Developing, validating, and delivering a cultural model of credit unions

A tale of two applied studies

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Preview

- Some Generalities
  - “Cultural models” … dimensions of variation
  - Cultural model approach & cultural consensus analysis
  - Reciprocal strengths and weaknesses → Do both
- Credit Unions – A Tale of Two Studies
  - Pilot study (Gatewood & Lowe, 2006)
  - Follow-up study (Gatewood & Lowe, 2008)
- Key Findings from Clients’ Viewpoint
  - Employees fail essay exam, but ace multiple-choice test
  - Need to coach employees about how to explain what a credit union is
  - Some interesting relations between CCA 1st factor loadings and other variables
- Summary

SOME GENERALITIES

“Cultural Model” … a definition

D’Andrade’s (1995: 180) definition works for us:

“***Model*** – a schema or interrelated set of cognitive schemas used to represent something, to reason with or to calculate from by mentally manipulating the parts of the model to solve some problem. A single schema may serve as a model… , or a number of interrelated schemas may be used to construct the model. … Typically, cultural models are not formulated as explicit declarative knowledge (as in a ***theory***), but are implicit knowledge, based on schemas embedded in words but not formulated as explicit propositions.”

Dimensions of Variation among CM's

COGNITIVE PROPERTIES

- Temporal scale
  - Time to become activated
  - Duration of activation
- Inertial characteristics
  - Time to learn / construct
  - Time to unlearn / modify
- Functional integrity
  - Number of component parts
  - Degree of integration among the components (E.g., all activated at once; all activated but separately; or some components can be activated without activating others)
- Generative capacity
- Motivational force
- Degree of implicitness / ease of communication

SOCIAL-DISTRIBUTIONAL PROPERTIES

- Degree of elaboration across individuals
  - E.g., components learned separately or as package; core' components widely shared but variable with respect to 'peripheral' components; or just idiosyncratic variation
- Patterns of "sharing" across individuals
  - E.g., uniformly and widely shared; subcultural differences; expertise gradients; perspectival gradients; or free variation
- Degree to which X is a topic of discussion (hence, more subject to standardization and/or polarization)

Cultural Model Approach

STRENGTHS:

- Fine-grain focus on “what people know”
- Recognizes knowledge is integrated and generative
- Building composite models from diverse informants is something non-social scientists just don’t think of doing
- Produces insightful findings
- Has intuitive appeal to potential end-users of the information

- But …
  - Credibility of the model? – replicability, validity, completeness, etc.
  - Degree of sharing? – expertise gradient or subcultural diversity, competing viewpoints or cognitive plurality, etc.
  - Generalizability of findings? – because usually based on convenience or purposive sampling

Cultural Consensus Analysis

STRENGTHS:

- Focus on “how knowledge is distributed in a population”
- Addresses the fact of intra-cultural diversity
- Explicit methodology (clear what has been done)
- Easily coupled with standard survey research; hence, data lend themselves to standard hypothesis testing, too

- But …
  - Particulate view of knowledge isn’t plausible
  - How to decide on the questions?
  - Devil is in the details – e.g., must counter-balance questions if using rating data; how many questions needed to establish reliable respondent-profiles; etc.

Two-stage Research Design

- **PHASE 1: personal interviews → formulate Cultural Model**
  - Purposive sampling … to get range of variation
  - Extract propositional content from interviews, then winnow and sort into coherent organization

- **PHASE 2: questionnaire-survey with items based on propositional content of Cultural Model → then Consensus Analysis**
  - Probability sampling … necessary for generalizing from sample to a population
  - Univariate analyses of questionnaire items provides "validity check" on components of proposed model
  - Consensus analysis reveals degree to which model is shared and provides information on the distributional pattern

- Conjoining cultural models and consensus analysis this way, cognitive anthropology can contribute to a better understanding of the **social organization of knowledge** (a.k.a., socially distributed cognition).

- And, such research can also produce **useful** (a.k.a., credible) findings for clients.

CREDIT UNIONS – A TALE OF TWO STUDIES

1. PILOT STUDY

(Gatewood & Lowe, 2006)

Gatewood, John B. and John W.G. Lowe, with Carolyn E. Kelly. 2006. *Employee Perceptions of Credit Unions: A Pilot Study*. Madison, WI: Filene Research Institute.

Pilot Study … Overview

- Purpose: pilot study to demonstrate that anthropological research can produce results relevant to mission of the Filene Institute

- Specific Objective: find out what "credit union" means to employees of such institutions … (*word-of-mouth is principal way credit unions can recruit new members*)

- Sample: 30 employees – CEO to teller – in two New Jersey credit unions

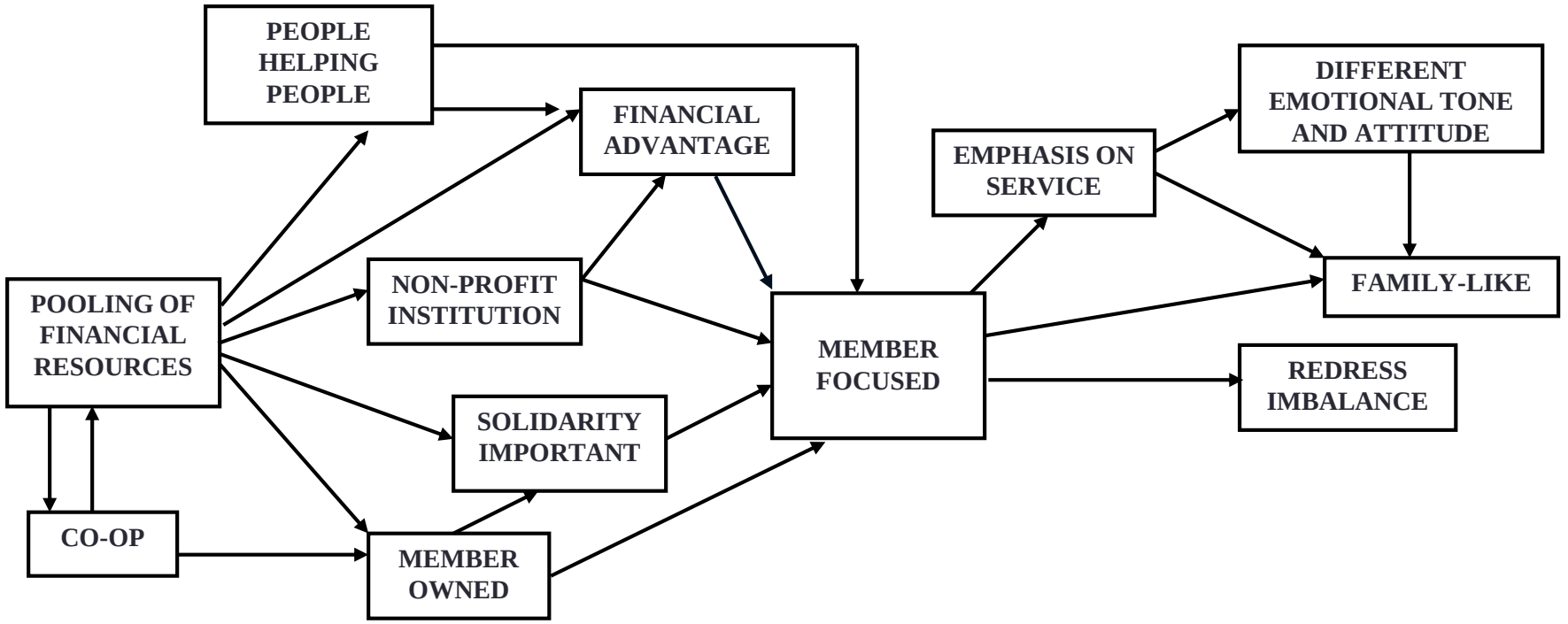
- Method: two phases – interviews, then survey

Cultural Model of Credit Unions

- During the open-ended interviews, the 30 employees made 1,000+ propositions concerning characteristics of credit unions.
- But … no one could articulate a coherent “explanation” of what a credit union is and how it differs from a bank. Indeed, we were struck by the diversity of views expressed during the interviews.
- Reviewing our notes, we slowly realized that different things people told us could be pieced together into a logically coherent model.
- So, WE put together an analytical composite.

- To reiterate…
  - No one person could tell us the “whole story.”
  - Still, the composite we assembled was firmly grounded in what different informants did tell us, and each element was corroborated by at least two informants.

- Schematically, our 2006 cultural model of credit unions was as follows …



Root characteristics <——————————> Surface manifestations

Ex Post Facto Validity Check

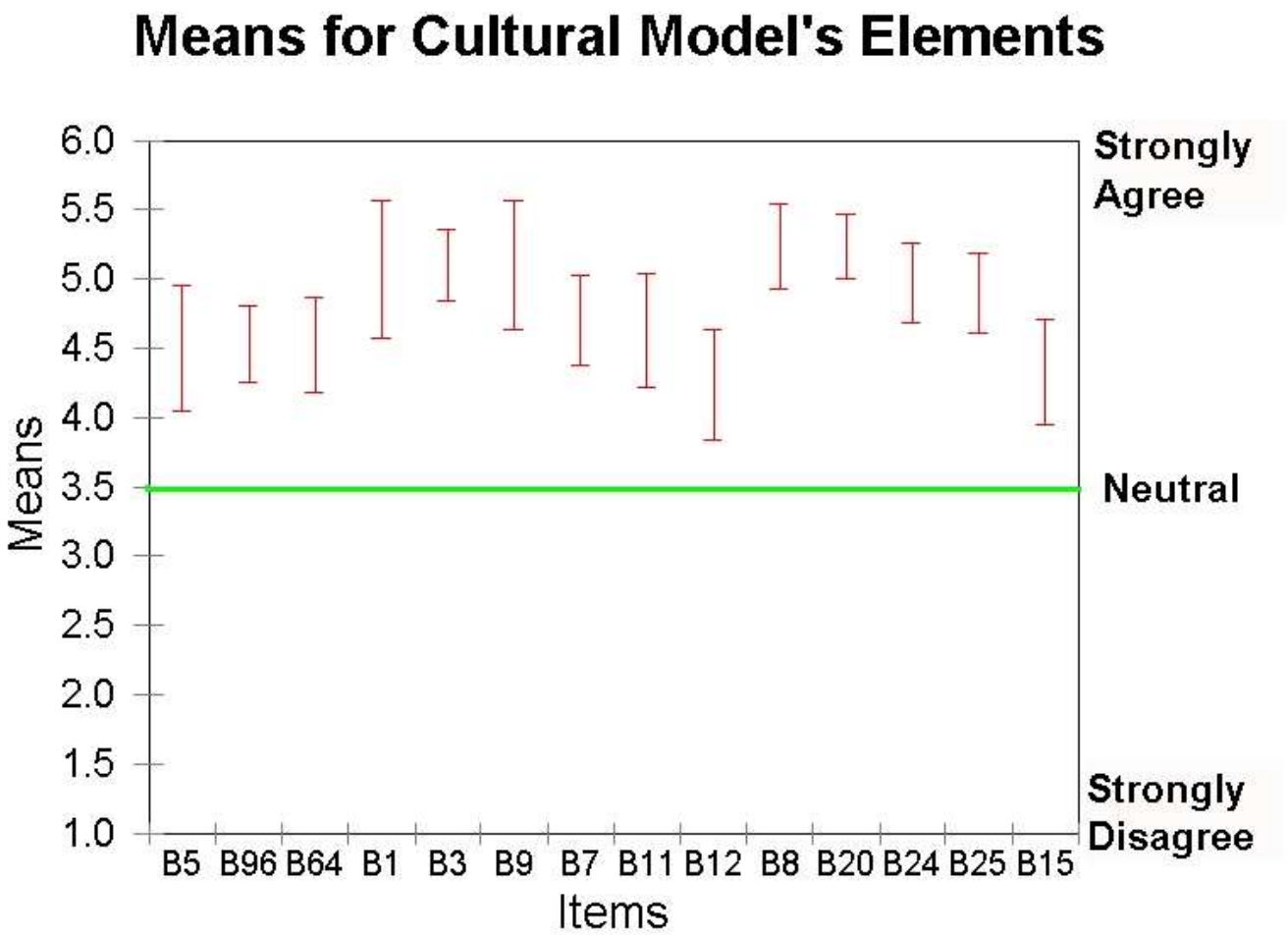
- Given the model consists of propositions and chains of reasoning connecting them, employees can be asked directly whether they agree or disagree with these (now-articulated) statements.

- Validating elements of the model is a matter of examining the mean values of questionnaire items best corresponding to them.

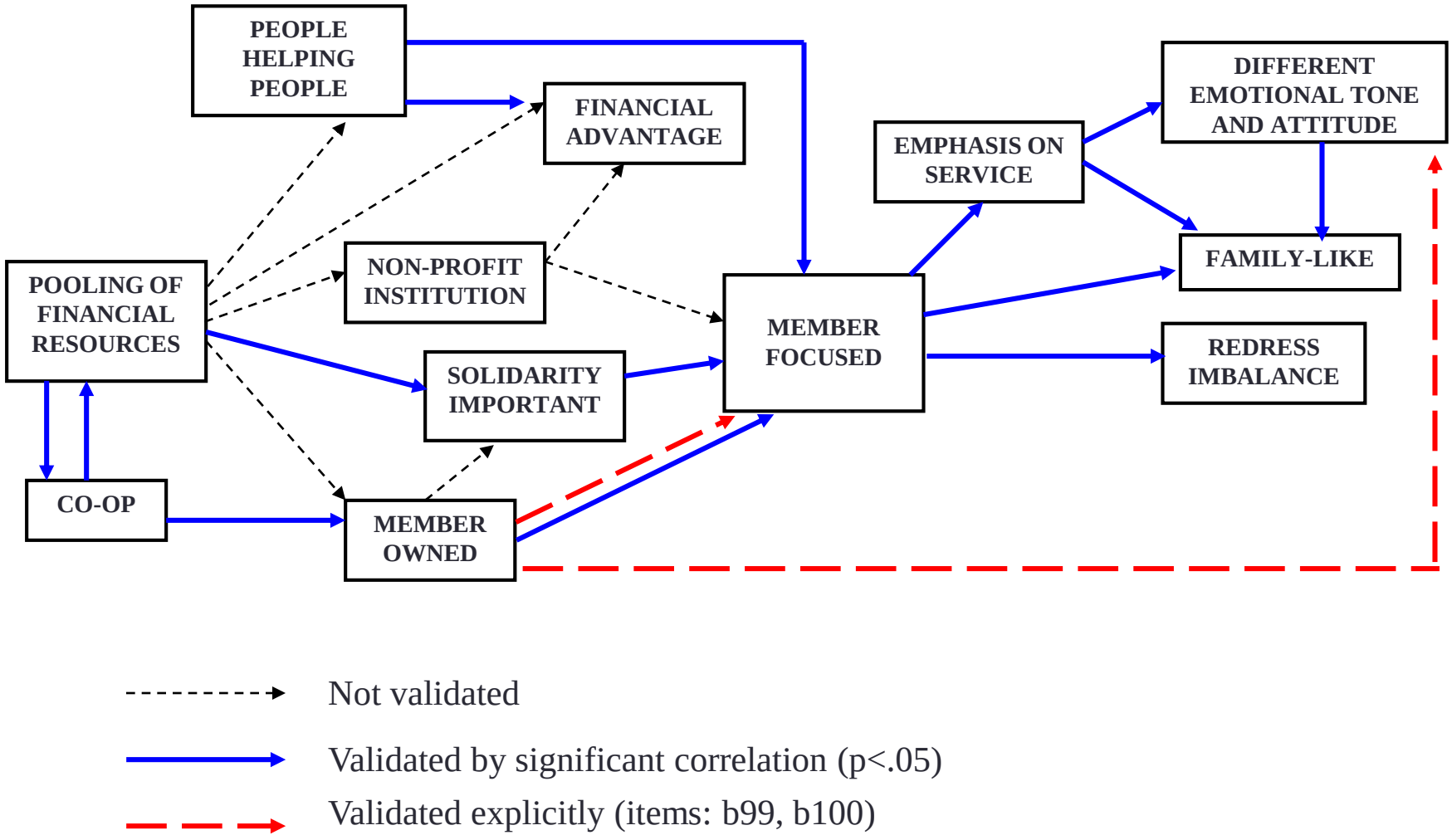
- Validating linkages between elements can be done two ways:
  - Explicitly through awkwardly-worded items

    "Because credit unions are member-owned collectives, they exist only to serve members."
  - Implicitly through correlations

Elements – All Validated



Linkages – Mostly Validated



Conclusion concerning Validity

Survey findings validated all the propositional elements in our Pilot Study model and most of the linkages.

- BUT …

Validation does not guarantee completeness … we may have missed other, equally-valid components.

Nor do the univariate validations address the issue of "sharedness," which is done through Consensus Analysis.

Consensus Analysis … puzzling results

PILOT STUDY (N = 30)
14 "positively-phrased" items

RATING DATA (1-to-6 scale)			DICHOTOMIZED DATA (agree / disagree)		
Factor	Eigenvalue	Ratio	Factor	Eigenvalue	Ratio
1:	6.017	1.278	1:	21.206	10.030
2:	4.708	1.409	2:	2.114	1.535
3:	3.341		3:	1.377	
Mean 1st factor = .343 with 6 negative, or 20.0% of sample			Mean 1st factor = .804 with 1 negative, or 3.3% of sample		
NO consensus			STRONG consensus		

Summary of Pilot Study

- Whereas "cultural models" refer to (mostly) ***implicit*** knowledge shared among members of a human group, the models described by researchers are themselves ***explicit*** analytical constructions.

- A proposed model's constituent propositions (and their logical implications) can and should be checked for ethnographic validity through subsequent systematic data collections.

- KEY FINDINGS:
  (1) Pilot Study's cultural model was validated, but
  (2) results of consensus analysis were puzzling:
  - Data analyzed as 1-to-6 ratings → NO consensus
  - Dichotomized data (agree/disagree) → STRONG consensus

2. FOLLOW-UP STUDY

(Gatewood & Lowe, 2008)

Gatewood, John B. and John W.G. Lowe. 2008. *Employee Perceptions of Credit Unions: Implications for Member Profitability*. Madison, WI: Filene Research Institute.

Follow-up Study … Overview

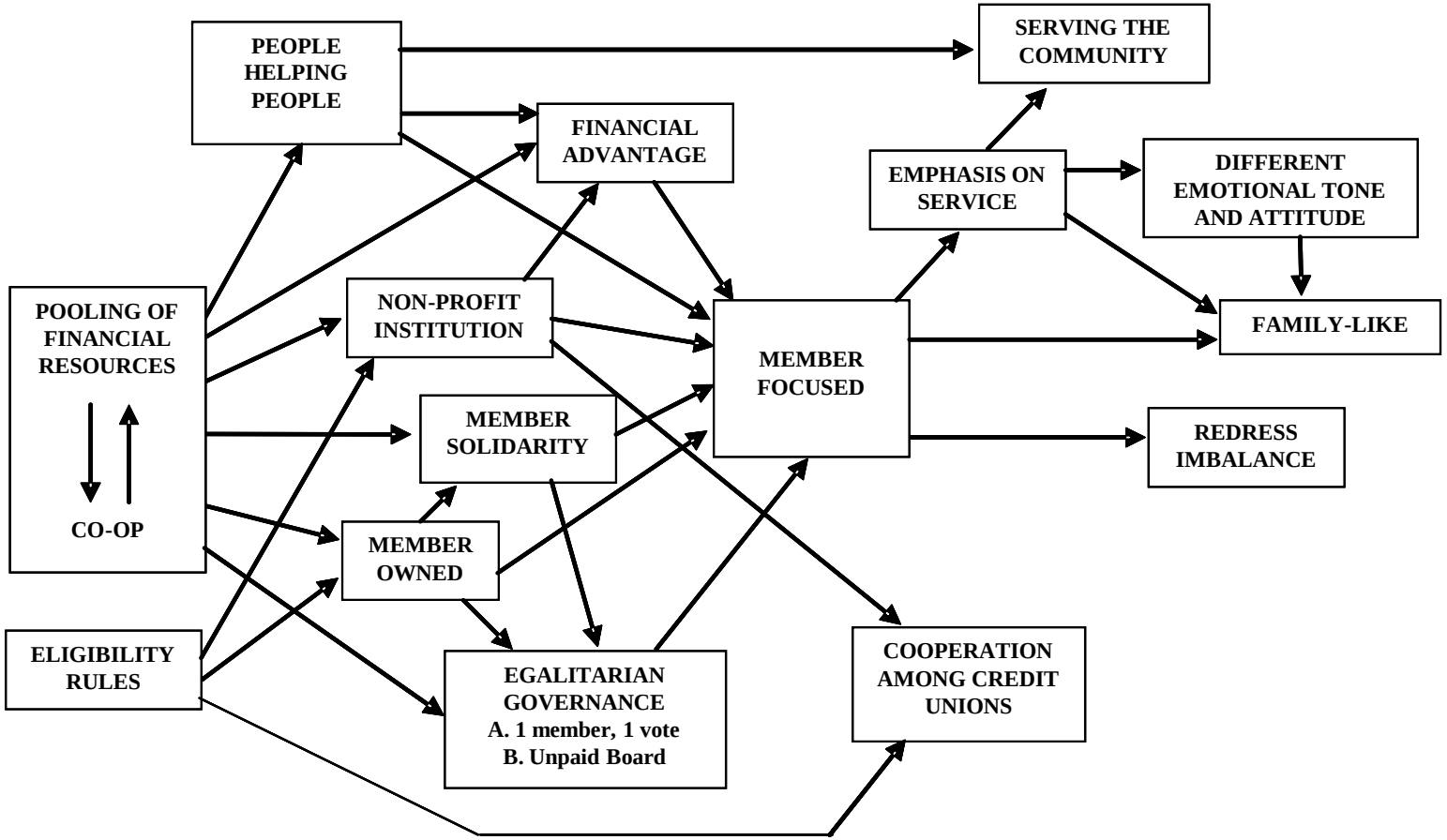
- Purpose: build upon the Pilot Study, but produce ***more credible results*** by refining questionnaire and better sampling

- Specific Objective: meaning of "credit union" among employees

- Sampling:
  - **10 credit unions** (2 East Coast, 4 Midwest, 4 West Coast)
  - **93 personal interviews** (CEOs to tellers)
  - **343 randomly-selected employees** completed "Form A" questionniare
  - **115 randomly-selected employees** completed "Form B" questionnaire

- Method: two phases – interviews, then survey

Revised (expanded) Cultural Model



Root characteristics <————————> Surface manifestations

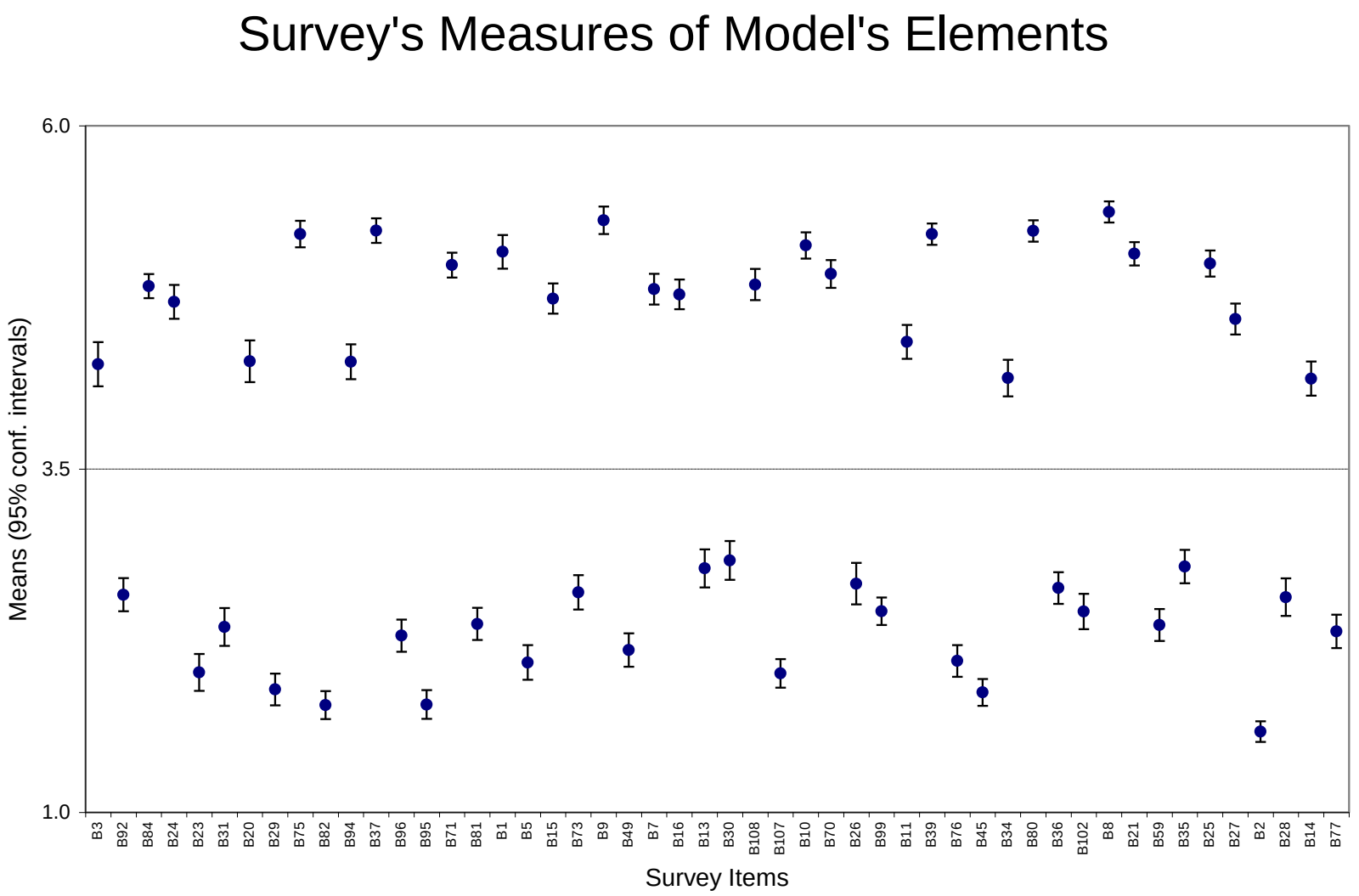
New and Improved Battery of Items

- With the Cultural Model formulated IN ADVANCE, we increased the number of survey items "testing" the Model (50 rather than 14) AND used "paired-opposites" format for these questions

  < see HANDOUT >

- And, to see whether having a "neutral" response made a difference, we used TWO FORMS of the questionnaire:
  - **Form A** (N=343) … **1-to-6 response scale**
    - 1-to-6 responses can be dichotomized to simply "disagree/agree" → can compare results of Interval vs. Nominal methods of Consensus Analysis
  - **Form B** (N=115) … **1-to-5 response scale**

Elements – All Validated



Consensus Analyses: Pilot vs. Follow-up

PILOT STUDY (N = 30) 14 "positive" items						FOLLOW-UP STUDY (N = 343) 50 "counter-balanced" items		
RATING DATA 1-to-6 scale			DICHOTOMIZED DATA agree / disagree			RATING DATA 1-to-6 scale		
Fac.	Eigenvalue	Ratio	Fac.	Eigenvalue	Ratio	Fac.	Eigenvalue	Ratio
1:	6.017	1.278	1:	21.206	10.030	1:	222.3	15.027
2:	4.708	1.409	2:	2.114	1.535	2:	14.8	2.157
3:	3.341		3:	1.377		3:	6.9	
Mean 1st factor = .343 with 6 negative, or 20.0% of sample			Mean 1st factor = .804 with 1 negative, or 3.3% of sample			Mean 1st factor = .782 with 4 negative, or 1.2% of sample		
NO consensus			STRONG consensus			STRONG consensus		

Consensus Analyses: Two Methods

FOLLOW-UP STUDY – Form A (N=343)
50 "counter-balanced" items

RATING DATA (1-to-6 scale)			DICHOTOMIZED DATA (agree / disagree)		
Factor	Eigenvalue	Ratio	Factor	Eigenvalue	Ratio
1:	222.3	15.027	1:	215.2	16.797
2:	14.8	2.157	2:	12.8	1.723
3:	6.9		3:	7.4	
Mean 1st factor = .782 with 4 negative, or 1.2% of sample			Mean 1st factor = .761 with 7 negative, or 2.0% of sample		
STRONG consensus			STRONG consensus		

Consensus Analysis: Form A vs. Form B

FORM A (N=343) 50 "counter-balanced" items			FORM B (N=115) 50 "counter-balanced" items		
1-to-6 response scale			1-to-5 response scale		
Factor	Eigenvalue	Ratio	Factor	Eigenvalue	Ratio
1:	222.3	15.027	1:	74.373	16.242
2:	14.8	2.157	2:	4.579	1.961
3:	6.9		3:	2.335	
Mean 1st factor = .782 with 4 negative, or 1.2% of sample			Mean 1st factor = .785 with 0 negative, or 0.0% of sample		
STRONG consensus			STRONG consensus		

LESSONS from the Two Studies

1. **FORMULATE** Cultural Model, **THEN** design questionnaire
2. For Consensus Analyses, **MORE QUESTIONS** are better than fewer
3. When items involve ratings, must **COUNTER-BALANCE** the set of items ("paired-opposites" format ensures this)

   IF items are counter-balanced, THEN both methods of Consensus Analysis produce very similar results
4. **TWO-STAGE RESEARCH DESIGN** is necessary to:

   (a) validate a proposed Cultural Model, and

   (b) assess degree to which the Model is shared

… CONJOINING the cultural model and consensus approaches is the way to go

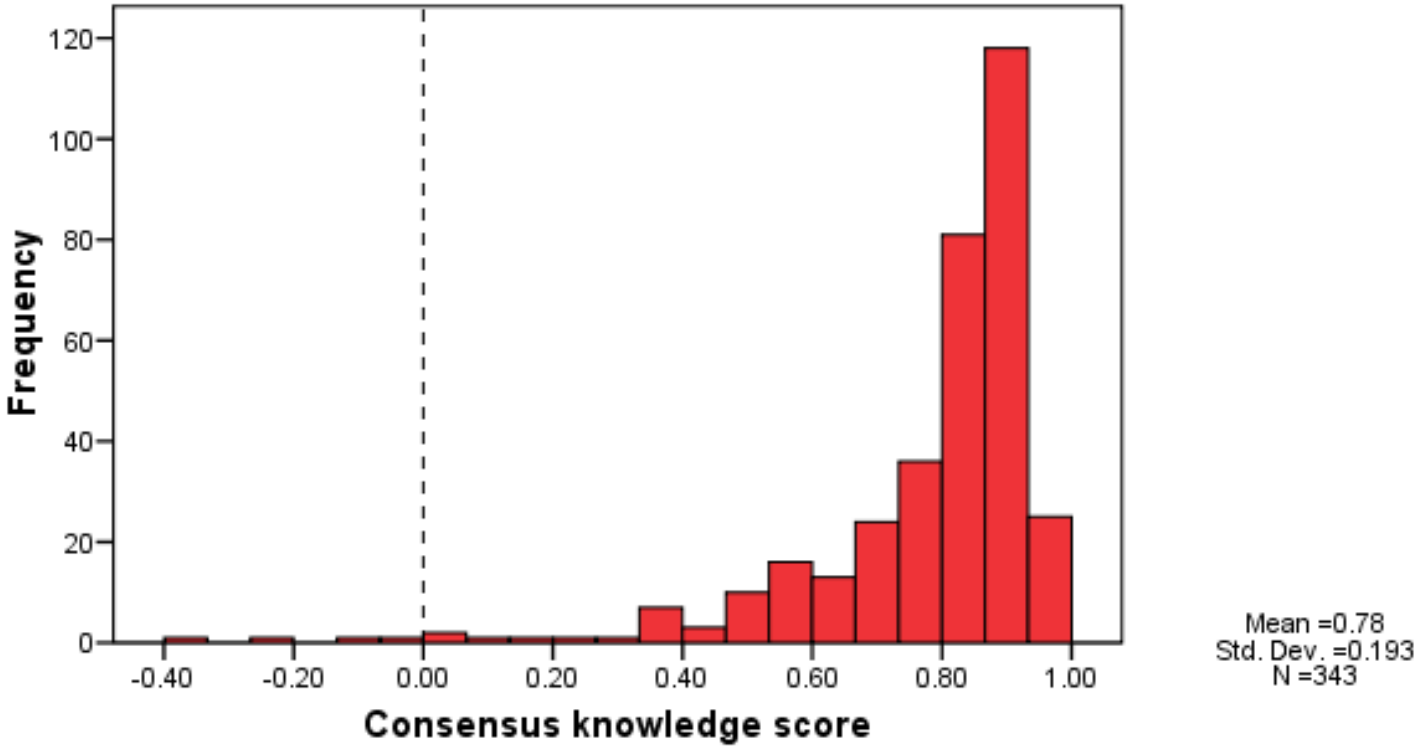
KEY FINDINGS … FROM CLIENT'S VIEWPOINT

The Big Picture

- The PROBLEM:
  - Credit unions explicitly position themselves as a different sort of financial institution – one with “members” not customers
  - Positioning is achieved primarily through face-to face interaction
  - Employee-member interaction is critical

  => Employees need to have a coherent understanding of what a credit union is and is not
- Ethnographic reality:
  - Employees have such an understanding but it is implicit not explicit
  - Most employees could pass a multiple choice test on CU’s but most would fail an essay test

Key Finding #1



- By any imaginable metric, employees had a very high consensus with respect to the cultural model.
- Pronounced expertise gradient.

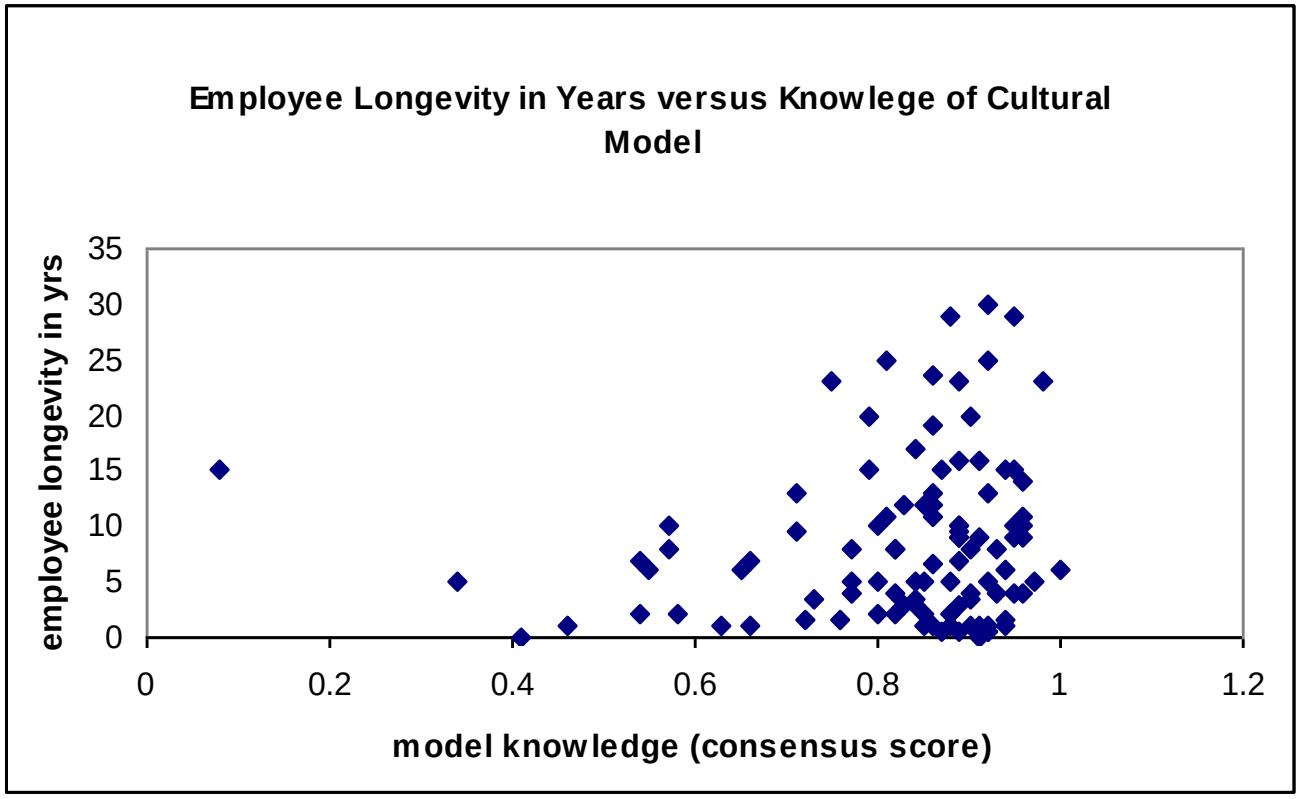
Key Finding #2

Correlations with cultural model competence	R
• Commitment	.568***
• Competitive advantage of credit unions	.484***
• How much they want to know about credit unions	.438***
• Job satisfaction	
• Personal satisfaction	.386***
• Job has gotten worse	-.320***
• Just as soon work somewhere else	-.441**

(*** = p < .001)

- It seems competence impacts positively on
  - Commitment to the idea of a credit union
  - The perceived competitive advantage of credit unions
  - Job satisfaction

Key Finding #3

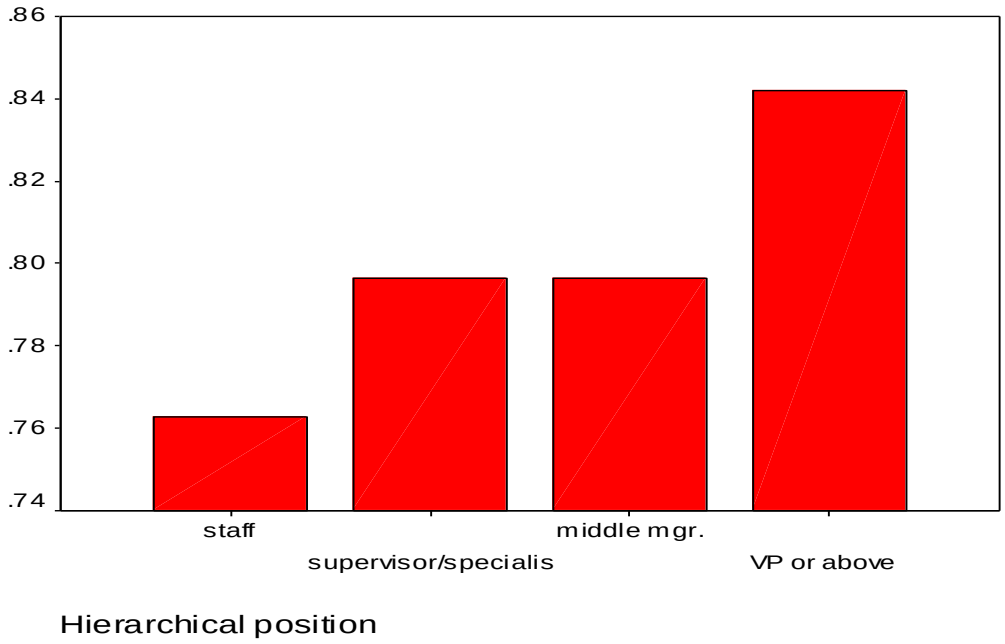


- NOT a typical regression relation: $y_i = a*x_i + b + e_i$
- Knowledge acts a constraint on employee retention.

Key Finding #4

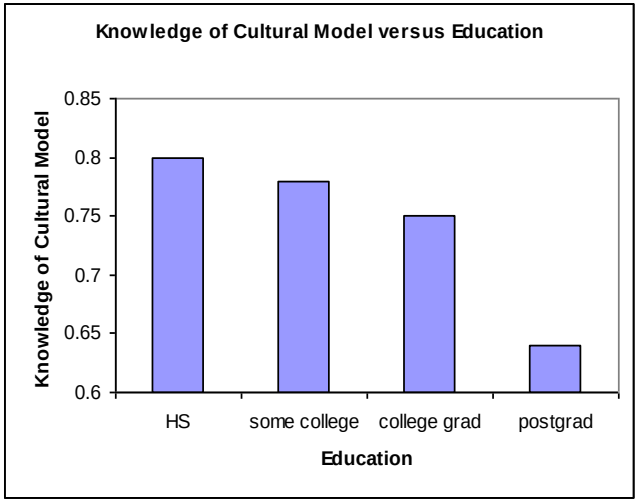
- Employee consensus score increases with hierarchical position.
  - People at the top have a better idea what a credit union is – what you want in an institution.

=> If you want to get ahead, you might want to “drink the kool-aid.”

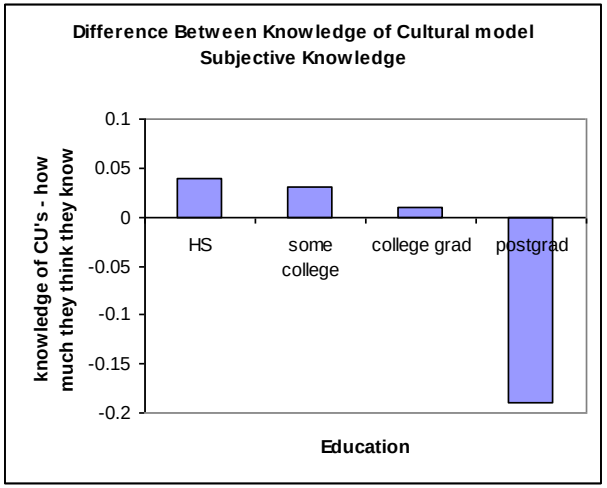


Key Finding #5

- Effect of education on cultural competence was significant but unexpected.



- Gap between how much employees think they know and their actual competence score was markedly negative among employees with the highest education.



SUMMARY

MOST GENERAL POINT

"Cultural Models" come in many sizes and flavors. When the focus is a complex CM, it's easy and wise to conjoin cultural model and consensus analysis approaches. Just plan ahead, and use a two-phase research design.

This sort of multi-method research, combining qualitative and quantitative evidence, produces ***credible*** findings (as well as interesting ones) from your client's viewpoint.

THANK YOU !