Behavioral Competencies

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Networking

A process of developing mutually beneficial contacts through the exchange of information.

Networks may consist of internal or external contacts:

- Internal contacts can be people with whom you interact regularly in the course of work, or they can be internal stakeholders.
- External contacts may be people outside the organization with whom you work regularly, or they can be colleagues at other companies or professional associations.

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Creating Professional Networks

How to Create a Professional Network
▪ Decide who you should include in your network.
▪ In all social situations, introduce yourself, and then **ask**, **listen**, and **remember**.
▪ Make yourself more visible. **Attend**, **present**, and **participate** professionally.
▪ Develop your own value. Work on becoming an expert.
▪ Do favors. Networking is bidirectional; value flows to both ends of the connection.

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Stakeholder Concept

EVERYBODY

SHRM-ATLANTA

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Benefits of Building Relationships

Effective relationships

- Improve the quality of communication.
- Increase productivity by supporting collaboration.
- Create a positive work environment.

Paths to Effective Work Relationships
Strive for diversity in the range of your relationships.
Invest time and energy in developing/sustaining relationships.
Develop an ease with “small talk” about non-work matters.
Talk about yourself without dominating the conversation.
Learn to ask about others without prying into personal matters.
Be considerate of other people’s time and obligations.

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Building Trust

- Common values
- Aligned interests
- Benevolence
- Capability or competence
- Predictability and integrity
- Communication

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Types of Conflict

- May arise from disagreements over how to perform a task, personal differences, or a need for control.
- Interpersonal conflicts may sometimes be disguised as task conflicts.
- Conflicts can occur inside a team or between a team and an outside group.

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Conflict Resolution Tactics

Mode	Description
Accommodate (or smooth)	Emphasize agreement and downplay disagreement.
Assert (or force)	Impose a solution.
Avoid	Withdraw and allow conflict to be resolved (or not) by others.
Collaborate (or confront)	Search for a “third way” that both sides can own.
Compromise	Ask both sides to concede some issues to reach agreement.

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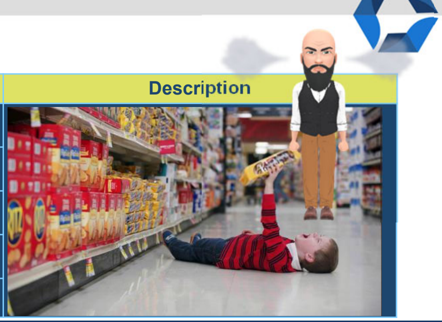
Conflict Resolution Tactics

Mode	Description
Accommodate (or smooth)	
Assert (or force)	
Avoid	
Collaborate (or confront)	
Compromise	



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Reuters

NASA report recalls dysfunction, heated emotions during Boeing's botched Starliner flight

Yesterday

On Earth, according to the report, Boeing and NASA officials sparred in tense meetings on how best to bring the crew home, with "unprofessional behavior" and yelling matches that countered the agency's norms of healthy technical debate and crisis management.

The report, completed in November and citing interviews with unnamed NASA officials, said "numerous interviewees mentioned defensive, unhealthy, contentious meetings during technical disagreements early in the mission."

"There was yelling in meetings. It was emotionally charged and unproductive," one official reported. "It was probably the ugliest environment that I've been in," another said.

"There wasn't a clear path for conflict resolution between the teams. That led to a lot of frayed relationships and emotions," said another.

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Approaches to Negotiation

- **Soft:** The relationship is worth more than the issue at hand.
- **Hard:** Winning is more important than the relationship.
- **Principled (interest-based or integrative bargaining):** Focus is on issues, finding common interests, and achieving mutual gain.

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Negotiating Process

Prepare.
- Know your needs and other side's likely demands (for example, BATNA analysis).

→ **Build relationship.**
- Create trust; encourage comfort and openness.

→ **Exchange information.**
- Understand positions and perspectives.

→ **Persuade.**
- Find mutual benefits.

→ **Concede and agree.**
- Find best alternative.
- Confirm and document if appropriate.

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Behavioral Competencies

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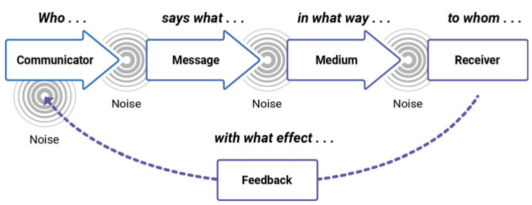
Communication Model



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Effective Listening Techniques

- Invite the other person into the conversation.
- Focus on what the other person is saying.
- Process unspoken or nonverbal messages.
- Be aware of the nonverbal message you are sending.

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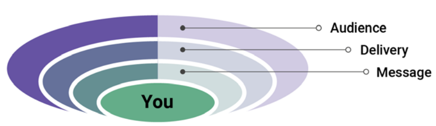
Impactful Communication

Impactful communication integrates:

- An understanding of the audience's needs and perspectives.
- A clear message.
- Effective delivery.

At the center is the communicator and the perception communicators create of themselves.



Source: "Influence Business Decisions Through Effective Communication," SHRM

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Understanding the Audience

Key audience analysis questions

- Who should receive information?
- What do they know, and what do they need to know?
- How will the audience react?
- How can I best persuade them?

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Constructing the Message

Key "framing" questions

- What is my objective? What do I want the audience to feel? To do?
- What benefits can be created as a result of this communication?
- What are the key points, and what order makes logical sense?
- What evidence will convince the audience?

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Fortune
After receiving backlash, the CEO of Standard Chartered apologizes for hurt over saying 'lower value human capital' will be automated by AI
Bill Winters, the CEO of Standard Chartered, says about 15% of "back office" corporate function roles will be reduced in the next four...
May 26, 2026

Bloomberg.com
Watch StanChart CEO Winters Says AI to Replace "Lower-Value Human Capital"
It's not cost cutting; it's replacing in some cases lower-value human capital." Standard Chartered CEO Bill Winters delivered a blunt...
May 19, 2026

Fox Business
Standard Chartered CEO walks back comments about replacing 'lower-value human capital' with AI
Standard Chartered CEO Bill Winters walked back remarks about cutting thousands of jobs by replacing "lower-value human capital" with AI in...
May 20, 2026

Banking Dive
StanChart CEO apologizes over 'lower-value human capital' comment
CEOs from JPMorgan Chase, HSBC and Barclays added their takes to polarizing remarks by StanChart chief Bill Winters, in explaining his...
May 21, 2026

Football
Bournemouth release statement on 'disgusting' sacking after club chief ordered investigation
Jack Johnson, Sports Writer
Published: 16:09, 15 Aug 2026 | Updated: 16:09, 15 Aug 2026

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Planning Communications

Key planning questions

- How will the communication occur?
- When will the communication occur?
- Where will the communication occur?
- Who will communicate?
- What support will be required?
- What media will be used?
- How will audience feedback be managed?
- What organizational rules will shape the communication?
- What is the appropriate tone of the communication?

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Being an Impactful Communicator

Key questions to create impact:

- **How can I create credibility?**
  - Reputation for expertise
  - Reliability
  - Integrity
- **How do I create presence?**
  - Posture and movement
  - Gesture
  - Eye contact
  - Vocal qualities

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Evaluating Communication

- Was the audience analysis complete and on target?
- Did the audience react as anticipated?
- What points seemed most or least interesting?
- Where did they get confused?
- Where were they most engaged?
- What engagement tactics worked and which didn't?
- How could feedback mechanisms be improved?

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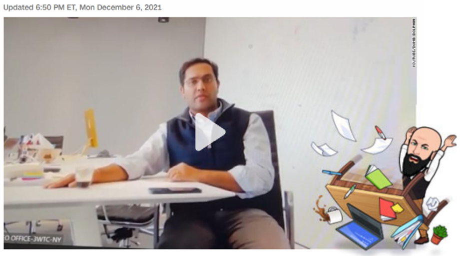
Understanding the Audience

Better.com CEO fires 900 employees over Zoom

By Ramishah Maruf, CNN Business

Updated 6:50 PM ET, Mon December 6, 2021



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Feedback

Giving Feedback	Providing Corrective Feedback	Seeking and Receiving Feedback
▪ Must be timely and specific. ▪ Withholding feedback results in unmanaged negative risks.	▪ Bookending negative feedback with positive remarks does not improve acceptance. ▪ Incorporate the opportunity for employees to express their own goals.	▪ Decide what kind of feedback is needed. Then find the person most equipped to give it. ▪ Listen actively and don't be defensive. ▪ Offer thanks.

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Leading More Effective Staff Meetings

- Have a purpose and ensure that everyone understands this purpose.
- Set a clear agenda.
- Limit meeting time to what is needed to address agenda items.
- Start on time. Plan social exchanges ahead of the start time.
- For regular meetings, consider ways to "change things up."
- Recognize the importance of storytelling.
- Take time to resolve conflicts, but postpone difficult conflicts until later.
- Review decisions and next steps at meeting's end.
- Send an e-mail summary if needed.
- Periodically, have a "meeting on meetings."

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Translating Technical Jargon

- Jargon and shorthand may be used throughout the organization, but not all employees will have familiarity with it.
- Communication must be planned so that it is appropriately translated for relevant audiences.

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Anonymous Communications

- May take many forms:
  - Anonymous complaints
  - Online and employee reviews
  - Employee and customer surveys

- Ability to provide anonymous feedback important to breaking down silos
- Not always negative
- May be worth examining why there is a need for anonymous feedback

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Behavioral Competencies

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Value

- **Value** generally refers to organizations' success in meeting their strategic goals.
- Value can be influenced by organizations' mission or culture.
- HR must understand the varying perceptions of value because they will drive strategic goals throughout the organization and affect the ways in which HR can support the organization.

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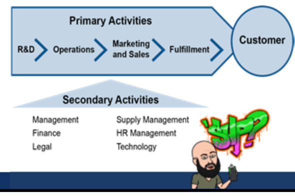
Value Chain

Process by which organization creates its product or service is the **value chain.**

Participants share expertise, not just production or supply.

HR contributes quality and availability of "pivotal talent pools."



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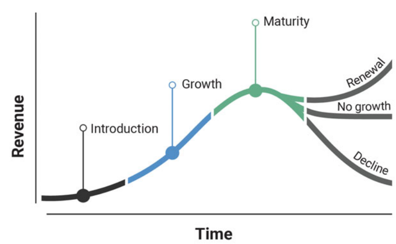
Life Cycle

Know where you are in the life cycle.

Needs change as industries, businesses, and products pass through predictable cycles.



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Improving Environmental Awareness

- Information gathering must be used regularly and expanded as new sources and information channels develop.
- HR professionals must focus on expanding and deepening channels of information.

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Useful Business Terminology

- Supply and demand
- Strategic plan
- Competitive advantage
- Financial projections
- Quality
- KPIs
- Fixed and variable costs
- Revenue
- Net income
- Profit and loss

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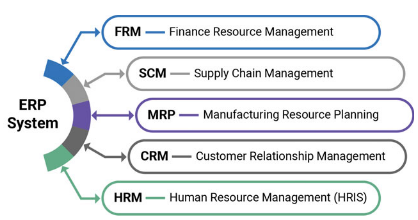
Business Intelligence



The ability to use information to gain a deeper understanding of an organization and its parts.

Includes:

- Data gathering.
- Data warehousing.
- Query and reporting capabilities.

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Advanced Business Analytics

Backward

- Analyzes historical data
- Often referred to as trend analysis

Current

- Measures performance in key areas
- Could present data in different ways

Forward

- Uses historical and current data to get a better sense of the future
- Applies formulas and algorithms to predict outcomes

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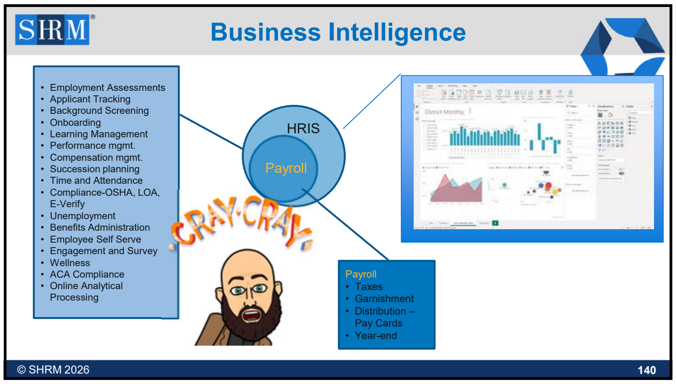

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Budgeting

Budget type	Characteristics
Incremental	Traditional approach; prior budget is basis for next budget.
Zero-based	Each unit or goal is ranked, and available funds are allocated, with budgets starting at zero.
Activity-based	Based on how much it costs to perform activities; funding based on strategic significance of activities.
Formula-based	Different units receive varying percentages of budget.

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Budgeting Considerations

The budgeting process requires understanding the organization's practices, strategy, and environment.

- How does the organization allocate costs?
- Which costs are variable and which are fixed for the budget year?
- When do costs occur?
- What organizational and functional strategic plans will affect HR?
- What risk factors affect the budget?

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Business Case

Presentation to management that establishes that a specific problem exists and argues that the proposed solution is the best way to solve the problem in terms of time, cost efficiency, and probability of success.

- Executive Summary — Condition or change impelling action
- Recommended Solution — Objectives for an ideal solution
- Risks and Opportunities — Outcomes that could decrease success or present new opportunities; risk of doing nothing
- Estimated Costs and Time Frame — All foreseeable elements plus a reserve

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Balance Sheet Concepts

Assets = Liabilities + Equity or **Equity = Assets – Liabilities**

Assets
- What an organization owns
- Can be tangible or intangible
- Can include investments
- Can include what is owed to the organization (**accounts receivable)**

Liabilities
- What an organization owes
- Can include items such as rent, loans, tax debts, etc.
- Can include what vendors/suppliers are owed (**accounts payable)**

Equity
- Represents what a company owes to either its owner(s) or its shareholders
- Represents what is left of a company's assets after its liabilities have been discharged

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Sample Balance Sheet

Point in time →

Goes to Cash Flow→

ABC Manufacturing Company

Balance Sheets	**In thousands (000)**	
December 31, Year	**Year 1**	**Year 2**
Cash and cash equivalents	$ 133,900	$ 128,600
Raw materials inventory	10,800	13,000
Work-in-process inventory	5,400	16,600
Finished goods inventory	25,000	23,700
Total inventory	$ 41,200	$ 53,300
Accounts and notes receivable	46,200	50,300
Doubtful accounts	<500>	<400>
Total current assets	*$ 220,800*	*$ 231,800*
Gross plant, property, and equipment	60,000	70,000
Accumulated depreciation	<6,400>	<10,400>
Net plant, property, and equipment	$ 53,600	$ 59,600
Total assets	**$ 274,400**	**$ 291,400**
Accounts payable	59,700	65,200
Short-term notes payable	12,000	16,000
Total current liabilities	$ 71,700	$ 81,200
Long-term debt	80,000	80,000
Stockholders' equity (includes retained earnings)	122,700	130,200
Total long-term debt and stockholders' equity	$ 202,700	$ 210,200
Total liabilities and stockholders' equity	**$ 274,400**	**$ 291,400**

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Income Statement Concepts

Basic form is:

Net income = Revenues – Expenses

- Provides the “bottom line” look at how the organization is performing.
- Also known as the **profit and loss statement** (P&L).

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Sample Income Statement

Gross profit ÷ Net sales

What it costs to sell $1 makes $0.39 on every $1

Net income ÷ Net sales

What it costs to sell $1 after G&A, Depreciation, Tax makes $0.07 on every $1

ABC Manufacturing Company

Income Statements	**In thousands (000)**	
	FY 1	**FY 2**
Sales, gross	**285,500**	**312,000**
Sales discounts, returns, and allowances	<14,300>	<15,600>
Revenue (net sales)	**271,200**	**296,400**
Cost of goods sold (COGS)	<167,400>	<182,200>
Gross profit	**103,800**	**114,200**
Selling expenses	<29,800>	<32,600>
Salaries	<19,000>	<20,700>
Lease expense	<10,800>	<11,900>
Total operating expenses	**<59,600>**	**<65,200>**
Depreciation	<3,400>	<4,000>
Earnings before interest and taxes (EBIT)	**40,800**	**45,000**
Interest expense	<4,300>	<4,400>
Pretax income	**36,500**	**40,600**
Taxes	<12,000>	<21,100>
Net income	**24,500**	**19,500**

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Cash Flow Statement Concepts

- Shows incoming and outgoing cash in the areas of operations, investing, financing.
- The balance, trends, and relationships in areas of the statement are examined for signs of sound or weak management.
  - Negative cash flow in operations could indicate that sales are too low and/or the cost of production is too high.
  - Negative cash flow in financing could show that organization is relying too heavily on borrowing.

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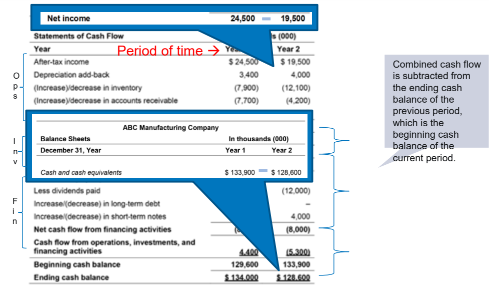
Sample Cash Flow Statement



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Sample Cash Flow Statement

ABC Manufacturing Company

Statements of Cash Flow	In thousands (000)	
Year	**Year 1**	**Year 2**
After-tax income	$ 25,500	$ 19,500
Depreciation add-back	3,400	4,000
(Increase)/decrease in inventory	(7,900)	(12,100)
(Increase)/decrease in accounts receivable	(7,700)	(4,100)
Increase/(decrease) in accounts payable	10,100	5,500
Net cash flow from operating activities	**23,400**	**12,800**
Capital expenditures	(10,000)	(10,000)
Net cash flow from investments	**(10,000)**	**(10,000)**
Cash flow from operations and investment	13,400	2,800
Additional equity capital	–	–
Less dividends paid	(10,000)	(12,000)
Increase/(decrease) in long-term debt	–	–
Increase/(decrease) in short-term notes	2,000	4,000
Net cash flow from financing activities	**(8,000)**	**(8,000)**
Cash flow from operations, investments, and financing activities	**5,400**	**(5,200)**
Beginning cash balance	**128,500**	**133,900**
Ending cash balance	**$ 133,900**	**$ 128,700**

Combined cash flow is subtracted from the ending cash balance of the previous period, which is the beginning cash balance of the current period.

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Financial Ratios

Financial ratios can be used to analyze an organization's performance.

Excessive use of financial measures can overemphasize the importance of short-term results.

Ratios are often industry-specific, so HR professionals should understand industry metrics and how organization compares with similar enterprises.

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Sample Financial Ratios

- Current ratio
- Debt to asset ratio
- Debt to equity ratio
- Accounts receivable turnover
- Gross margin

- Earnings before interest, taxes, depreciation, amortization (EBITDA) margin
- Profit margin
- Return on investment (ROI)
- Earnings per share (EPS)
- Price to earnings (P/E)

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Sample Nonfinancial Metrics

- Market share
- Achievements in social responsibility
- Activity ratios
- Employee retention and job satisfaction
- Employee engagement

- **Market position, including:**
  - Reputation
  - Level of brand awareness
  - Recognizable employer brand
  - Reputation for quality, customer relations, innovation

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Sales Pipeline

Identify leads

Gather information

Create proposal

Negotiate

Close sale

Monitor

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Business Documents

Business plan	Strategic plan	Organizational chart	SOPs
Grants	Contracts	Business continuity plans	Employee handbook

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Behavioral Competencies

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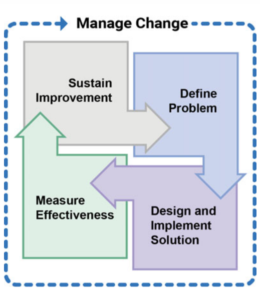
Consulting Model



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Tools for Group Decision Making

SWOT analysis
SOAR analysis
Multi-criteria decision analysis (MCDA)
Cost-benefit analysis (CBA)
Force-field analysis

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MCDA (Rubric)

Multiple Criteria Decision Analysis

	Cost	Implementation	Functionality	Customer Support	**Total Score**
Software A	5	4	2	1	**12**
Software B	3	2	4	2	**11**
Software C	4	5	3	3	**15**
Software D	5	2	1	5	**13**

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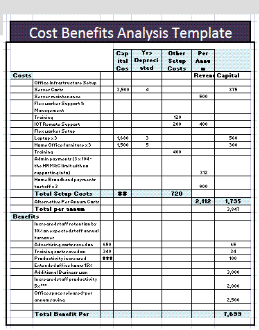
CBA



ROI

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HR's Role in Managing Change

- Identify programs, practices, and policies that might benefit from change.
- Identify impact of change on people and departments.
- Assess impact of changes across organization.
- Consult with leadership about ways to support change initiative.
- Communicate quickly and often.
- Measure effectiveness of change initiative.
- Track issues and follow up to deliver superior service to HR's internal customers.

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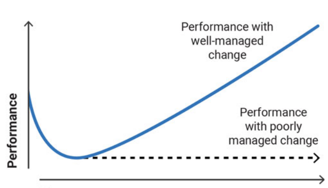
J Curve



The J curve shows the challenge of introducing change into an organization.

Can we return to or exceed previous levels of productivity?

Will we be mired in resistance?

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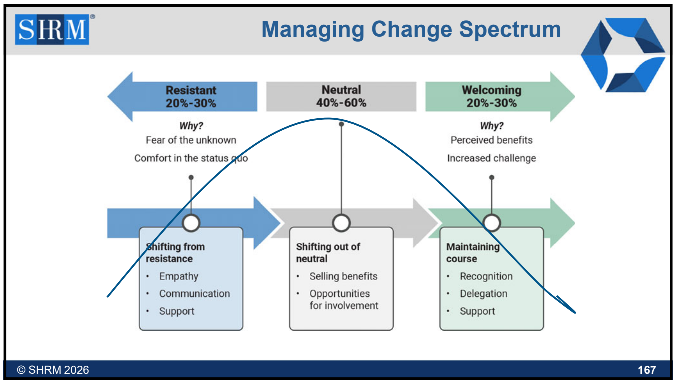

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Conditions That Make Change Possible

- Shared purpose
- Reinforcement systems
- Skills required for change
- Consistent role models

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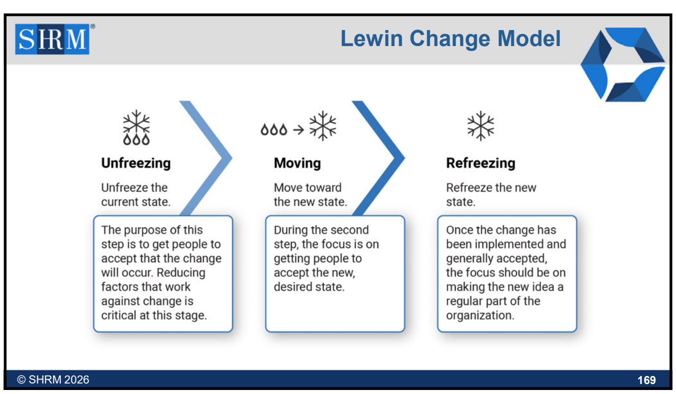

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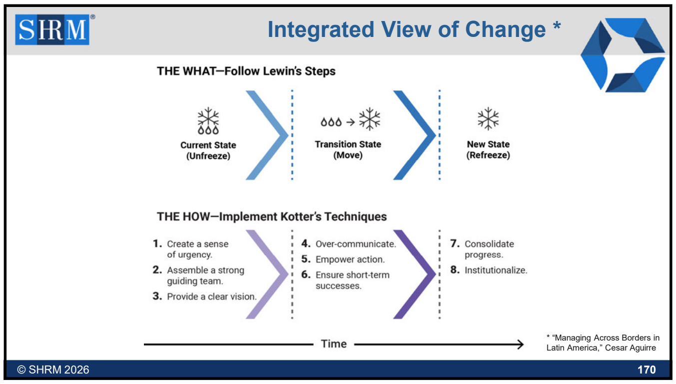
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Integrated View of Change *
THE WHAT—Follow Lewin's Steps
Current State (Unfreeze)
Transition State (Move)
New State (Refreeze)
THE HOW—Implement Kotter's Techniques
1. Create a sense of urgency.
2. Assemble a strong guiding team.
3. Provide a clear vision.
4. Over-communicate.
5. Empower action.
6. Ensure short-term successes.
7. Consolidate progress.
8. Institutionalize.
Time
* "Managing Across Borders in Latin America," Cesar Aguirre
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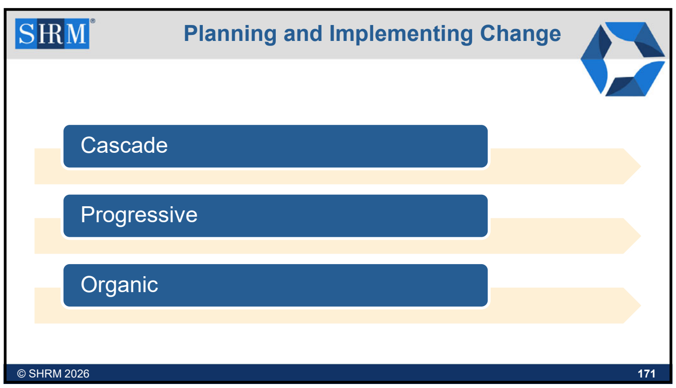
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Planning and Implementing Change
Cascade
Progressive
Organic
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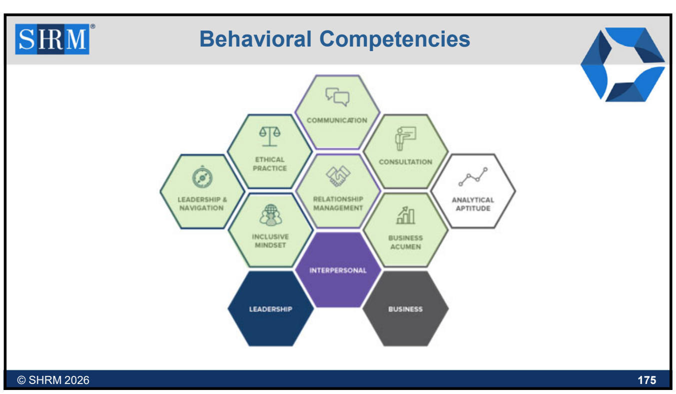
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Behavioral Competencies
COMMUNICATION
ETHICAL PRACTICE
CONSULTATION
LEADERSHIP & NAVIGATION
RELATIONSHIP MANAGEMENT
ANALYTICAL APTITUDE
INCLUSIVE MINDSET
BUSINESS ACUMEN
INTERPERSONAL
LEADERSHIP
BUSINESS
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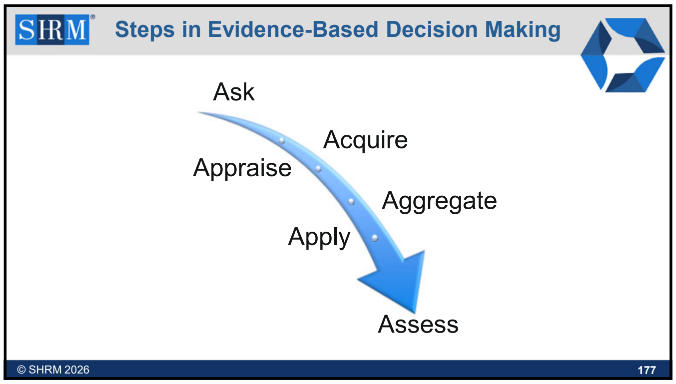
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Steps in Evidence-Based Decision Making
Ask
Acquire
Appraise
Aggregate
Apply
Assess
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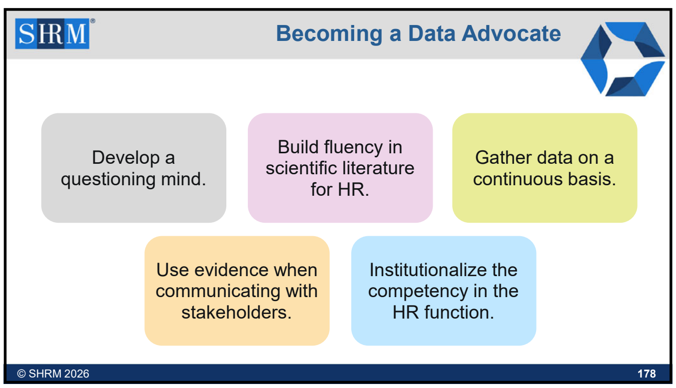
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Becoming a Data Advocate
Develop a questioning mind.
Build fluency in scientific literature for HR.
Gather data on a continuous basis.
Use evidence when communicating with stakeholders.
Institutionalize the competency in the HR function.
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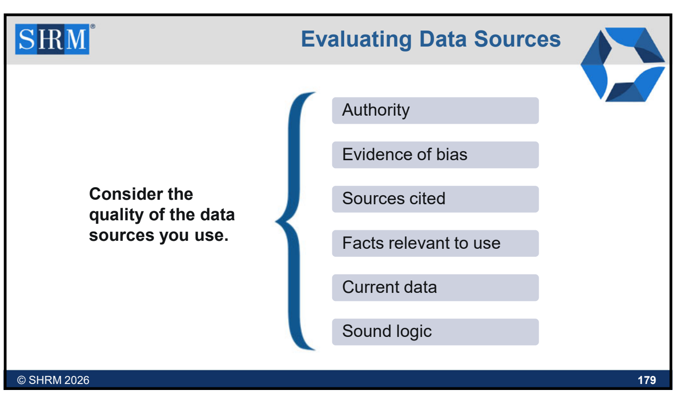
SHRM
Evaluating Data Sources
Consider the quality of the data sources you use.
Authority
Evidence of bias
Sources cited
Facts relevant to use
Current data
Sound logic
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Common HR Data Sources

- Interviews
- Focus groups
- Surveys/questionnaires
- Observation
- Existing data
- Artifacts
- Marketing data
- Other sources of data

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Interviews

Individual interviews:

- Offer the opportunity for follow-up questions that may not be possible in a survey or focus group.
- Are rarely the sole form of gathering data.
- Are more effective if areas of discussion and specific questions are planned (for example, with an interview guide).

Interviewer should establish a positive and trusting relationship with the interviewees.

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Interview Advantages and Challenges

Advantages	Challenges
▪ Safer, confidential environment may generate significant information. ▪ Comments can suggest direction for further group research (focus groups and surveys).	▪ Can be time-intensive. ▪ Requires strong relationship-building skills. ▪ Requires vigilance to avoid bias from influencing questions and interpretation of answers.

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Focus Groups

Small group (normally six to twelve) invited to participate in a structured discussion (one to three hours) with a facilitator

Advantages	Challenges
▪ Provides a flexible format that is relatively comfortable for discussion ▪ Supports group brainstorming, decision making, prioritization, group consensus ▪ Enables HR to learn about employee needs, attitudes, and opinions ▪ Gives employees direct input	▪ Tends to foster "group think" ▪ May be difficult to control if participants go off on tangents ▪ Generally don't allow for deep discussions ▪ Can provide skewed or biased results if participants are not representative

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Conducting More Effective Focus Groups

Important considerations:

- Planning
- Context
- Importance of facilitator and recorder
- Tools: mind mapping/affinity diagramming, nominal group technique, Delphi technique

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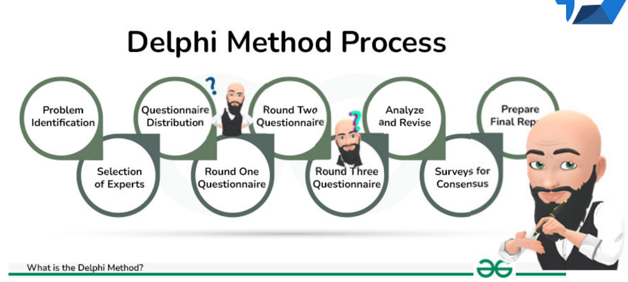
Conducting More Effective Focus Groups



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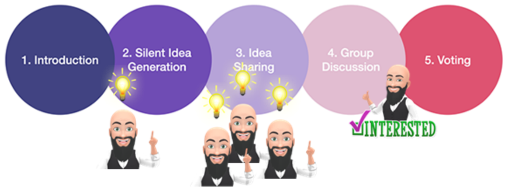
Conducting More Effective Focus Groups

5 Steps to Nominal Group Technique



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Surveys and Questionnaires

- Relatively inexpensive ways to gather a large amount of data from a large and dispersed group of subjects
- Important considerations:
  - Obtaining a valid (representative) sample
  - Designing the survey with analysis in mind
  - Asking the right questions (for example, questions that reflect appropriate internal and external environmental factors and are mindful of language and cultural differences)
- GenAI can assist with analyzing open-ended responses

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Survey/Questionnaire Advantages and Challenges

Advantages	Challenges
▪ Efficient way to gather a lot of data from a large and dispersed group ▪ Easier to quantify data for analysis and reporting	▪ Can be difficult to obtain an acceptable response rate ▪ Difficult to follow up on data from anonymous sources ▪ Relies on self-reporting, which can be biased ▪ Requires time and statistical expertise to assess sample and compile and analyze data

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Observation

Observing the workplace and work processes:

- Mitigates any self-reporting filters present in interviews, surveys, and focus groups
- Allows observers to note factors that participants are unaware of, have become accustomed to, or are reluctant to share
- Can strengthen the HR professional's understanding of the work at hand and the culture of the workplace

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Observation Advantages and Challenges

Advantages	Challenges
▪ Provides firsthand and immediate data rather than self-reported data, which can be affected by memory and selectivity. ▪ Is time-efficient for subjects.	▪ Requires skill to be unseen. (When group is aware of observer, data becomes less reliable.) ▪ Requires vigilance to remove personal bias from observations. ▪ Requires experience to note significant behaviors. ▪ Observations may not be representative of entire body of data.

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Existing Data

Many sources of existing data:

- Official documents about the business and culture
- Performance data from financial records, organizational databases, and HRIS
- Correspondence and reports
- Industry data and benchmarks

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Existing Data Advantages and Challenges

Advantages	Challenges
▪ Eliminates the effects of observation and involvement and possible biases ▪ Rich, multi-perspective source of data	▪ Can be time-intensive ▪ Requires experience to extract key data ▪ May require ingenuity to find data

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Artifacts

- Objects created by members of a culture that convey a sense of that culture's values and priorities, beliefs, habits and rituals, or perspectives.
- May include physical workspaces, virtual environments.

Advantages	Disadvantages
▪ Provides additional insight into cultural issues ▪ Can be observed without the help of those being observed	▪ Requires researcher to understand the principles of culture ▪ Can create misunderstandings if the researcher is not familiar with the culture

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Marketing Data

- May aid in workforce planning or establishing a business case
- Can be gathered from both internal and external sources

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Other Sources

- Payroll data
- Compensation and benefits data
- Employee KPI performance

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Reliability and Validity

Reliability

Ability of an instrument to provide consistent results

Example:
A checklist used to rate suppliers' proposals produces the same results when used by multiple scorers.

Validity

Ability of an instrument to measure what it is intended to measure

Example:
A checklist used to rate suppliers' proposals results in selection of suppliers who meet expectations.

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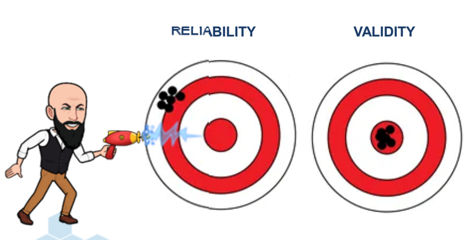
RELIABILITY AND VALIDITY



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Sampling

- Samples must represent the population being measured.
- Samples must be sufficiently large to include possible variations.

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Errors and Bias in Statistical Analysis

Biases may include:

- Sampling.
- Selection.
- Response.
- Performance.
- Measurement.

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Data Cleansing

- Consists of identifying and correcting incomplete sets, anomalies, errors, and gaps in data.
- Incorrect or inconsistent data can lead to incorrect conclusions, poor decision making, and misdirected efforts and resources.

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Median and Mode

Median is the middle value in a range. (Where there are an even number of data points, the median is determined by averaging the two middle numbers.)

Mode is the most frequently occurring value.

$55,000
$55,000
$60,000
$60,000
$65,000
$65,000
$70,000
$70,000
$70,000
$70,000
$70,000
$75,000

Median = $67,500

Mode = $70,000

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Mean

Unweighted mean (raw average):
Gives equal weight to all data values.

Weighted mean (weighted average):
Adjusts weight by factors related to data significance.

Note that this value may change based on rounding/significant figures for the fractions to the right.

Organization	Number of incumbents	Annual salary	Total salary
A	2	$55,000	$110,000
B	1	$60,000	$60,000
C	2	$65,000	$130,000
D	5	$70,000	$350,000
E	1	$75,000	$75,000
5	11	$325,000	$725,000

Unweighted mean = $65,000
($325,000 ÷ 5 organization salaries)

Weighted mean = $65,250

$$\left(\left[\$55{,}000 \times \frac{2}{11}\right] + \left[\$60{,}000 \times \frac{1}{11}\right] + \left[\$65{,}000 \times \frac{2}{11}\right] + \left[\$70{,}000 \times \frac{5}{11}\right] + \left[\$75{,}000 \times \frac{1}{11}\right]\right)$$

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Frequency Distributions

Used to sort numerical data to reveal patterns

- Frequency distribution
  - Lists the grouped data from lowest to highest
- Frequency table
  - Helps locate peaks within data range

MEAN SALARY	NUMBER OF INCUMBENTS
$55,000	2
$60,000	1
$65,000	2
$70,000	5
$75,000	1

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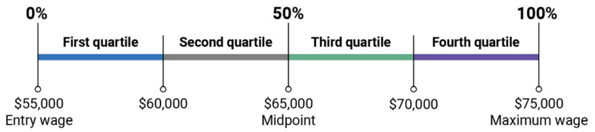
Quartiles and Percentiles

Show how groups of data relate to each other (dispersion)



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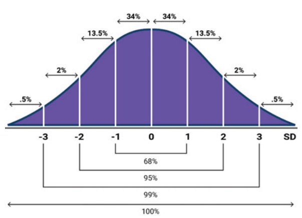
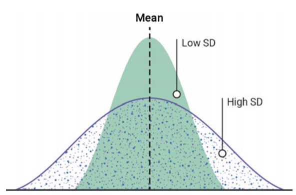
Standard Deviation





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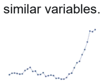
Data Analysis Methods

BUDGET	ACTUAL	VARIANCE	%
$50,000	$48,000	$2,000	4%

Variance analysis
Identify difference between planned and actual performance.

Ratio analysis
Examine relationships between data in financial statements; compare similar variables.

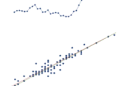
Root-cause analysis
Identify possible causes for an event/condition.



Trend analysis
Identify change in a variable over time.

Scenario or what-if analysis
Identify the impacts on X of different scenarios.

$4,316.33	5.00%	10.00%	15.00%	20.00%
60	$8,963.84	$10,092.35	$11,300.22	$12,584.59
120	$5,038.11	$6,277.16	$7,663.41	$9,179.64
180	$3,756.27	$5,104.37	$6,648.04	$8,342.41
240	$3,134.79	$4,583.85	$6,254.75	$8,069.42
300	$2,776.80	$4,316.33	$6,083.95	$7,972.65
360	$2,549.90	$4,168.46	$6,006.11	$7,937.34
420	$2,397.27	$4,083.44	$5,969.86	$7,924.32
480	$2,290.43	$4,033.44	$5,952.81	$7,919.50



Regression analysis
Identify relationships between variables and their strength.

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Using Data to Support a Business Case

- Data must be used to successfully establish how a specific problem or issue will be addressed.
- Data's greatest contribution to a business case is a fact-based story.

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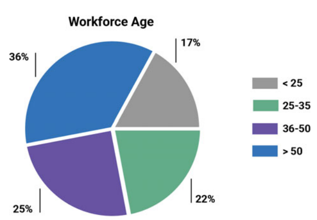
Graphic Analysis Tools

Pie chart

- Depicts as slices of a circle the constituents that comprise 100% of a data group.
- Communicates high-level information about data distribution.



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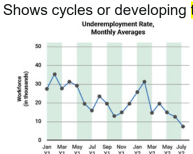
Graphic Analysis Tools

Histogram

- Sorts data into groups and shows relative sizes as columns of varying heights or lengths.
- Supports rapid comparison.

Trend Diagram

- Plots data points of a defined variable over time.
- Shows cycles or developing trends.



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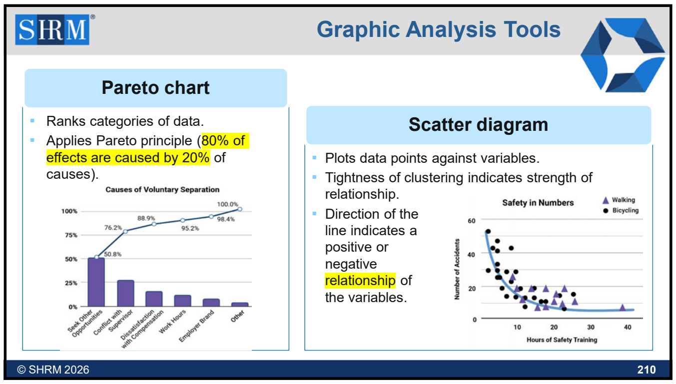
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Graphic Analysis Tools
Pareto chart
Ranks categories of data.
Applies Pareto principle (80% of effects are caused by 20% of causes).
Causes of Voluntary Separation
100%
75%
50%
25%
0%
50.8%
76.2%
88.9%
95.2%
98.4%
100.0%
Seek Other Opportunities
Conflict with Supervisor
Dissatisfaction with Compensation
Work Hours
Employer Brand
Other
Scatter diagram
Plots data points against variables.
Tightness of clustering indicates strength of relationship.
Direction of the line indicates a positive or negative relationship of the variables.
Safety in Numbers
Walking
Bicycling
Number of Accidents
60
40
20
0
10
20
30
40
Hours of Safety Training
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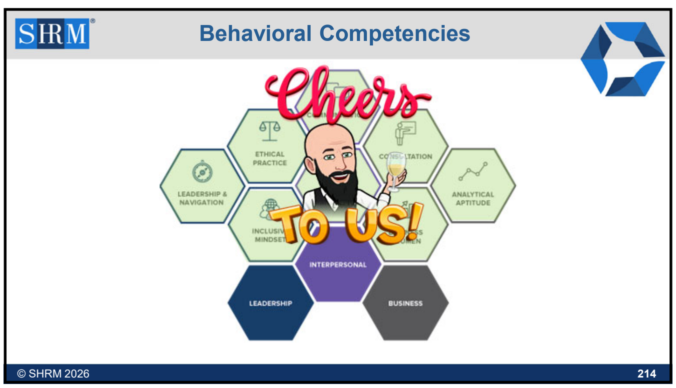
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