

Bridging Micro and Macro HRM through Human Capital Research

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HRM, Knowledge Processes and Organizational Performance:

In Search of (Micro)Foundations

September 18-19, 2008

Copenhagen Business School

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Multilevel Human Capital Research

- **Theoretical:** **Boudreau, 1991**; Cappelli & Sherer, 2000; **Ployhart & Schneider, 2002**; Rousseau, 1998; **Abowd, 2004**
- **Empirical:** **Ployhart, Weekley, Baughman, 2006**; Takeuchi & Lepak, & Snell, 2007; Youndt & Snell, 2004; **Abowd et al., 2006**

Connection to this Conference

- Antecedent to knowledge research
- Examines “who” the firm embodies knowledge in
- *To what extent do variations in “who” explain performance at various levels?*

Research Questions

- Do organizations with “better” employees outperform rivals?

Research Questions

- Are the theoretical assumptions underlying micro and macro HRM consistent? (Are “rules for riches” embedded in micro HRM logic?)
- How does the fact human capital is an embodied asset make the management of the human capital different than other firm resources?
- Through what mechanisms (in addition to attraction-selection-attrition) does human capital originate and emerge?

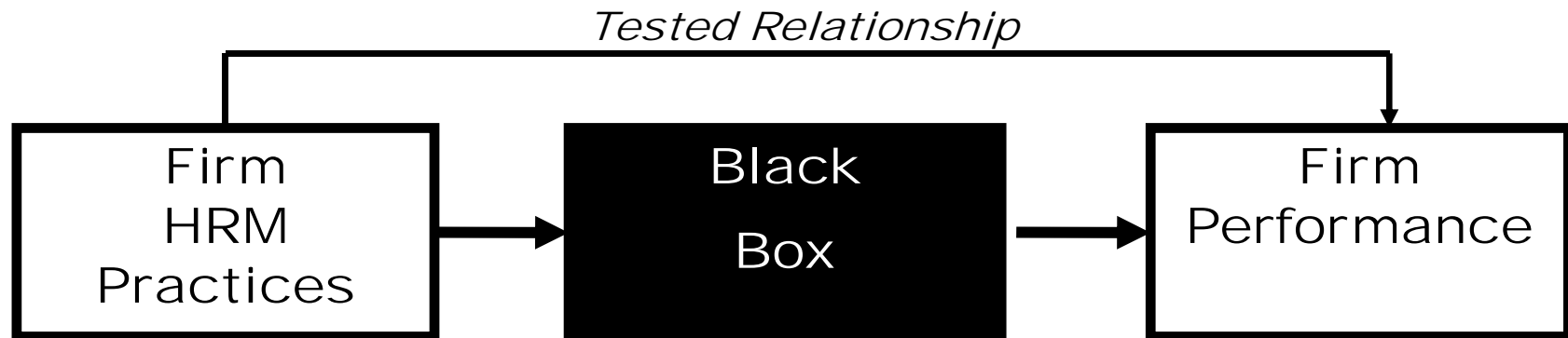
Research Questions

- How does the “HR/OB context” for human capital influence performance relationships?
- How do subjective-use decisions to bundle human capital with complementary assets influence performance?
- Does the existence of “compatible incentive systems” change the need for certain types of human capital?

*Toward an Integrated Model of
Human Capital and Performance*



Foundational SHRM Model

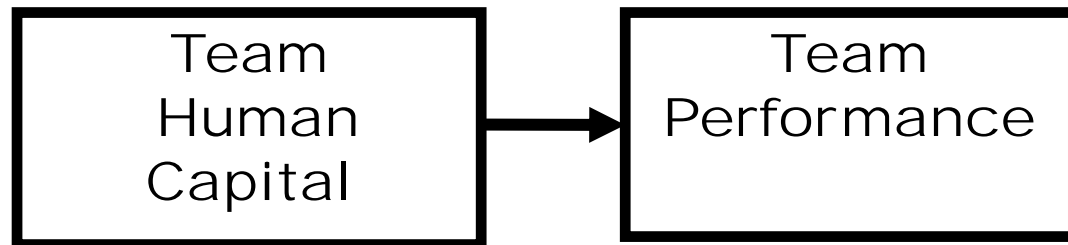


Toward an Integrated Model

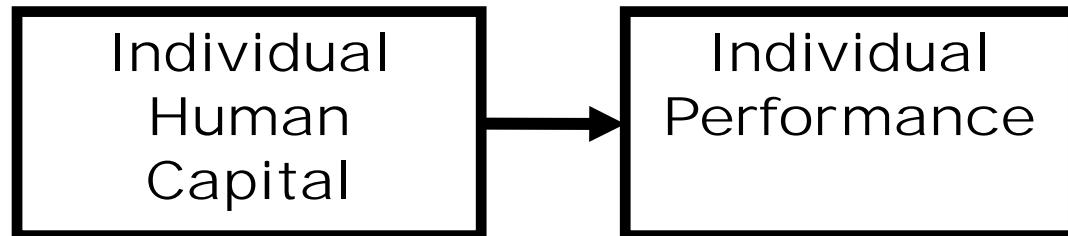


Toward an Integrated Model

Group



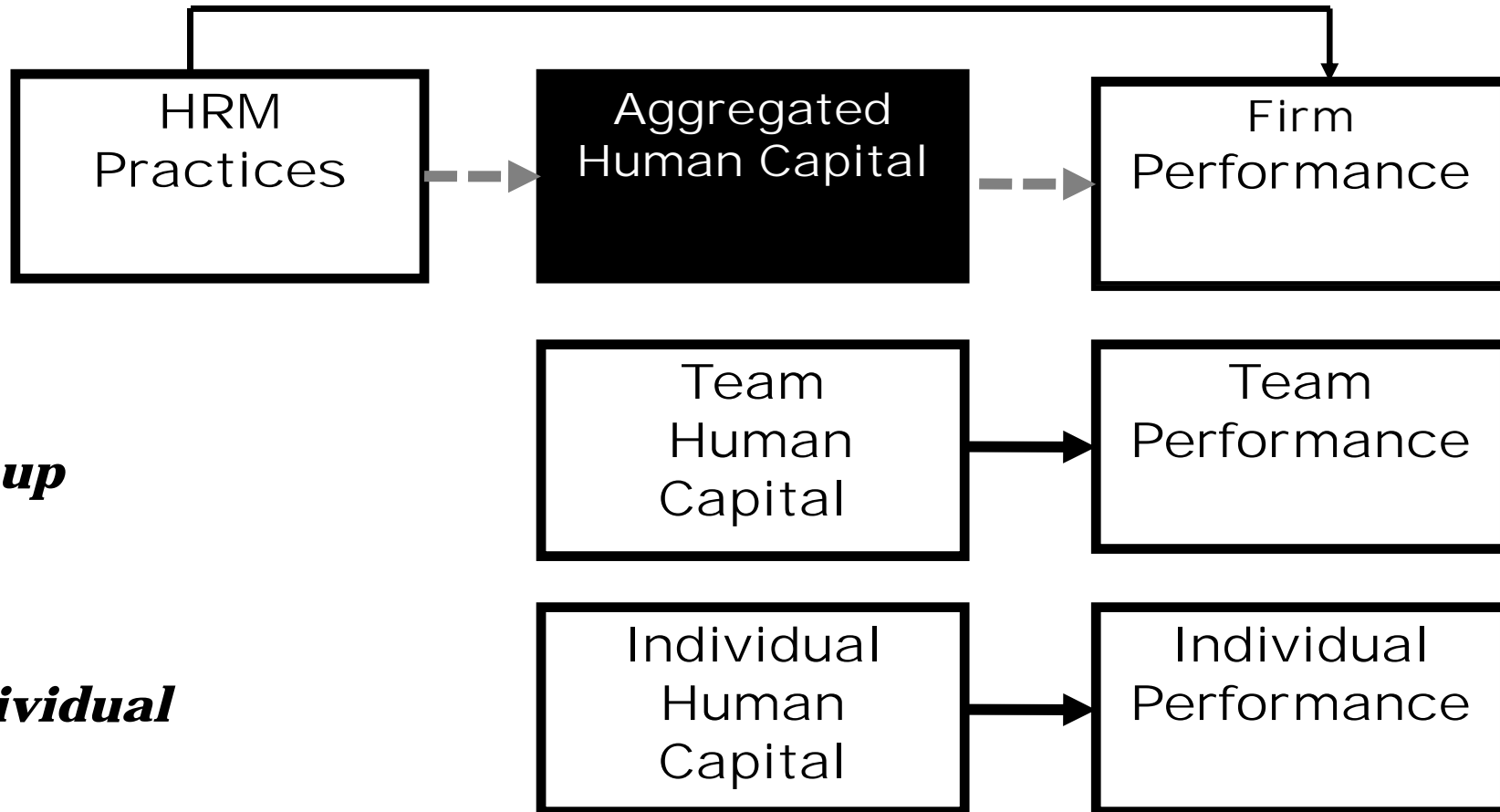
Individual



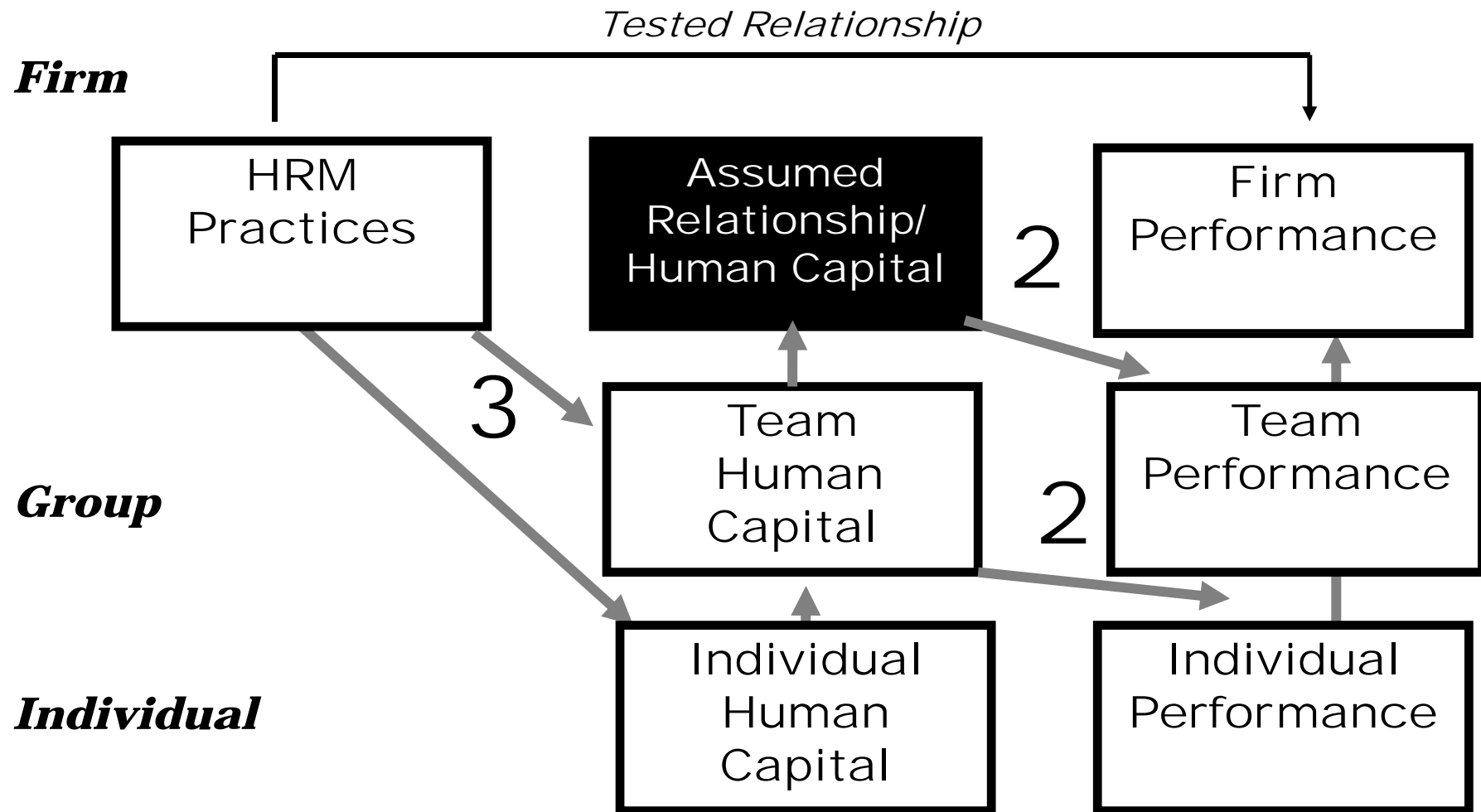
Toward an Integrated Model

Organizational Units

Tested Relationship



Later Papers



Collective Human Capital Constructs and Performance

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Research Question

- Do organizations with “better” employees outperform rivals?
 - More conscientious
 - Higher cognitive ability

Human Capital

- **Human Capital:** Individual-level characteristics positively associated with variations in performance
 - Experiential, demographic, psychological characteristics
- **Human Capital Advantage (Boxall, 2004)**
Individual-level human capital characteristics aggregated to a specific level of an organization (e.g., establishment, firm)
 - Allows firm to exploit market opportunities and neutralize competitive threats

Which Characteristics?

- Innumerable experiential, psychological individual difference, and demographic human capital characteristics

Study focuses on

- Cognitive ability (g)
- Conscientious

Why?.....

Editorial Board Member Survey

AMJ (Rynes, Giluk, & Brown, 2007)

- “In your opinion, what are the two most fundamental findings from human resources research that all practicing managers should know?”

Sample

- *Personnel Psychology*
- *Journal of Applied Psychology*
- *Academy of Management Journal*
- *Human Resource Management*

Selected Survey Results

Rynes, Giluk, & Brown (2007: p. 989)

Macro HRM

- HRM practices are important to organizational outcomes (*Combs et al., 2006; Huselid, 1995*)

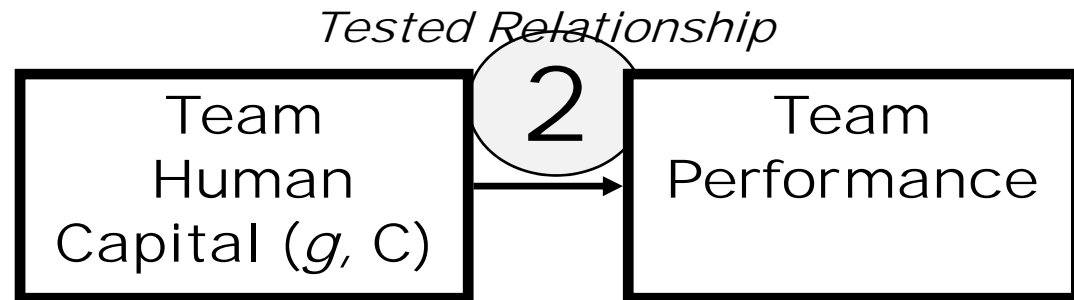
Micro HRM

- Intelligence (*g*) is strong predictor of performance and personality (Conscientiousness) is related to performance (*Barrick & Mount, 1991; Hunter, 1986; Schmidt & Hunter, 1998*)

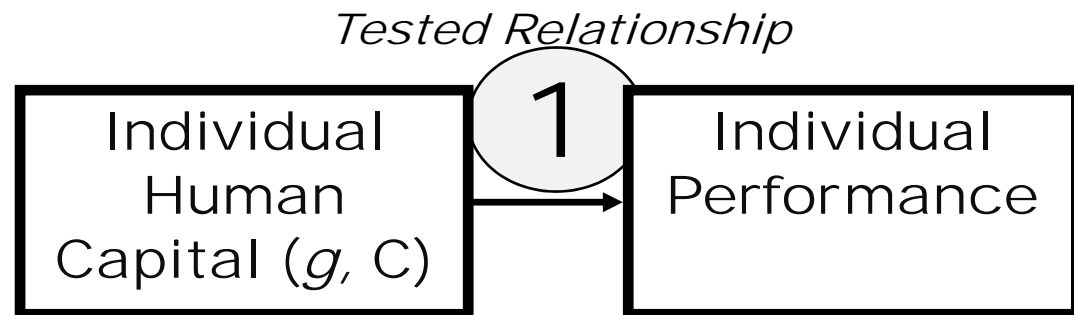
Micro HRM

Human Capital Explicitly Measured

Team



Individual



- Intelligence and Conscientiousness associated with performance (*Schmidt & Hunter, 1998*)
- Although team human capital configurations and tasks matter, Intelligence and Conscientiousness associated with team performance (*Humphrey, Hollenbeck, Meyer, & Ilgen, 2007; LePine, Hollenbeck, Ilgen, & Hedlund, 1997; Stewart, 2006*)

Micro HRM

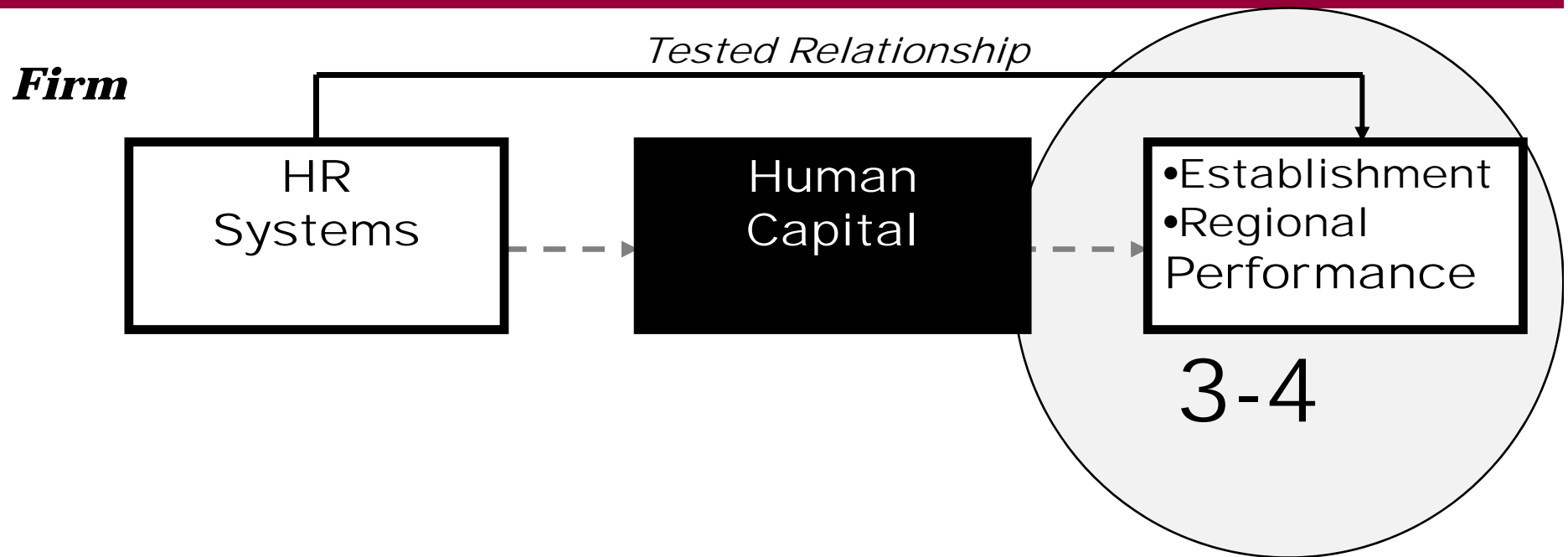
Human Capital Explicitly Measured

- 1:** Individual (*Conscientiousness; cognitive ability*) will have a positive association with individual performance above and beyond the effects of job experience, education, and demographic control variables.
- 2:** Team (*Conscientiousness, cognitive ability*) will be positively related to business process performance above and beyond the effects of the type of team task, type of team, and historical conditions.

Toward an Integrated Model



Toward an Integrated Model



Aggregated Human Capital and Performance

3: Establishment (Conscientiousness; cognitive ability) will have a positive association with establishment business process performance above and beyond the effects of aggregated job experience, education, and demographic control variables.

4: Regional (Conscientiousness, cognitive ability) will be positively related to regional business process performance above and beyond the effects of aggregated job experience, education, and demographic control variables.

Testing Requirements

- Competitive industry
 - All firms deliver same product/service; face similar challenges
 - Business requires geographically distributed businesses (Layers of nestings within organization)
 - To compete, firms “follow each other” into markets
- Common job across firms with OSHA (or other) regulations to standardize job expectations
 - Comparable job status verified through compensation benchmarking process
- Frequent use of selection tests for occupation
 - Intelligence perhaps ***not necessarily assumed to be “required”***
 - Conscientiousness ***would seem to be “required”***
- Frequent “objective” measures of performance at various levels of analysis created as part of doing business

Shipping Industry—Truck Loaders

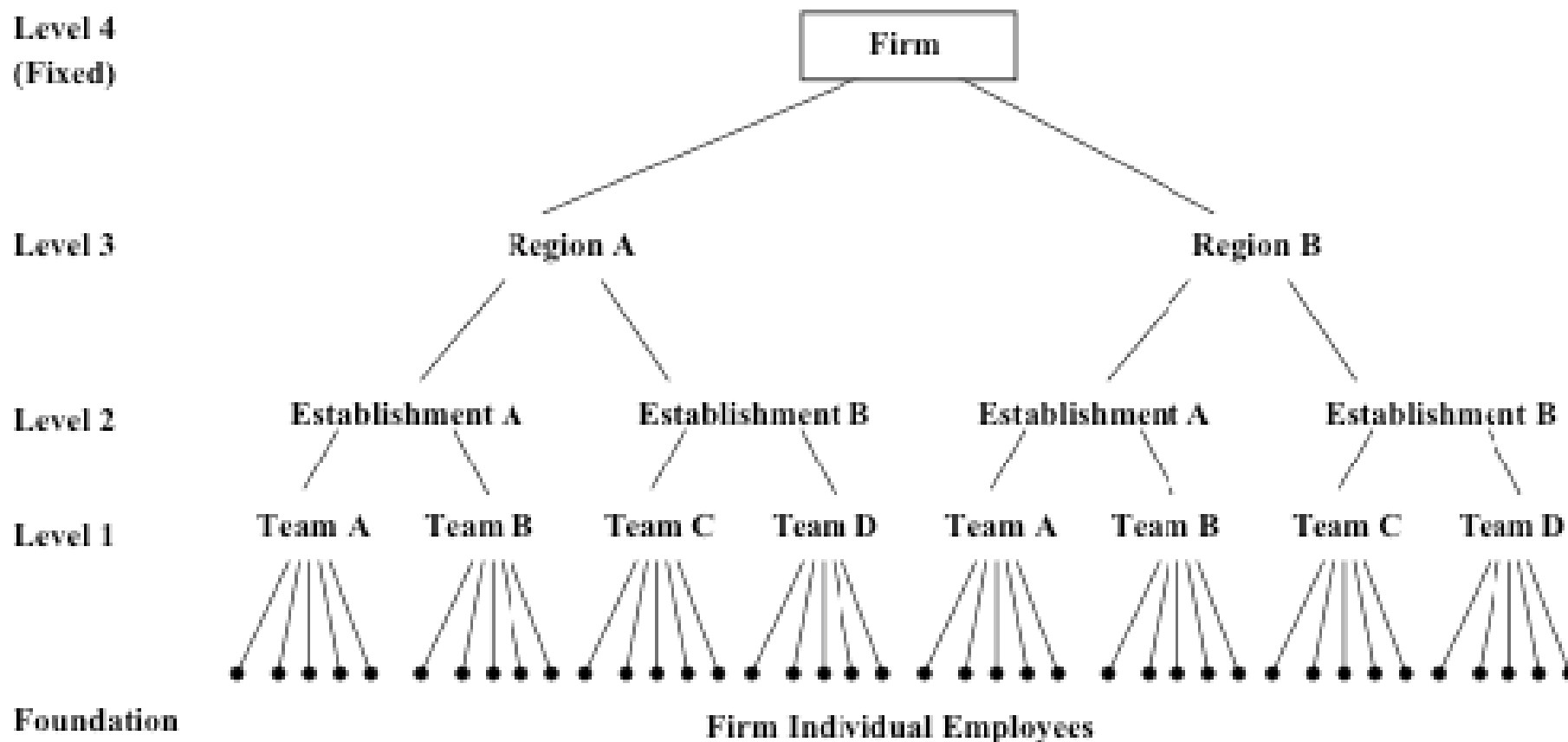
- Air and freight courier services industry (NAICS: 492110)
- Position compared in industry compensation surveys
- Performance measures: Strong focus on measures and tracking packages

Measures

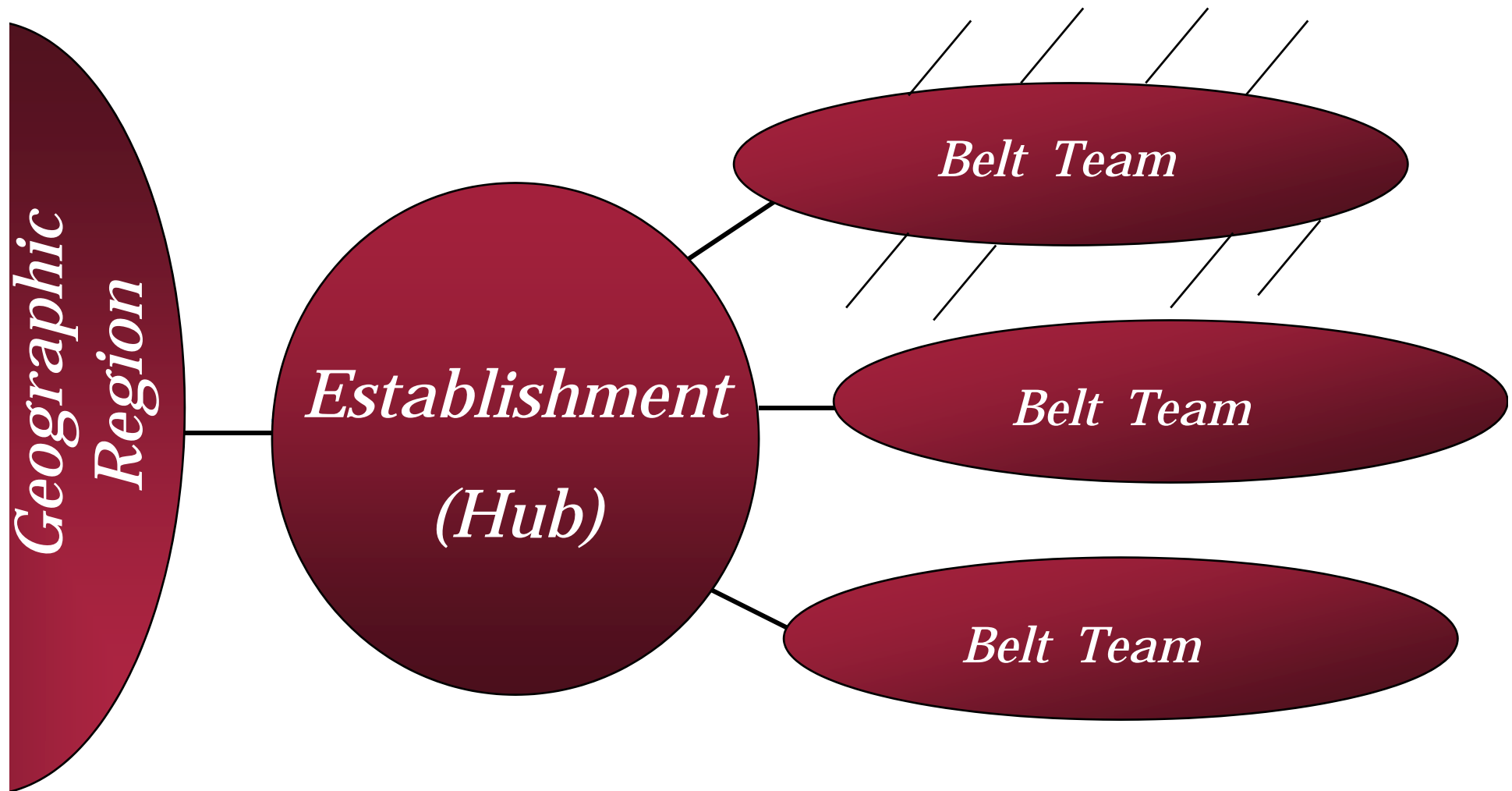
- Pre-hire selection measures
- Data starts: January 2006
- Team Performance
 - Average March 1-7
 - Average March 8-14
 - Average March 15-21



Figure 4.1
Hierarchical Nestings of Employees within Firms



Hierarchical Structure



Individual Level Measures

- Independent Variables: Loaded at time of hire
- Additive compositional models (Averaging lower-level scores) (Chan, 1998)
 - Conscientiousness: NEO-PPI (Dependability and Achievement facets: Costa & McCrae, 1985)
 - Intelligence: Wonderlic (Murphy, 1984)
- Dependent Variables: First week of March 2006
 - **#1: Wrong truck:** Count of wrong packages loaded on assigned truck
 - **#2: Right truck-Wrong place:** Packages placed in wrong area of assigned truck

Given no route anomalies: Actual miles for route
Projected miles for route

 - **#3: (Performance appraisal)**

Team & Establishment Measures

- Independent Variables
 - Conscientiousness: Average for team; Average for establishment
 - Intelligence: Average for team; Average for establishment
- Dependent Variables
 - **#1: Wrong truck:** Count of wrong packages on all trucks
 - **#2: Right truck-Wrong place:** Packages placed in wrong area of trucks

Given no route anomalies:

Actual miles for routes

Projected miles for routes

- **#3: (Performance appraisal)**

Control Variables

Labor Market

- County-level unemployment

Loader

- Experience on primary truck and belt
- Experience with firm
- Union representation
- Age, gender

Package Properties

- Ratio of business-personal packages for route
- Percent packages over 75 pounds (require teamwork)
- Percent of irregularly shaped items

Truck Driver

- Experience on route and with firm

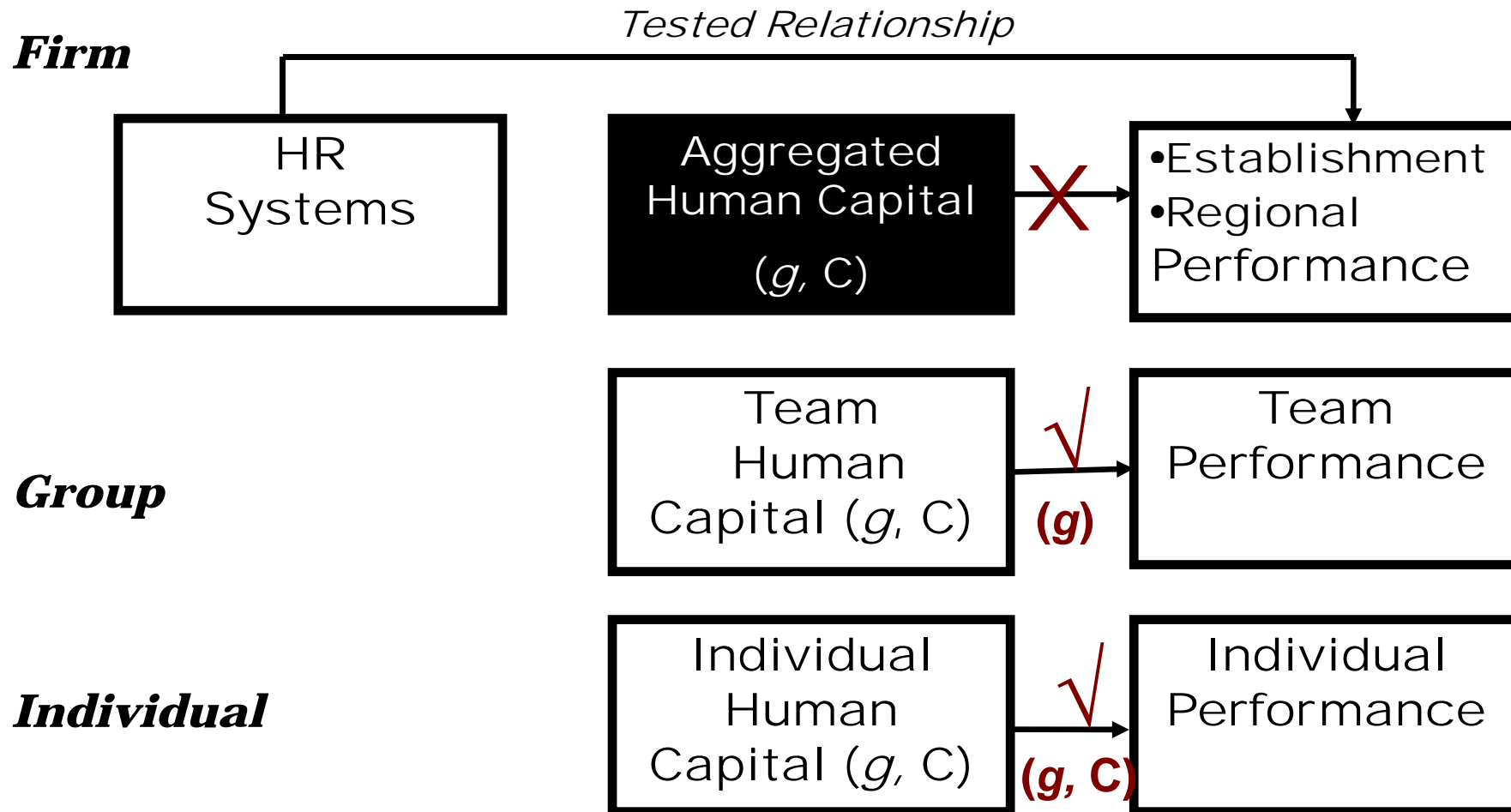
Sample

Firm	Regions	Establishments	Teams	Individuals
A	18	108	2160	17776
B	21	273	2184	17478
C	28	224	1792	12554
D	25	248	2232	20088
<i>n</i>	92	853	8368	67896

Results

Model	Quantity		Quality	
	Regression	s.e.	Regression	s.e.
	Coefficient		Coefficient	
Conscientiousness				
Intercept ^c	1.19	.20	1.12	.22
Individual mean	.10*	.02	--	--
Team mean	.14	.07	.10*	.04
Establishment mean	.97	.21	.68	.18
Region mean	1.13	.26	.89	.19
Cognitive ability				
Intercept ^c	1.08		.98	
Individual mean	.05*	.01	--	--
Team mean	.08*	.02	.08	.06
Establishment mean	1.16	.32	.84	.23
Region mean	.73	.26	.87	.21

Findings Summary



Limitations

- **Single Industry; Single Occupation**
- **Unclear job requires intelligence**
- **All Data Not Integrated (U.S. & Canada only; limited firms)**
- **Psychometric Construct Validation Work Not Published**
- **Need to Identify Theoretical Mechanisms Operating**

In Summary

- “Who” knowledge is embedded in
- Do units with “more intelligent” or “more conscientious” employees outperform other units?
 - Data from this sample does not support
 - Replicating in other industries
- “Human capital context” and “incentive compatibility” interactions clarify some of the findings
- Link with broader knowledge research



Thank you

Assistance making this research better would be very much appreciated.

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