



# The customisation of simulation exercises and other challenges as part of a large skills audit project for development

Presented by Anne Bucket, Precision HR, South Africa

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## Agenda

- Mission objectives
- Design challenges
- Outline of project
  - Competencies
  - Assessment centre battery
- Design fixes
- Other design features
- Implementation / logistics
- Results
- Lessons learnt
- Conclusion
- Future Research



## Overall Mission Objective

1. Determine the development needs of managerial staff
2. Provide individual development feedback
3. Provide input to workplace skills plan for the organization



## Mission Challenge I

- **Task:**
  - Use a diverse and representative pool of expert assessors
- **Challenge:**
  - Lack of diverse pool
  - Lack of depth of skill and experience
  - Cultural considerations



## Mission Challenge 2

- **Task:**
  - Customize exercises
- **Challenge:**
  - Design range of simulations
  - Three levels of management
  - Prescribed competency model
  - No psychometric tests



## Mission Challenge 3

- **Task:**
    - Do this quickly...
    - Do this cheaply...
  - **Challenge:**
    - Quality and integrity
    - Richness of data
    - Large volume of candidates
    - Cognitive overload of assessors
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## By sheer luck...

- ± 18 months to design a full range of simulations
- Process included :
  - Design
  - Pre-piloting
  - Refining
  - Reviewing
  - Piloting
  - Stakeholder sign-off



## Senior Management Competencies

- 11 competencies for senior managers
- Prescribed model for SA Government
- Chose 9 competencies for the AC



## Senior Management Competencies

1. Strategic Capability and Leadership
2. Programme and Project Management
3. Financial Management
4. Change Management
5. Service Delivery Innovation
6. Problem Solving and Analysis
7. People Management and Empowerment
8. Client Orientation and Customer Focus
9. Communication



## Senior Management Competencies

- 2 competencies excluded
  - *Knowledge Management* - knowledge of internal systems and processes
  - *Honesty and Integrity* - not able to fairly observe across diverse groups and cultures in the organization



## Middle Management Competencies

- 15 competencies for middle managers
- Prescribed model for SA Government
- Chose 9 competencies for the AC



## Middle Management Competencies

1. Applied Strategic Thinking
  2. Problem Solving and Decision Making
  3. Developing Others
  4. Impact and Influence
  5. Customer Focus and Responsiveness
  6. Managing Interpersonal Conflict and Resolving Problems
  7. Networking and Building Bonds
  8. Planning and Organizing
  9. Team Leadership
-



## Middle Management Competencies

- 6 competencies excluded
  - *Applying Technology*
  - *Budgeting and Financial Management*
  - *Communication and Information Management*
  - *Continuous Improvement*
  - *Diversity Management*
  - *Project Management*



## Supervisor Competencies

- No competency model for this level
- Anecdotal information
- Large gap in competence between middle management and supervisors
- 8 competencies



## Supervisor Competencies

1. Team Management
2. Customer Service Orientation
3. Communication
4. Interpersonal Interaction
5. Change Orientation
6. Self Management
7. Planning and Organizing
8. Problem Analysis and Decision Making



## Design of Simulation Exercises

- Chief AC designer spent six months gathering information
- This meant :
  - Time in the organization
  - Discussions with stakeholders
  - Investigation of organization website
  - Reports in the media



## Design of Simulation Exercises

- Able to categorize job-relevant samples in terms of:
  - The skills required,
  - The level of management,
  - Relevance to the context,
  - Competencies being measured.
- 6 months later = range of simulations created

## Assessment Centre Battery

SENIOR MANAGER	MIDDLE MANAGER	SUPERVISOR
Strategic report	In-basket / case study	In-basket / project exercise
Presentation	Competency-based interview	Competency-based interview
Group exercise	Role-play	Role-play
Competency-based interview		
Financial management technical test		



## Design Fixes

- Reduced number of dimensions
  - Gaugler & Thornton (1989)
  - Lievens (1998)
  - Lievens & Conway (2001)
  - Sackett & Tuzinski (2001)
- Structured rating forms
  - Reilly, Henry & Smither (1990)
  - Harris, Becker & Smith (1993)
  - Hennessy, Maber & Warr (1998)
  - Robie, Obsurn, Morris, Etchegaray & Adams (2000)



## Design Fixes

- Assessor training
  - Woehr (1994)
  - Day & Sulsky (1995)
  - Schleicher & Day (1998)
  - Lievens (1998 & 2001)
  - International Task Force on Assessment Center Guidelines (2000)
  - Schleicher, Day, Maye & Riggio (2002)



## Design Fixes

- Using expert assessors
  - Lievens & Goemaere (1999)
  - Kolk, Born, Van Der Flier & Olman (2002)
  - Damitz, Manzey, Kleinmann & Severin (2003)
- Making dimensions apparent
  - Kleinmann (1993)
  - Kleinmann, Kuptsch & Köller (1996)
  - Lievens (1998)
  - Sackett & Tuzinski (2001)



## Other Design Features

- Automated reporting
- Scoring guidelines
- “On target” answers



## AC Implementation

- 6 months to assess 1,700 participants
- AC took place across various locations around South Africa
- Senior managers: N = 72
- 5 senior managers assessed per day with 5 assessors



## AC Implementation

- Middle managers: N = 705
  - 576 managers
  - 129 professionals
- Supervisors: N = 908
  - 368 managers
  - 540 professionals
- 16 to 20 participants were assessed in one day
- 1 assessor for 2 candidates



## Logistics

- Assessors scheduled for two weeks at a time
- Week 1: assessors participated in the AC
- Week 2: report writing



## Logistics

- Deadlines strictly enforced and managed
  - Reports automatically generated from the software programme
  - Feedback sessions scheduled for one hour with each participant
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## Results

**Table 1: Descriptive statistics for senior manager overall competency scores (N = 72)**

	Mean	Std. Deviation
Change Management	2.11	0.742
Client orientation and Customer Focus	2.69	0.547
Communication	2.64	0.589
Financial Management	2.00	0.671
People Management and Empowerment	2.04	0.721
Problem Solving and Analysis	2.08	0.622
Programme and Project Management	2.31	0.620
Service Delivery Innovation	1.93	0.718
Strategic Capability and Leadership	2.29	0.615

## Results

**Table 2: Descriptive statistics for middle managers (management) overall competency scores (N=576)**

	Mean	Std. Deviation
Managing Interpersonal Conflict and Resolving Problems	2.10	0.565
Customer Focus and Responsiveness	2.66	0.661
Developing Others	2.60	0.674
Impact and Influence	2.38	0.672
Networking and Building Bonds	2.57	0.691
Planning and Organising	1.87	0.599
Problem Solving and Decision Making	1.98	0.592
Applied Strategic Thinking	1.74	0.578
Team Leadership	1.72	0.597

## Results

**Table 3: Descriptive statistics for middle managers (professional) overall competency scores (N = 129)**

	Mean	Std. Deviation
Managing Interpersonal Conflict and Resolving Problems	2.67	0.574
Customer Focus and Responsiveness	1.82	0.601
Developing Others	2.11	0.787
Impact and Influence	2.24	0.642
Networking and Building Bonds	2.59	0.7
Planning and Organising	2.05	0.561
Problem Solving and Decision Making	2.19	0.648
Applied Strategic Thinking	2.11	0.64
Team Leadership	2.18	0.802

## Results

**Table 4: Descriptive statistics for supervisors (management) overall competency scores (N = 368)**

	Mean	Std. Deviation
Change Orientation	1.95	0.709
Communication	2.26	0.637
Customer Service Orientation	1.81	0.711
Interpersonal Interaction	1.94	0.622
Planning and Organising	1.58	0.662
Problem Analysis and Decision-Making	1.67	0.606
Self Management	2.78	0.594
Team Management	1.77	0.568

## Results

**Table 5: Descriptive statistics for supervisors (professional) overall competency scores (N = 540)**

	Mean	Std. Deviation
Change Orientation	1.79	0.702
Communication	2.09	0.566
Customer Service Orientation	2.01	0.661
Interpersonal Interaction	1.83	0.609
Planning and Organising	1.77	0.740
Problem Analysis & Decision-Making	1.83	0.611
Self Management	2.72	0.624
Team Management	1.89	0.682

## Summary of Descriptive Statistics

- Four-point scale
- Mean ratings close to 2.00
- Performance on competencies mostly tended towards the mean
- Moderate variability obtained



# Results

**Table 7: Rotated factor matrix of scores for senior managers**

	Factor				
	1	2	3	4	5
Programme and Project Management Report	.835				
Service Delivery Innovation Report	.751				
Strategic Capability and Leadership Report	.738		.207		
Problem Solving and Analysis Report	.657				
Communication Report	.634				
Strategic Capability and Leadership Group		-.866			
Problem Solving and Analysis Group		-.866			
Communication Group		-.832			
People Management and Empowerment Group		-.794			
People Management and Empowerment Interview			.774		
Change Management Interview			.757		
Service Delivery Innovation Interview			.726		.210
Client Orientation and Customer Focus Interview			.657		
Financial Management Financial Exercise				.679	
Financial Management Presentation		-.241		.581	
Client Orientation and Customer Focus Presentation					-.668
Programme and Project Management Presentation				.204	-.532
Change Management Presentation					-.505

# Results

**Table 8: Rotated factor matrix of scores for middle managers (management)**

	Factor		
	1	2	3
Problem Solving and Decision Making Role Play	0.855		
Impact and Influence Role Play	0.806		
Applied Strategic Thinking Role Play	0.748		
Planning and Organising Role Play	0.686		
Managing Interpersonal Conflict and Resolving Problems Role Play	0.631		
Planning and Organising In Basket		0.770	
Team Leadership In Basket		0.740	
Problem Solving and Decision Making In Basket		0.736	
Applied Strategic Thinking In Basket		0.712	
Managing Interpersonal Conflict and Resolving Problems In Basket		0.613	
Team Leadership Interview			0.804
Networking and Building Bonds Interview			0.725
Customer Focus and Responsiveness Interview			0.721
Developing Others Interview			0.699
Impact and Influence Interview			0.623

# Results

**Table 9: Rotated factor matrix of scores for middle managers (professional)**

	Factor		
	1	2	3
Applied Strategic Thinking Role Play	0.829		
Impact and Influence Role Play	0.807		
Problem Solving and Decision Making Role Play	0.779		
Managing Interpersonal Conflict and Resolving Problems Role Play	0.756		
Planning and Organising Role Play	0.645		
Problem Solving and Decision Making Case Study		-0.897	
Applied Strategic Thinking Case Study		-0.837	
Customer Focus and Responsiveness Case Study		-0.801	
Planning and Organising Case Study		-0.778	
Impact and Influence Case Study		-0.752	
Team Leadership Interview			0.855
Developing Others Interview			0.791
Networking and Building Bonds Interview			0.746
Customer Focus and Responsiveness Interview			0.745

# Results

**Table 10: Rotated factor matrix of scores for supervisors (management)**

	Factor		
	1	2	3
Team Management In Basket	0.809		
Problem Analysis and Decision Making In Basket	0.796		
Planning and Organising In Basket	0.751		
Customer Service Orientation In Basket	0.745		
Interpersonal Interaction In Basket	0.72		
Problem Analysis and Decision Making Role Play		-0.882	
Team Management Role Play		-0.853	
Change Orientation Role Play		-0.838	
Interpersonal Interaction Role Play		-0.822	
Communication Role Play		-0.779	
Planning and Organising Interview			0.743
Change Orientation Interview			0.732
Self Management Interview			0.723
Communication Interview			0.716
Customer Service Orientation Interview			0.526

# Results

**Table 11: Rotated factor matrix of scores for supervisors (professional)**

	Factor		
	1	2	3
Problem Analysis and Decision Making Role Play	0.861		
Change Orientation Role Play	0.846		
Team Management Role Play	0.837		
Interpersonal Interaction Role Play	0.795		
Communication Role Play	0.684		
Customer Service Orientation Project Exercise		0.832	
Communication Project Exercise		0.78	
Problem Analysis and Decision Making Project Exercise		0.744	
Planning and Organising Project Exercise		0.713	
Interpersonal Interaction Project Exercise		0.618	
Customer Service Orientation Interview			0.678
Change Orientation Interview			0.668
Planning and Organising Interview			0.646
Self Management Interview			0.645
Team Management Interview			0.556

## Summary of Factor Analysis

- Exercise effect over dimension effect confirmed
- No evidence for discriminant validity or convergent validity
- Design fixes did not significantly improve the construct validity of the AC or the internal validity of the AC ratings

## Results

Middle Managers - Managerial		N	Mean
<b>Applied Strategic Thinking Final Rating</b>	Industrial	273	1.74
	Clinical	129	1.74
	Counselling	60	1.65
	Educational	60	1.70
	Research	47	1.72
	Total	569	1.73
<b>Problem Solving and Decision Making Final Rating</b>	Industrial	272	1.97
	Clinical	129	1.90
	Counselling	60	1.80
	Educational	60	2.12
	Research	47	2.13
	Total	568	1.97
<b>Developing Others Final Rating</b>	Industrial	273	2.66
	Clinical	129	2.35
	Counselling	60	2.78
	Educational	60	2.75
	Research	47	2.43
	Total	569	2.59

## Results

Middle Managers - Managerial		N	Mean
<b>Impact and Influence Final Rating</b>	Industrial	273	2.37
	Clinical	129	2.29
	Counselling	60	2.52
	Educational	60	2.33
	Research	47	2.53
	Total	569	2.38
<b>Customer Focus and Responsiveness Final Rating</b>	Industrial	273	2.74
	Clinical	128	2.41
	Counselling	60	2.83
	Educational	60	2.68
	Research	47	2.47
	Total	568	2.65
<b>Managing Interpersonal Conflict and Resolving Problems Final Rating</b>	Industrial	272	2.08
	Clinical	129	2.16
	Counselling	60	2.08
	Educational	60	1.95
	Research	47	2.28
	Total	568	2.10

## Results

Middle Managers - Managerial		N	Mean
Networking and Building Bonds Final Rating	Industrial	273	2.63
	Clinical	129	2.43
	Counselling	60	2.82
	Educational	60	2.55
	Research	47	2.21
	Total	569	2.56
Planning and Organising Final Rating	Industrial	272	1.88
	Clinical	129	1.81
	Counselling	60	1.77
	Educational	60	1.98
	Research	47	1.85
	Total	568	1.86
Team Leadership Final Rating	Industrial	272	1.70
	Clinical	129	1.74
	Counselling	60	1.73
	Educational	60	1.70
	Research	47	1.70
	Total	568	1.71

## Summary of Assessor Differences

- IO Psychologists generally yield consistent results
- Effect across different categories of assessors small
- Proper training has impact



## Lessons Learnt

- AC can impact on a national level in SA
- AC practitioners make important contributions in high-level programmes
- AC practitioners trained for cultural sensitivity



## Lessons Learnt

- Task-based versus competency-based assessment
  - More extensive assessor training may be needed to eliminate variable performance
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## Lessons Learnt

- The real effect of cognitive overload candidates may be unavoidable
- Employ more assessors for future projects of this size



## Conclusion

- Valuable information gathered to target development areas
  - Management of process contributed to success
  - Design fixes were important differentiators
  - Integrated and focused effort to facilitate and promote staff growth and development
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## Future Research

- Effect of cultural paradigm on assessor's ratings in SA
- Optimal AC design practices in developing countries such as SA
- Effect of assessor training
- Differences between different types of expert assessors
- Impact of AC method on different race groups in developing countries



## Contact Details

- Anne Buckett
  - Precision HR
  - Email: [anne@precisionhr.co.za](mailto:anne@precisionhr.co.za)
  - Mobile: +27 83 408 2360
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