

MHC – APPLIED RESEARCH

Sabina Ravničan

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Disposition of Master's Thesis

- Employee Development Using the Model of Hierarchical Complexity (MHC): Case Study
- Mentor: Dr. Roberto Biloslavo
- Co-mentor: Dr. Michael Lamport Commons

Hypotheses

- *H1*: The individual's classification under the MHC and the job hierarchy in the organizational structure are correlated.
- *H2*: The individual's classification under the MHC and his/her job performance are correlated.
- *H3*: Middle managers predominantly function on the systematic level of hierarchical complexity.
- *H4*: Executive managers predominantly function on the metasystematic stage of hierarchical complexity.

Fundamental research

- The focus of the master's thesis is that knowledge of the MHC stage of job performance is the key indicator
 - ▣ That guides companies in
 - Employee development
 - Human resources planning
 - Shaping of the future organizational structure

Methodology

- Theoretical part applies the methods to by domestic and foreign researches
 - Description
 - Compilation
 - Analysis of works.
- Empirical part is based on MHC.
- This section includes
 - Questionnaire protocol
 - Selection of study participants
 - Targeted population: 80 employees participating in the personal performance development process
 - Study procedure
 - Data collection and data analysis
 - Used SurveyMonkey online survey system
 - The analysis of results carried out using Rasch analysis and multiple regression.

Research Procedure

- ▣ Meeting with management team
- ▣ Introductory letter
- ▣ The research involved
 - Vignettes
 - Decision making instrument
- ▣ Time to complete 45 minutes
- ▣ Questionnaire was designed in cooperation with the Core Complexity Assessments
- ▣ Access to the survey questionnaire by e-mail
- ▣ Date: 10.4. – 20.4.2012



GKN Group

at a glance

GKN at a glance

Driveline



- > World leading supplier of automotive driveline systems & solutions
- > Focussed on solutions that create weight, space and fuel savings
- > Committed to innovation

Powder Metallurgy



- > GKN Powder Metallurgy is the world's leading producer of sintered components and the largest producer of metal powder in North America

Aerospace



- > Supplier to the global aviation industry
- > Leader in the manufacture of highly complex composite aero structures and engine products

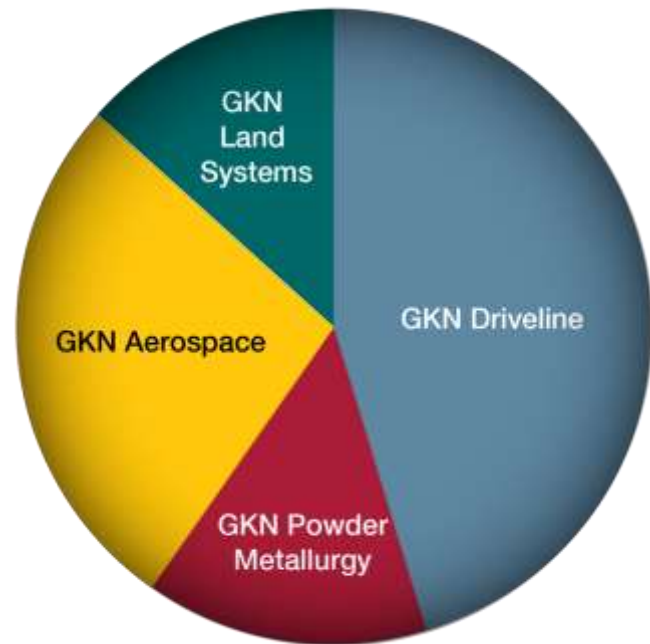
Land Systems



- > Supplier to the global industrial markets
- > Innovation within renewable energy and mass transit solutions
- > Extensive global distribution and service business for the aftermarket

GKN At A Glance

- > 40,000 people
- > 30 countries
- > Market leading businesses
- > Operational excellence



GKN 2011 Sales

£6.1bn \$US 9.4bn €7.3bn

introducing GKN Driveline

driving tomorrow's technology



CVT
Systems



AWD
Systems



Trans Axle
Solutions



eDrive
Systems

GKN Driveline – Product Segments

CVJ Systems



CVJ
Systems

- > CV Joints
- > Sideshafts

AWD Systems



AWD
Systems

- > Propshafts
- > Transfer Units
- > AWD Couplings
- > Disconnects
- > Final Drive Units

Trans Axle Solutions



Trans Axle
Solutions

- > Differentials
- > Limited Slip & Locking Differentials

eDrive Systems



eDrive
Systems

- > eAxles
- > eTransmissions
- > eMotors

Customer brands



SLOVENIJA



CVJ
Systems



BASIC INFORMATION:

Area: 20.273 km²
No. of population 2.057.421
Currency EUR (from 2007)

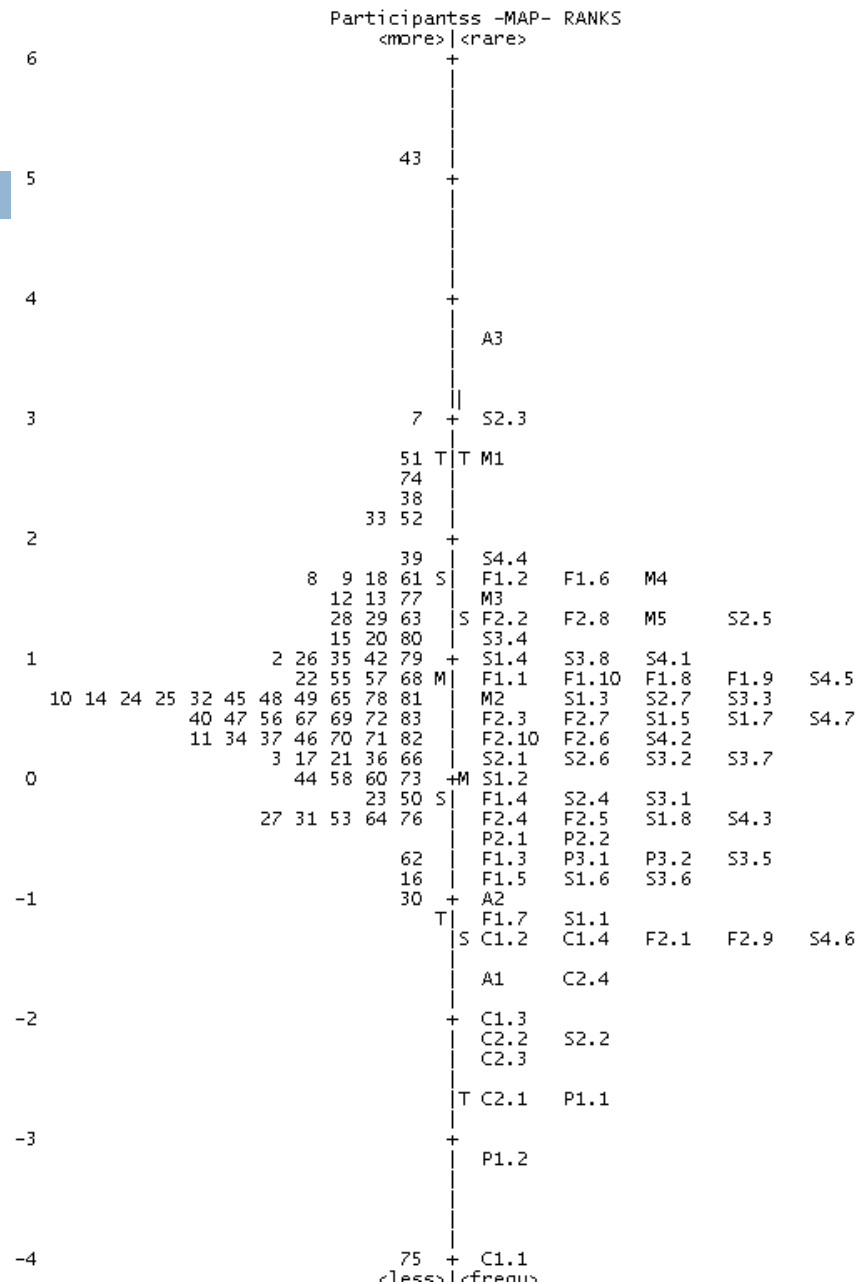
- > **GDP: 35,63 billion €**
- > **Average economic trend: - 6.4 %**
- > **Foreign Trade- export: 18,52 billion €**
- > **Foreign Trade- import : 18,01 billion €**
- > **Un-employment: 12,1 %**
- > **Average gross-gross wage/employee: 1.569 €**
- > **Average net wage/employee: 1.010€**
- > **Inflation rate 2011 : 1,8 %**

Preliminary Results

- Participants were split into three groups
 - ▣ Executive Managers
 - ▣ Middle Managers
 - ▣ Employees
- Item Rasch analysis of
 - ▣ Decision Making performance
 - ▣ Vignette performance
- Regressions analysis of Item Order of Complexity on Rasch scaled performance score

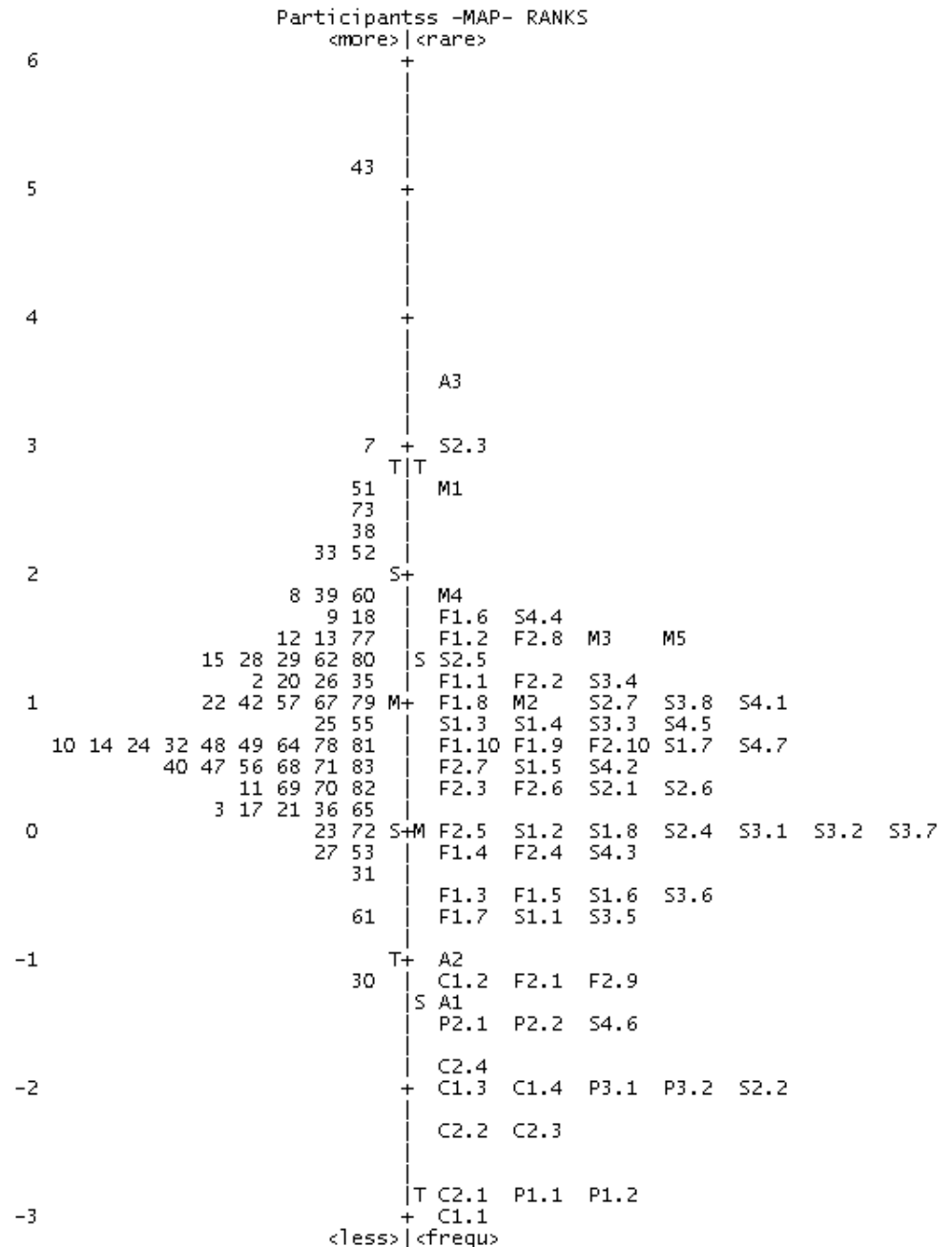
Rasch Variable Map of DMI Item Performance

- Unaltered Data
- 75 Participants
- 15 (20%) Executive Managers
- 16(21.3%) Middle managers
- 44 (58.7%) Employees
- Regression Results
 - $r = .587$
 - $r^2 = .344$



Rasch Variable Map of DMI Item Performance

- Participants Removed
- 62 Participants
- 13 (21%) Executive Managers
- 10(16.1%) Middle managers
- 39 (62.9%) Employees
- Regression Results
 - $r = .690$
 - $r^2 = .476$

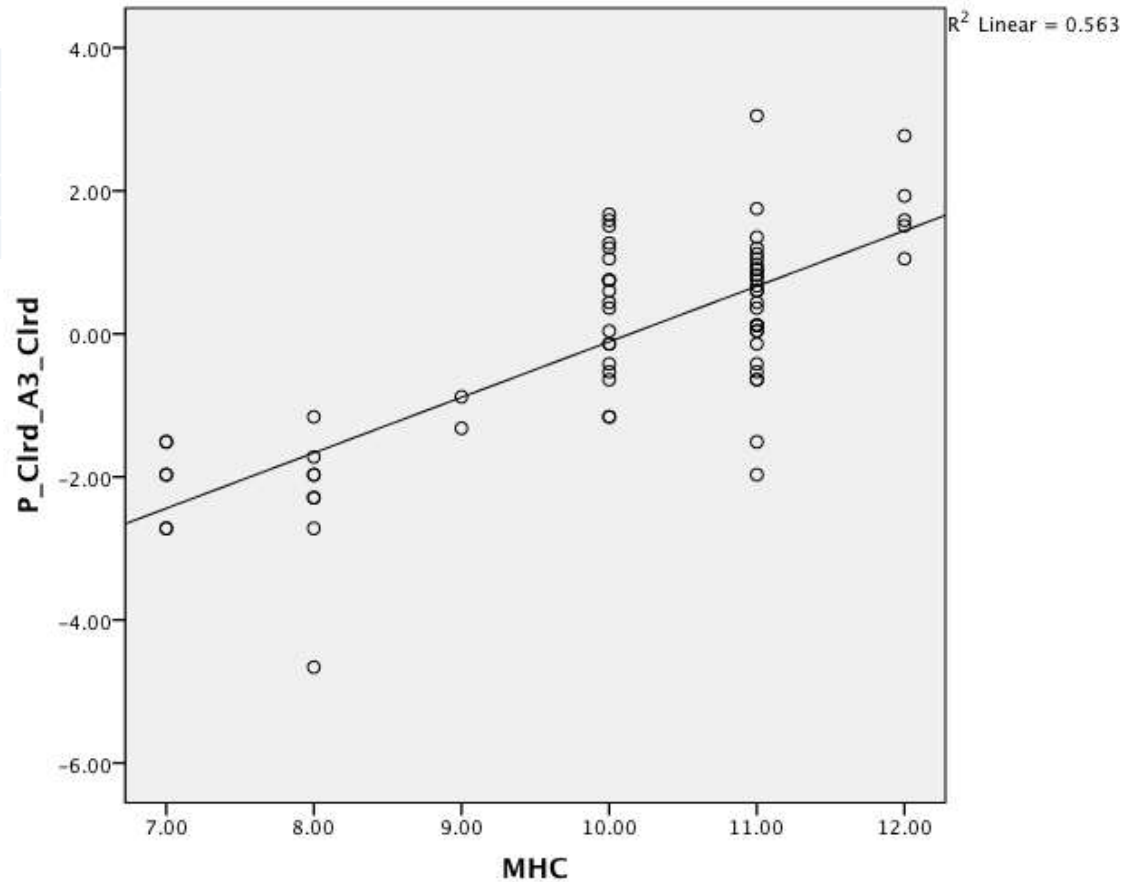


Scatter Plot of Regression Analysis: Item Order on Item Rasch Score

Model Summary

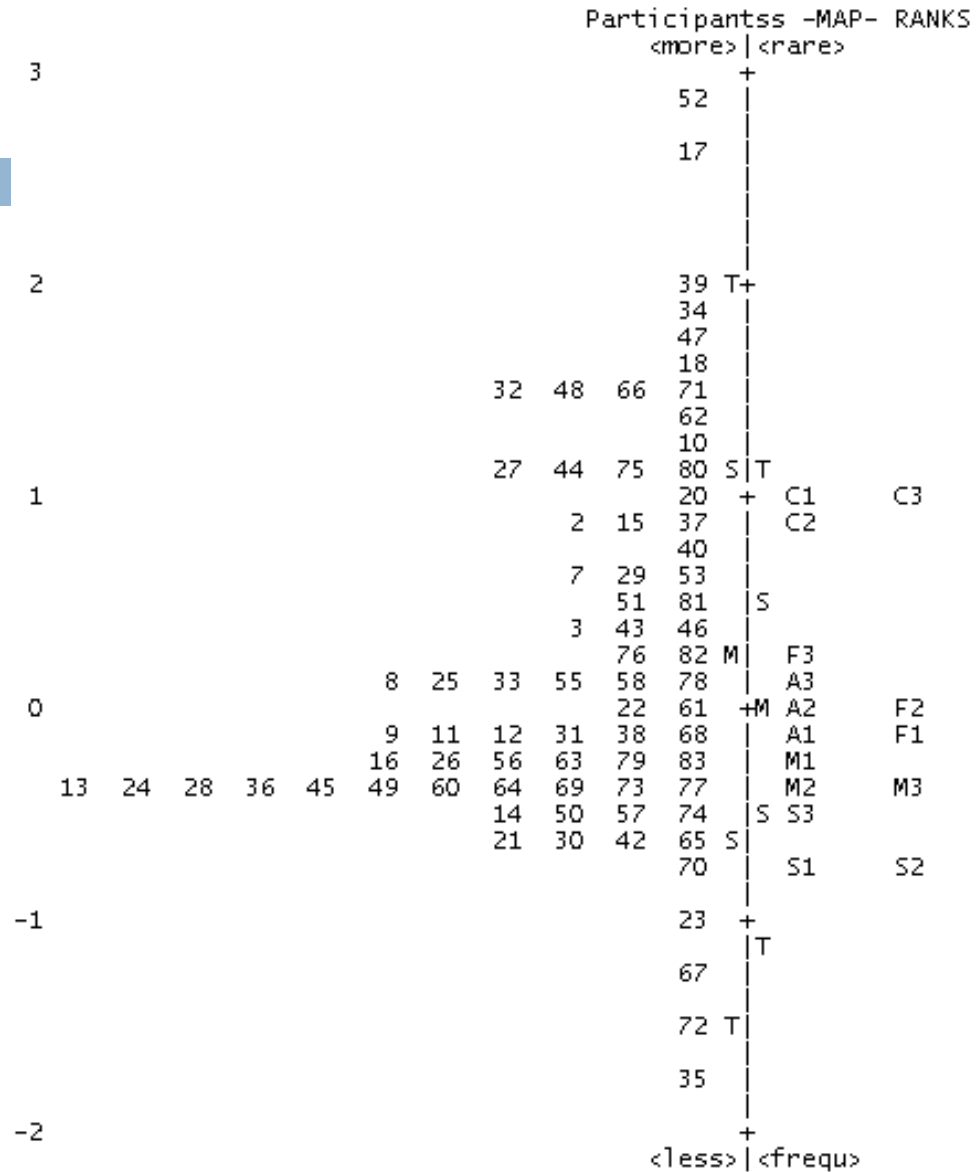
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.751 ^a	.563	.557	.96620

a. Predictors: (Constant), MHC



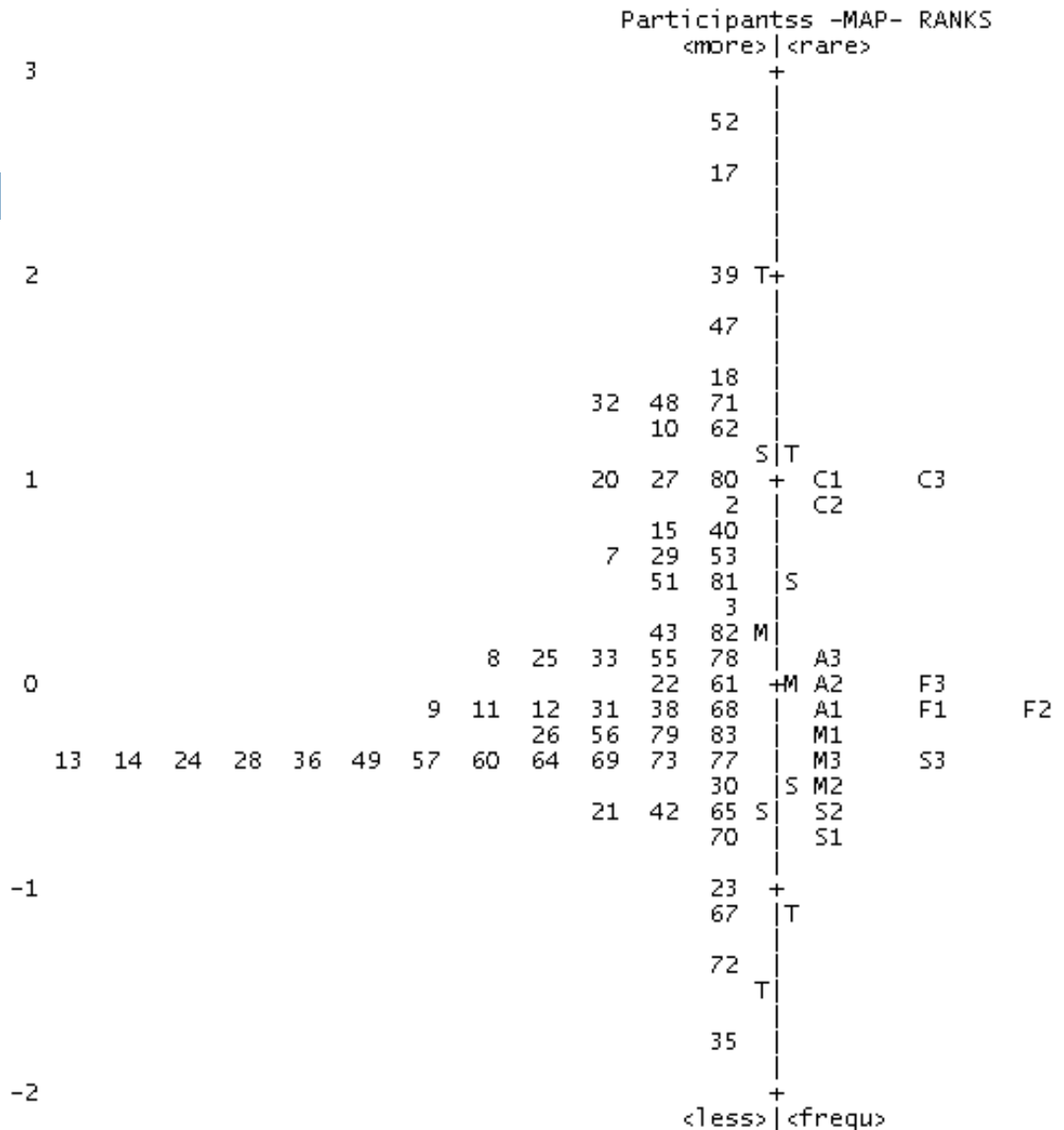
Rasch Variable Map of Vignette Item Performance

- Unaltered Data
- 75 Participants
- 15 (20%) Executive Managers
- 16(21.3%) Middle managers
- 44 (58.7%) Employees
- Regression Results
 - $r = .820$
 - $r^2 = .673$



Rasch Variable Map of Vignette Item Performance

- Participants Removed
- 62 Participants
- 13 (21%) Executive Managers
- 10(16.1%) Middle managers
- 39 (62.9%) Employees
- Regression Results
 - ▣ $r = .861$
 - ▣ $r^2 = .742$



Discussion

- These data show that the model can predict performance on a version of the instrument designed for business
- There were issues with participants not following instructions
 - ▣ Context bias – The participants answered based on their experience instead of the example tables
 - ▣ This may be a result of translation error

Future Steps

- Compare mean stage performance of the 3 groups
 - ▣ Do Executive managers have the highest performance?
- Correlate Rasch scaled performance of the participants with Performance Review results
- Provide guidance to enhance
 - ▣ Employee development
 - ▣ Human resources planning
 - ▣ Future organizational structure



Thank you

Coimbra, 7th July 2012