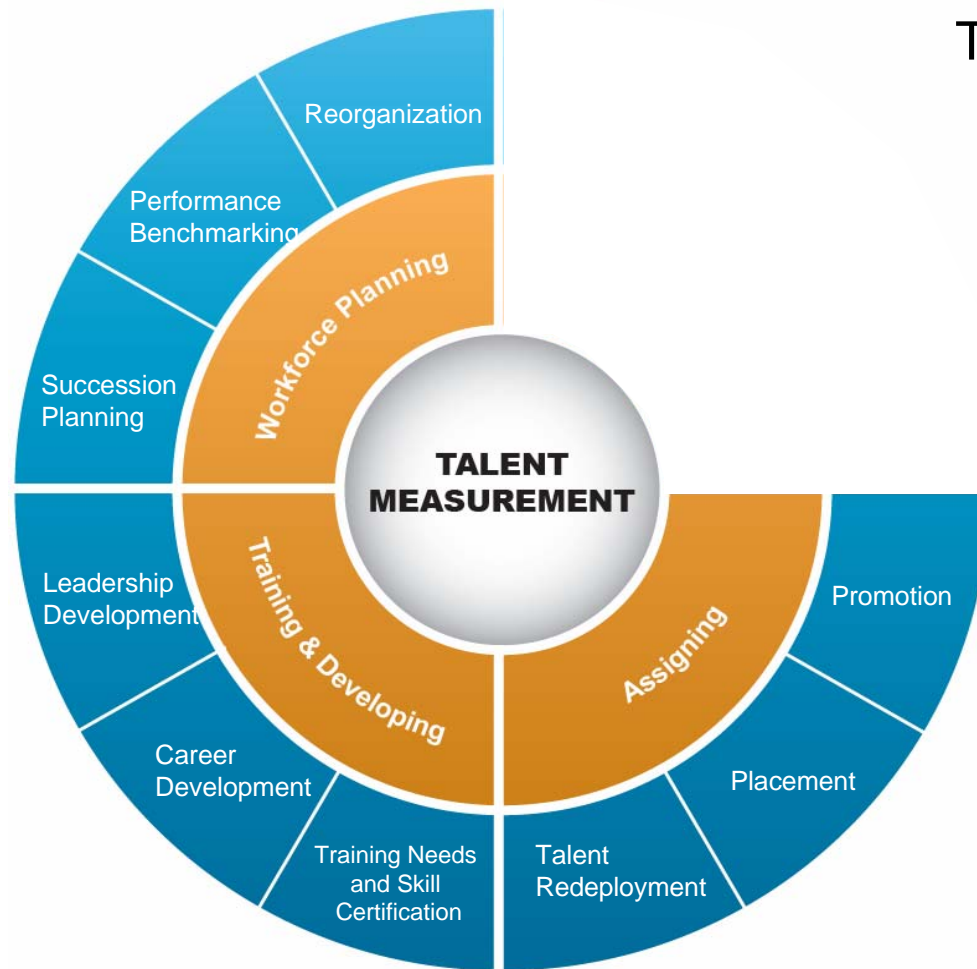
- Leading provider of assessments for pre-employment and post-hire use
 - Assessments for all jobs and competencies in the U.S. economy
 - Serve more than 10,000 organizations worldwide; over 100 of Fortune 500
 - Team includes more than 70 Industrial/Organizational Psychologists
 - Industry leading Select2Perform™ online assessment platform
 - Offices in US, UK, and Australia
- Formed via the merger of CenturyTel and Embarq
 - The fourth largest telecommunications provider in the U.S.
 - S&P 500
 - Headquartered in Monroe, LA
 - Operates in 33 states
 - Serves rural and urban markets
 - 7.1 million access lines
 - 2.2 million high speed internet subscribers
 - 450,000 video subscribers
 - Approximately 19,500 employees

Voice

Broadband

Video

Talent Management through *Talent Measurement*



Talent Measurement helps answer the questions:

- Who should I redeploy to different roles within my company?
- Which employees have skills that are critical in other parts of the company?
- Who should we train and develop? On what competencies or skills?
- How will a reorganization affect the talent landscape of my organization?
- How do our people stack up against changing roles, increasing expectations?

Background

Organizational context

- Experienced significant organizational change due to restructurings and realignments of employees & roles
- Workforce skill sets diverse and in some cases mismatched with job roles

Technical evolution

- Change from voice-centric analogue world to data-centric, high speed, digital world

Skills assessment was recommended by outgoing Director

- Well respected, helped to establish buy-in early on

Goals & Objectives

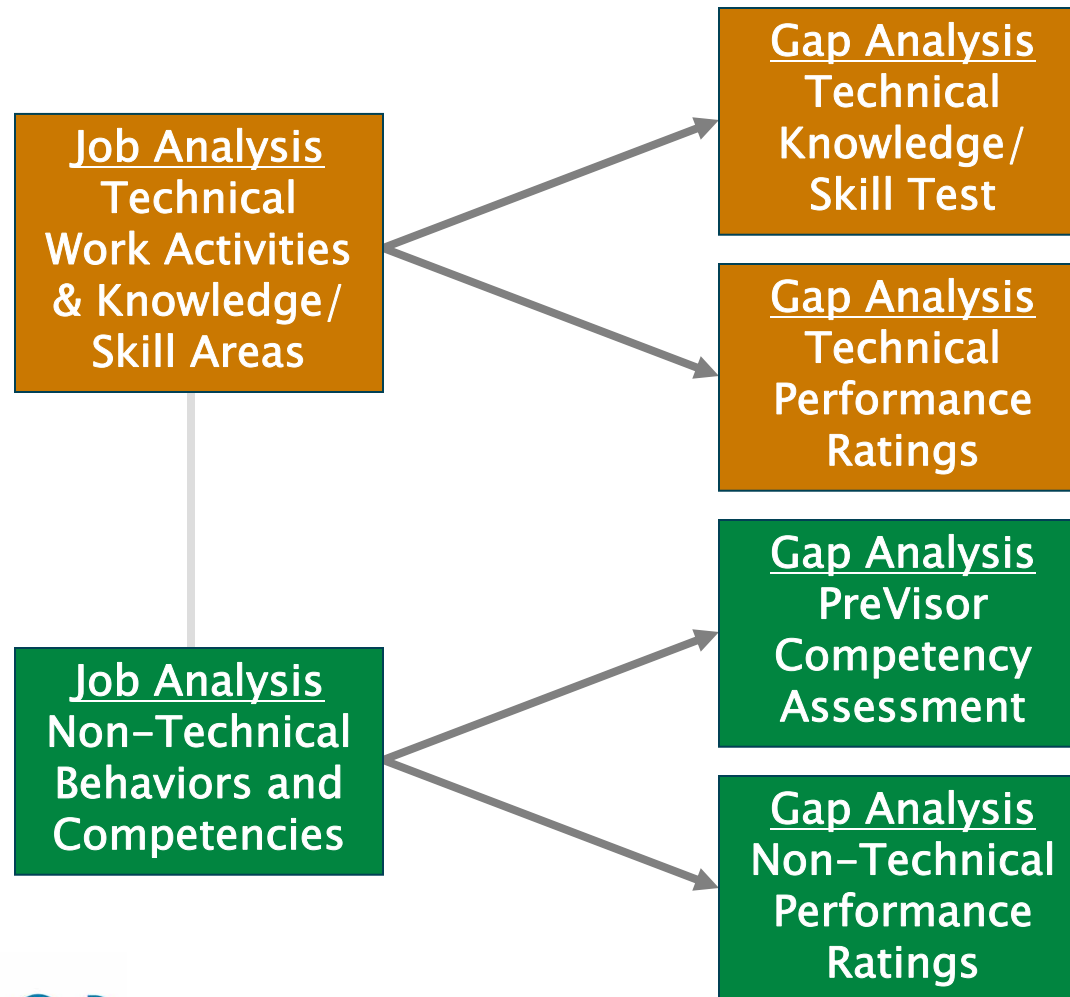
Desired Outcomes

- Understand cumulative impacts of changes on the organization's ability to effectively perform role and support company
- Provide objective data to understand and address the needs of the organization
- Equip managers to better understand and address the needs of individual employees
- Identify technical and non-technical skills gaps

Reports/Tools

- Organizational-wide gap analysis roll-up
 - Regional gap analysis roll-up
 - Manager gap analysis team roll-up
 - Individual gap assessment report
- Managers
- Leadership & Directors

Job Analysis to Gap Analysis – Conceptual Flow



Job Analysis Approach and Participants

Job Analysis Approach

- Background data review
- Focus groups and onsite observations
- Job analysis questionnaire (JAQ)
 - Non-technical work behaviors and competencies
 - Technical work activities and knowledge/skill areas

Participants

Category	Employee Count	Responded	% Complete
Engineer I	32	29	91%
Engineer II	335	243	73%
Engineer III	3	6	200%
Total Engineers	370	276	75%

Job Analysis Outcomes

- Compared job requirements across jobs, levels, regions
- Established 8 Technical Knowledge Areas
 - Examples: Fiber-based Design, Transmission Engineering
 - Provided initial technical knowledge test “blueprint”
 - Defined technical performance rating categories
- Confirmed Non-Technical Competencies
 - Recommended 4 existing personality assessment components:
 - Business Acumen, Drive for Results, Self Motivation, Building Relationships
 - Recommended 16 non-technical performance rating dimensions
 - Examples: Adaptability, Customer Focus, Decision Making

Technical Knowledge Test Development

- Identified SMES and hosted item writing workshops
- Refined items, created content validation form
- SMEs provided content validation ratings
- Refined item pool, defined final 100-item test form

Item #3	
Content Area:	Telephony Knowledge—Item #3
Subtopic area:	POTS AC/DC
Difficulty Level (1-5):	2
Question Text:	A POTS telephone wired line draws its line power (voltage) from:
Correct Response:	the central office and/or the pair gain unit.
Incorrect Response:	the customer's AC
Incorrect Response:	the NID connection on the side of the house.
Incorrect Response:	a battery in the phone
<p>Rating #1: How <u>relevant</u> is the specific knowledge required for this item to <u>effective performance</u> in an Engineer role? (note – does not need to apply to <u>all</u> Engineer roles)</p> <p><input type="checkbox"/> 1=Not Relevant <input type="checkbox"/> 2=Somewhat Relevant <input checked="" type="checkbox"/> 3=Relevant <input type="checkbox"/> 4=Very Relevant <input type="checkbox"/> 5=Extremely Relevant</p>	
<p>Rating #2: How <u>relevant</u> is the content of this item to the intended <u>Content Area</u> (in row 2 above)?</p> <p><input type="checkbox"/> 1=Not Relevant <input type="checkbox"/> 2=Somewhat Relevant <input checked="" type="checkbox"/> 3=Relevant <input type="checkbox"/> 4=Very Relevant <input type="checkbox"/> 5=Extremely Relevant</p>	
<p>Rating #3: Do you agree with the <u>Difficulty Level</u> rating for this item (in row 4 above)?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If No, indicate the Difficulty Level you feel is most accurate for this item: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5</p>	
<p>Rating #4: Do you agree with the <u>Correct Response</u> for this item (in row 6 above)?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If No, indicate the Correct Response for this item: <input type="text"/></p>	
<p>Questions: Do you have any additional <u>suggestions</u> for improving the <u>quality</u> of this item (clarity, accuracy, etc.)? Do you feel this item should be <u>discarded</u> (if so, please indicate why)?</p> <p><input type="text"/></p>	

Job Analysis and Assessment Summary

Access Engineering partnered with HR and PreVisor

- Regular communication on plan, progress, uses, benefits

Advisory panel

- Corporate and regional managers involved in all phases of project

Job analysis

- Identified technical and non-technical KSAOs
- 276 of 370 engineers participated

Technical Knowledge Test development

- 8 technical knowledge areas
- Advisory panel + 9 Senior Engineers

Assessment

- Online assessment – technical knowledge test and personality test
- 327 of 332* engineers participated

Performance ratings

- Online job performance rating form – technical and non-technical areas
- 40 managers provided ratings on participating engineers

Sharing Results: Executive Briefing

Briefed VP and Regional Directors

Reviewed results

- Focused on explaining and interpreting “unexpected” or “uncomfortable” outcomes

Walked through reports

- Provided leaders with complete set of reports
- Leaders knew what their organization would be receiving

Allowed time for review and digestion

- Leaders were prepared for questions and concerns

Technical Assessment Results Summary

Assessment validity reinforced by results

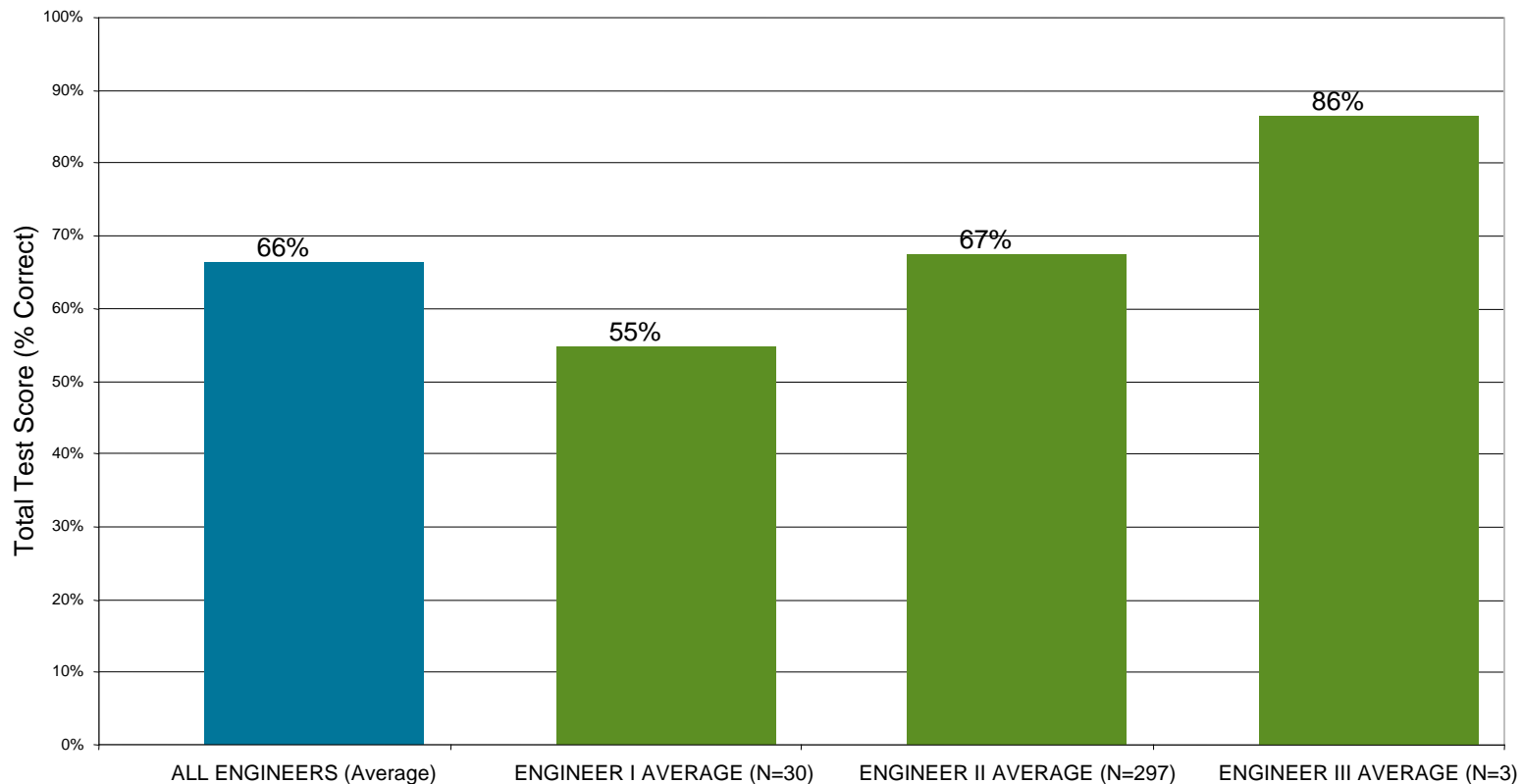
- Test content supported by job analysis and content validation
- Test scores are predictive of technical job performance ratings
 - Conducted concurrent, criterion-related validation study
 - Overall score-performance $r = .50$
 - Content area r ranged from .30 to .60
- Engineer IIIs outperformed IIs; Engineer IIs outperformed Is

Technical assessment results across all Engineers

- Average overall score = 66% (66/100 correct)
- Content areas scores ranged from 53% to 77%
 - Highest scores = Telephony Knowledge and OSP Engineering
 - Lowest scores = New & Emerging Technologies and COE Engineering

Challenge: Technical Knowledge Results

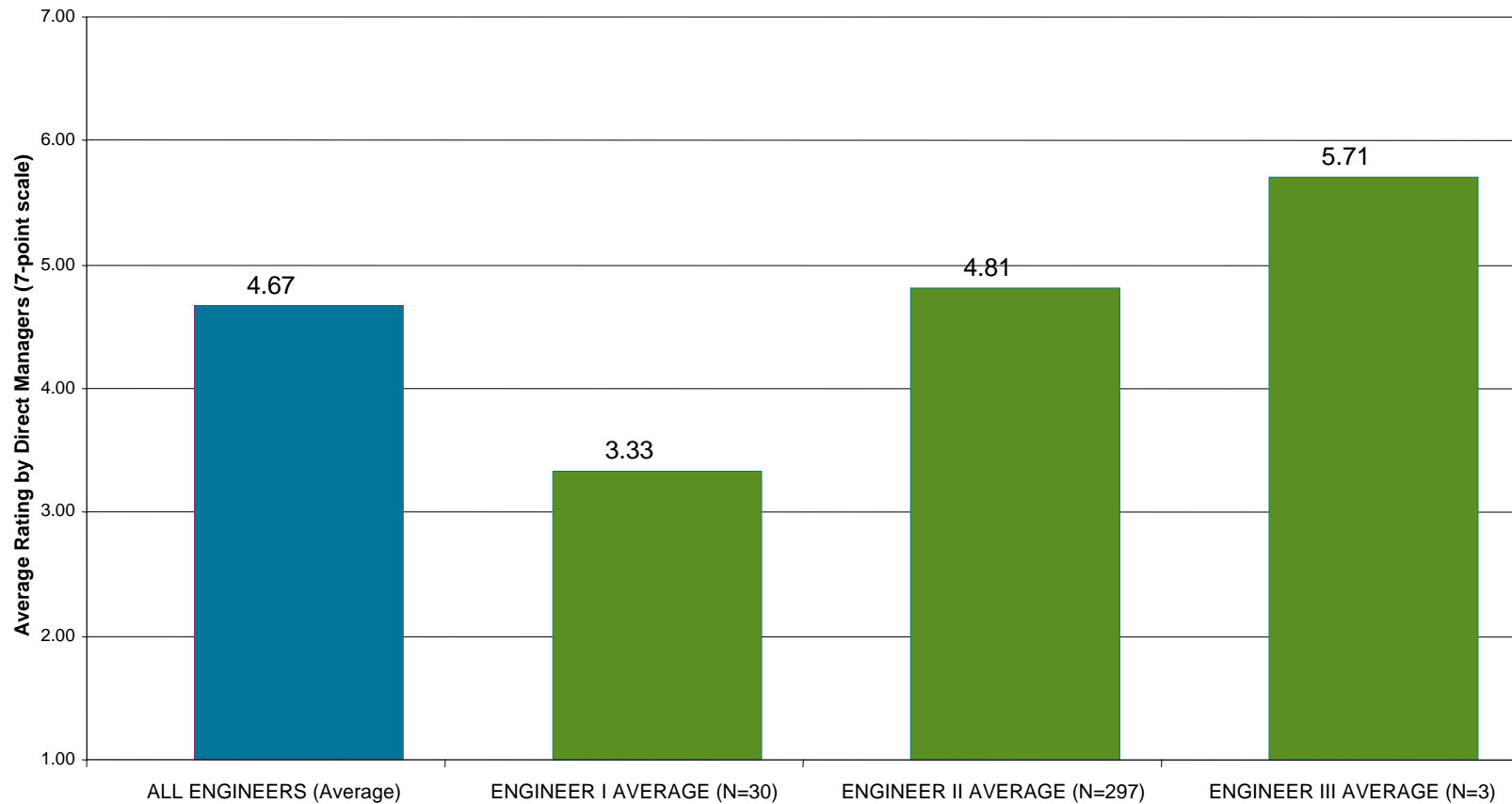
Access Engineering Knowledge Test - Total Score by Engineer Role



- Results consistent with expected knowledge/skill level by role
- 66% average is indicative of expected level of proficiency and consistent with SME feedback on test difficulty

Support: Technical Knowledge Manager Ratings

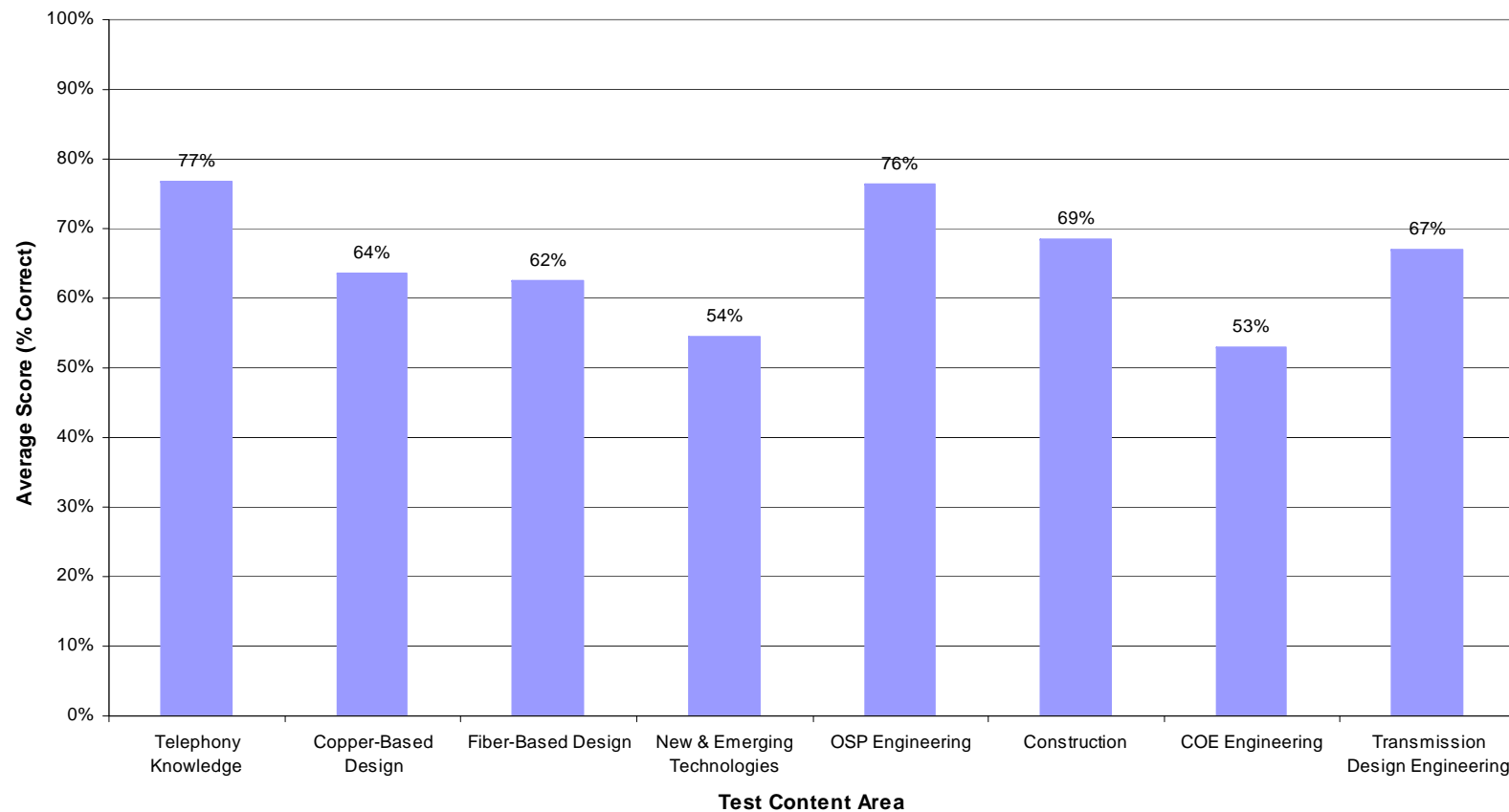
Technical Job Knowledge Ratings - Overall Rating Average by Role



- Rating results follow a similar pattern as knowledge test results by Engineer level

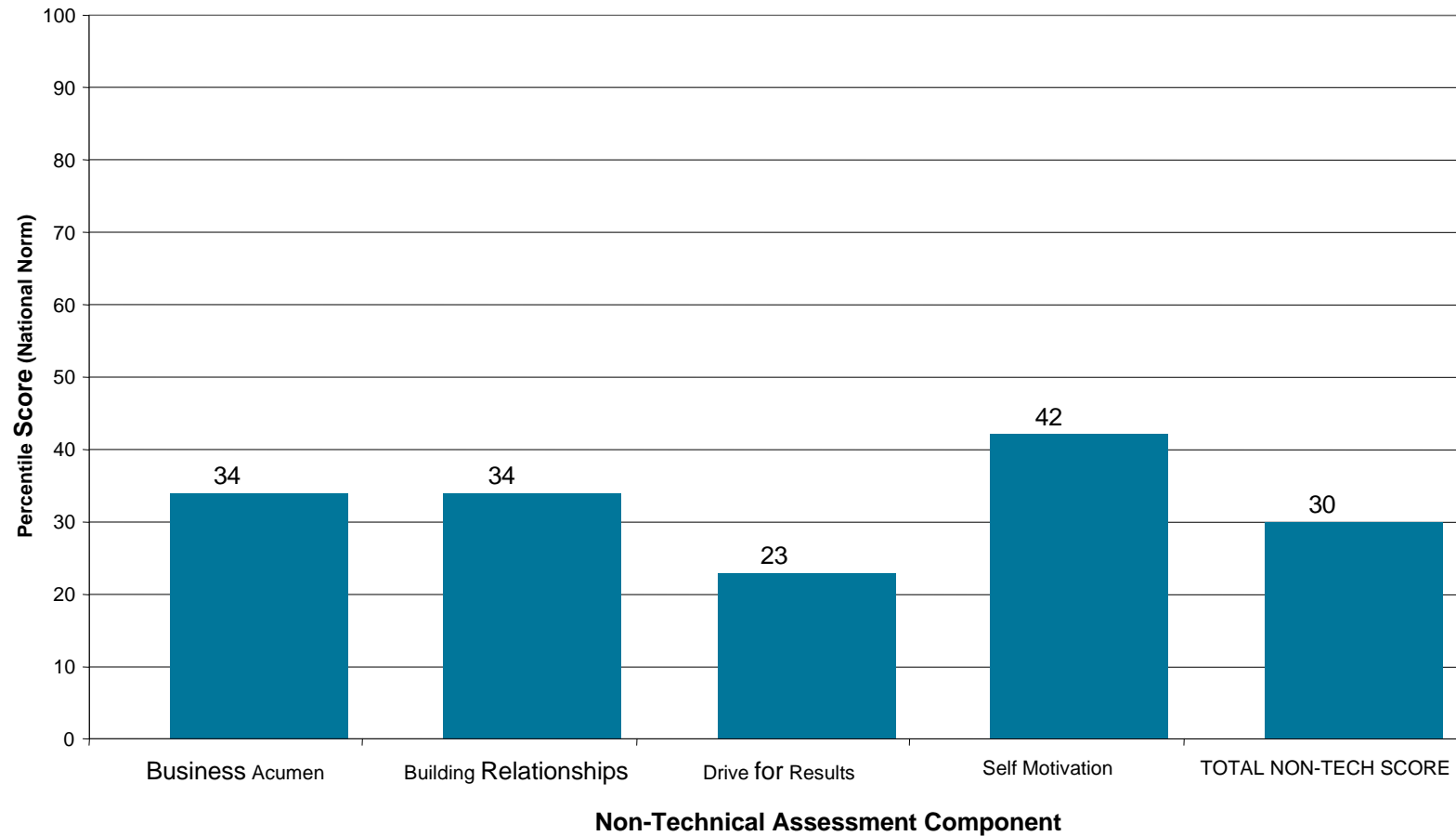
Additional Support: Scores by Content Area

Access Engineering Knowledge Test Scores by Content Area - All Engineers

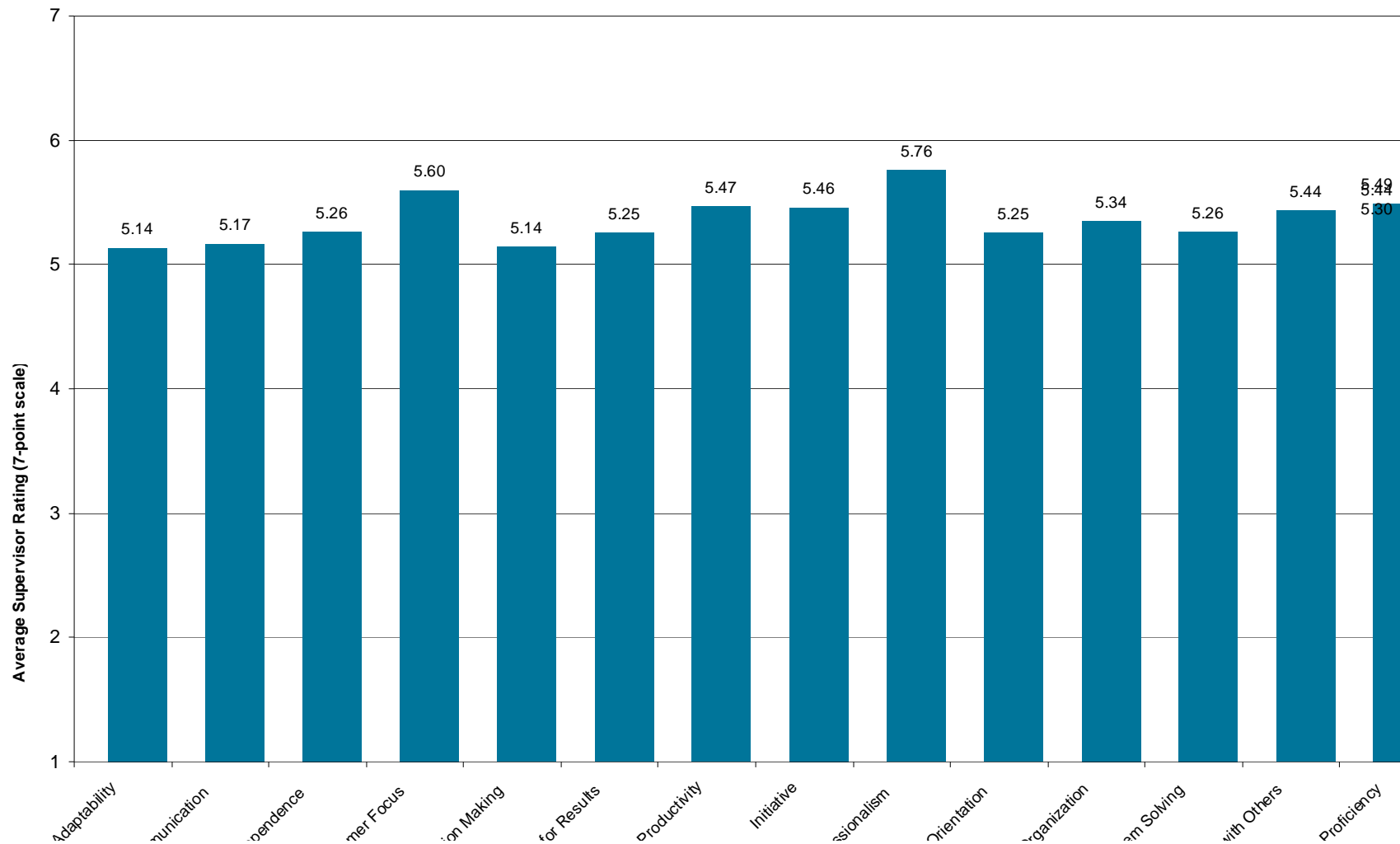


- Lowest proficiency = New & Emerging Technologies; COE Engineering
- Scores by level (not shown) were consistent with overall results

Problem: Non-Technical Assessment Results



Resolution: Non-Technical Knowledge Manager Ratings



Cascading Results to Organization

Met with Directors, Regional Managers, and Managers for each region

- Overview of project and results
- Reviewing and using roll-up reports
- Strategies for meeting with engineers
- Notes on interpreting results
- Provided point of contact from HR and PreVisor to provide ongoing support
 - Conducted follow-up meetings/training as needed

Reviewing and Using Roll-Up Reports

Reports are a tool to identify organizational, regional, and manager/group level needs

Organizational and regional data:

- Strategic planning
- Organizational training and development
- Budget projections
- Comparisons across/within regions

Manager/Group data:

- Tactical planning
- Team training and development
- Assigning and managing teams
- Allocating work load

Reviewing & Using Individual Reports

Organizational and group reports provide baseline and context

Individual gap assessment reports

- Identify areas of strength and developmental opportunities
- Identify disconnects between assessment results and performance ratings
- Anticipate employee's questions and areas of concern

Individual review/feedback sessions

- Establish organizational and group level results as baseline
- Review individual report
- Use results to help prepare 2009 performance plan

Additional/future uses

- Gap analysis results are a tool to assist with:
 - Performance management
 - Coaching and mentoring
 - Training and development opportunities

GAP Analysis Report Example

Access Engineering Knowledge Test																		
Telephony Knowledge		Copper-Based Design		Fiber-Based Design		New & Emerging Technologies		OSP Engineering		Construction		COE Engineering		Transmission Design Engineering		TOTAL KNOWLEDGE TEST SCORE		
% correct	All Eng %ile	% correct	All Eng %ile	% correct	All Eng %ile	% correct	All Eng %ile	% correct	All Eng %ile	% correct	All Eng %ile	% correct	All Eng %ile	% correct	All Eng %ile	% correct	All Eng %ile	
80%	66	67%	64	67%	66	40%	31	80%	68	80%	91	50%	55	90%	92	70%	63	
80%	66	80%	94	87%	99	40%	31	93%	96	90%	98	20%	6	80%	79	74%	80	
100%	100	93%	100	47%	21	70%	86	87%	88	100%	100	60%	71	90%	92	81%	93	
93%	94	60%	45	60%	50	60%	74	93%	96	70%	66	70%	86	80%	79	74%	80	
80%	66	73%	83	60%	50	60%	74	60%	16	70%	66	50%	55	50%	27	64%	43	
67%	30	60%	45	40%	13	20%	6	73%	47	60%	39	20%	8	40%	15	50%	8	
80%	66	73%	83	60%	50	40%	31	93%	96	50%	14	40%	40	80%	79	67%	53	
73%	48	60%	45	40%	13	40%	31	80%	68	90%	98	60%	71	90%	92	66%	49	
93%	94	67%	64	47%	21	40%	31	73%	47	70%	66	30%	18	70%	63	63%	39	
80%	66	80%	94	53%	33	40%	31	80%	68	60%	39	50%	55	60%	46	65%	47	
87%	82	60%	45	40%	13	30%	14	75%	4	60%	39	40%	40	40%	15	56%	17	
83%	67	70%	68	55%	31	44%	28	81%	68	73%	62	45%	38	70%	56	66%	51	

Yellow shaded row indicates group rollup scores. % correct is group average. All Eng %ile is the percentile associated with the group's average score, based on comparison to the All Engineer norm group.

% correct = % of questions answered correctly by section or overall.
All Eng %ile = percentile rank based on comparison to All Engineers.

Gray bar indicates no data available.

Total test score based on all 100 test questions.

GAP Analysis Report Example

File Edit View Insert Format Tools Data Window Help																	
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		2															
1 2 3			AI	AJ	AK	AL	AM	AP	AQ	AR	AS	AT	AU	AV	AW	AX	
		1	Non-Technical Assessment					Technical Job Knowledge Ratings									
		2	Business Acumen	Building Relationships	Drive for Results	Self Motivation	TOTAL NON-TECH SCORE		Copper-based Design	Fiber-based Design	New or Emerging Technologies	OSP Engineering	Construction	COE Engineering	Transmission Design	AVERAGE TECHNICAL RATING	
		3	National %ile	National %ile	National %ile	National %ile	National %ile	Telephony Knowledge									
•		4	7	46	19	13	23	5	6	5	5	6	6	4	5	5.25	
•		5	24	23	5	11	19	7	6	5	5	6	6	Cannot Rate	5	5.71	
•		6	7	2	21	54	20	6	6	5	5	6	6	4	6	5.50	
•		7	7	13	3	31	17	4	4	4	5	5	5	5	5	4.63	
•		8	1	0	1	11	4	5	5	4	4	5	5	4	4	4.50	
•		9						4	4	4	5	5	5	4	5	4.50	
•		10	98	97	88	99	99	3	3	2	3	3	2	2	2	2.50	
•		11	15	68	11	50	40	5	5	5	5	6	6	3	5	5.00	
•		12	2	3	3	0	1	6	6	6	6	6	6	6	6	6.00	
•		13	30	64	59	63	54	5	5	4	4	5	5	3	5	4.50	
•		14	39	64	15	84	56	5	5	4	5	5	5	3	5	4.63	
•		15	92	88	43	94	86	5	5	4	4	5	4	3	4	4.25	
-		16	47	65	31	66	55	5.00	5.00	4.33	4.67	5.25	5.08	3.73	4.75	4.75	
-		17															
		18															
		19															
		20															

Individual percentile scores based on

Total score = Percentile score based on equally-

Manager ratings of individual employee

Yellow shaded row

Average (mean) rating across all

Individual percentile scores based on comparison to PreVisor national norm group.

Total score = Percentile score based on equally-weighted combination of the four component scores.

Manager ratings of individual employee on 7-point job knowledge scale.

Yellow shaded row indicates group average (mean) rating.

Average (mean) rating across all eight job content areas.

GAP Analysis Report Example

Non-Technical Job Performance Ratings																
	Adaptability	Communication	Confidence and Independence	Customer Focus	Decision Making	Drive for Results	Effort and Productivity	Initiative	Integrity and Professionalism	Learning Orientation	Organization	Problem Solving	Working with Others	Task Proficiency	Work Quality	AVERAGE NON-TECHNICAL RATING
4	6	6	5	6	5	7	6	6	7	6	6	5	6	6	7	6.00
5	6	6	6	6	6	6	6	6	6	6	5	6	6	6	7	6.00
6	5	6	6	6	5	5	6	5	5	6	6	5	6	5	4	5.40
7	5	5	4	4	4	5	4	5	7	5	4	4	5	5	6	4.80
8	6	5	5	6	5	6	6	5	6	5	5	4	5	5	7	5.40
9	5	5	4	4	4	4	4	5	4	5	4	4	5	5	5	4.47
10	6	4	5	4	5	6	6	6	5	5	4	4	4	4	7	5.00
11	6	5	5	5	5	5	5	5	5	5	5	5	5	5	6	5.13
12	6	5	6	5	5	6	6	5	6	6	6	5	6	6	5	5.60
13	4	5	4	4	4	4	6	4	5	5	5	4	5	5	4	4.53
14	6	5	6	6	5	5	6	5	5	5	5	5	5	6	4	5.20
15	6	5	4	4	5	6	5	5	5	5	7	5	5	5	4	5.07
16	5.58	5.17	4.92	5.00	4.83	5.42	5.50	5.17	5.50	5.33	5.17	4.67	5.25	5.25	5.50	5.22

Manager ratings of individual employee on 7-point job performance scale.

Yellow shaded row indicates group average (mean) rating.

Average (mean) rating across all 15 performance dimensions.

GAP Analysis Report Example

“1” and “2” buttons allow summary (collapsed) and detailed (expanded) views, respectively, for report rows and columns. “+” and “-” buttons allow expanded and collapsed views of specific report sections.

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1		+		+		+		+		
2										
1	2	3	AG	AH	AM	AX	BO	BP	ER	ES
1			Engineering		Technical Assessment		Job Knowledge		Overall Ratings	
2			TOTAL KNOWLEDGE TEST SCORE		TOTAL NON-TECH SCORE		AVERAGE TECHNICAL RATING		Overall Effectiveness Rating	
3			% correct	All Eng %ile	National %ile					
4			70%	63	23	5.25		6		5.63
5			74%	80	19	5.71		6		5.86
6			81%	93	20	5.50		6		5.45
7			74%	80	17	4.63		5		4.71
8			64%	43	4	4.50		5		4.95
9						4.50		5		4.48
10			50%	8	99	2.50		4		3.75
11			67%	53	40	5.00		5		5.07
12			66%	49	1	6.00		6		5.80
13			63%	39	54	4.50		5		4.52
14			65%	47	56	4.63		5		4.91
15			56%	17	86	4.25		5		4.66
16			66%	51	55	4.75		5.25		4.98
17										

Individual Assessment Report Overview

Applicant Information					
Name:shtest032009 shtest032009					
Application Date:Fri Mar 20 16:53:00 EDT 2009					
Applicant ID:18206					
Session ID:18724476					
Detailed Results					
	Score	Percentile	Low	Medium	High
Technical Overall Score	84	100			
Telephony Knowledge	12.0	59			
Copper Based Design	14.0	98			
Fiber Based Design	12.0	87			
New/Emerging Technologies	8.0	91			
OSP Engineering	13.0	79			
Construction Engineering	8.0	80			
Transmission Engineering	9.0	88			
COE Engineering	8.0	92			
Non-Technical Overall Score		30			
Self Motivation		7			
Drives for Results		37			
Business Acumen		43			
Building Relationships		57			

"Score" for Technical knowledge test is the total number correct overall and by section.

Technical test percentile scores based on comparison to All Engineer norm group. Non-technical percentiles based on comparison to PreVisor national norms. Percentile range = 0 to 100. Score zones: Low = 0 to 30, Medium = 31 to 70, High = 71 to 100.

Individual Assessment: Non-Technical Content

This section provides in-depth interpretation and feedback based on individual scores for each Non-Technical assessment component, including component description, score level interpretation, and development tips based on score level (high, medium, or low).

Customer Focus

This is a measure of the tendency to show persistent enthusiasm when interacting with customers. This trait is characterized by: apologizing sincerely for inconveniences; being patient; tolerating rude customers calmly; and searching for information or products for customers.

You will generally meet customer needs and solve customer problems. However, you may also sometimes interrupt or fail to pay attention when customers speak and may socialize with a co-worker while helping customers. You may also forget to give customers special information, or fail to communicate clearly with customers.

- Be courteous and express appreciation for customers' business.
- Actively listen to customers and identify customers' problems.
- Make sure that you understand what customers need by summarizing what they said.
- Clearly communicate factual information and suggestions to customers.
- Suggest alternatives when what the customer wants cannot be found.
- Call your manager or another store to find information or products to meet a customer's needs.
- If you can not help a customer, try to direct them to the right person or place for help.
- Serve customers with an honest and open approach that stresses concern for meeting their needs.
- Follow up on client messages and questions as quickly as possible.

Summary

Understand business needs
Determine employee skills and competencies
Identify gaps
Close gaps

