Investing in Human Capital: How new models will reshape our work

_Innovator Speaker Series_

Center for Learning and Organizational Change
Northwestern University
April 27, 2005

Mark K. Clare
President, Knowledge Dynamics
Director, Parkview Health

mark.clare@verizon.net
260 – 426 – 8454
Discussion Goals

- Explode a couple of myths and introduce some new models and thinking around Human Capital Management (HCM)
- Convince you that it is worth 8 sessions – including 4 Saturday mornings and $2100 to take a more detailed look by enrolling in the course, Human Capital Management: From Foundation to Practice, in Summer 2005
Myth #1 – from those that doubt

Claim: Human Capital (HC) is at best a fuzzy concept and most likely just a fancy new label for labor, people or human resources

Counter Claim: HC may be hard to define in unique terms but we can do it in a way that provides a new and potentially very productive view of labor, people and human resources

How do you define Human Capital?
Googling Human Capital

Capabilities of the individuals required to provide solutions customers.
[Thomas A. Stewart]
www.ichnet.org/glossary.htm

that which is in the minds of individuals: knowledge, competencies, experience, know-how etc.

the stock of accumulated skills and experience that make workers more productive
www.wworton.com/college/econ/stiglitz/glossh.htm

another name for labor (specifically, the skills and abilities of trained or educated workers).
www.asset-analysis.com/glossary/glo_023.html

Investment in education and research which results in an improvement in human skills and knowledge.
www.indiana.edu/~ipe/glossry.html

A concept popularized by Nobel prize winning economist Gary Becker. According to Becker, just as organizations make investments in physical production-related resources like plant or equipment, expenditures in such areas as training and education are investments in human capital which contribute to raises in productivity and earnings.
www.jrretrainingsolutions.com/freebie11.htm
individual or collective knowledge and physical attributes of people used in producing goods and services.

www.futureharvest.org/about/glossary.shtml

Productive investments embodied in human persons. These include skills, abilities, ideals, and health resulting from expenditures on education, on-the-job training programs, and medical care.

www2.montana.edu/lmyoung/glossary.htm

The present value of current and future labour income.

www.econplace.com/mm5e/glossary.html

All the expertise, experience, capability, capacity, creativity, adaptability, etc., possessed by the individuals in the organization.
Source: Department of the Navy IM/IT Workforce Strategic Plan, Fiscal years 2001-2006

www.bcinow.com/demo/workforce/Glossary.htm
Definitional Analysis

1. HC is knowledge, skill, capabilities, creativity, experience or the “productive stuff” in people’s heads
2. HC is an investment made in human development
3. HC is the value created by one or two

HC = “value created by leveraged tacit knowledge”

Mark Clare, Art DeTore, Knowledge Assets (Harcourt 2000)
We can see the foundation this definition provides for HC by digging to the core concepts.

What is tacit knowledge?
Knowledge that cannot be cost effectively articulated and must be embodied in people.

What is knowledge?
Cognitively active, structured content

What is cognition?
Any mental process (e.g. perception, learning, problem solving, creativity, navigation, etc.) that uses the structure to access the content of knowledge to resolve a task or meet a goal.
HC is all about Cognition

Human capital is created by the work flow “between the ears” and the “thought flows” across the organization.

Applied cognitive science is part of the foundation for modeling, measuring and managing human capital:
- Cognitive task analysis
- Cognitive load/complexity
- Cognitive ergonomics and engineering
- Cognitive therapy and behavioral medicine
- Situated cognition, emotional intelligence, cognitive bias, behavioral finance, naturalistic decision making, etc.

Applied cognitive science can bring a new level of clarity and productivity to the practice of HCM.
Cognitive Modeling a Workhorse for HC?

This generic cognitive model is oversimplified but can be a powerful template for framing HCM challenges within the cognitive approach.
Four Levels of Modeling Cognition for HCM

- Needs
- Heuristics
- Process models
- Computational models
Cognitive Needs

Why Johnny Can’t Save – Fortune Magazine March 21, 2005 and Other Studies

- 401(k)s and other retirement plans are not brain-compatible they don’t meet are cognitive needs and so we don’t consume them “rationally”

Behavioral Economics and Finance

- High cognitive load and we don’t engage
- Firm belief that we will save more tomorrow so we don’t save today

Cognitive needs and ideas for designing for cognition are beginning to emerge:

- Opt out rather than opt in
- Invest future monies (e.g. percent of next years raise) rather than current money
- Save small amount on the spur of the moment (e.g. redirect half the cost of my lottery ticket into my private SS account)

How can we use these ideas to design HR benefit programs to be more effective?
Uncovering Cognitive Needs

Requires the use of techniques new to the business world. **You can’t just ask people how they think.** Examples:

- **Protocol analysis** – verbal/video data stream of thoughts/behaviors
- **ZMET** – uses images and metaphors to get at mental models
- **Implicit Association Test** – reveal roots of thoughts and emotions by uncovering derived attitudes and deep stereotypes

These techniques help to reveal hints about the structure and function of tacit knowledge
Experience the situation in a changing context

Is Situation Typical?

Diagnose (feature matching, story building)

Inference

Clarify

Anomaly

Recognition has four by-products

Expectancies

Relevant Cues

Plausible Goals

Actions 1…n

Evaluate Action (n)

Mental Simulation

Modify

Will it Work?

yes, but

yes

Implement Course of Action

no

revise

no

yes

• Naturalistic modeling (an area within cognitive modeling) seeks to understand how people make decisions in natural settings (outside the laboratory).

• Such models provide the best understanding to date of how tacit knowledge is used to create value.

• The challenge is to translate the insight these models provide into high-impact HC programs and interventions.

Source: Virtual Reality, Immersion, Decision Making, Empathy, notes for course CS196-2, Brown University, March 2002
We are Pulling Back the Veil on Cognition

- Best selling business books today look at the role of cognition at work or in the marketplace
- They present provocative yet practical insights laying the foundation for taking a cognitive approach to the design of programs, processes, products and practices aimed at dramatic improvements in HCM

- Surwiecki’s book *Wisdom of Crowds* and decision markets
- *Making Change* – Fast Company May 2005
- Gladwell’s book *Blink* and thin slicing
- Norman’s book *Emotion Design* and the cognitive dimension of product design
- Golderberg's book *The Wisdom of Paradox* and the competency-wisdom model of aging cognition
- Book by the ABC research group on *Simple Heuristics That Make Us Smart*
- Many others that focus on the role of cognition in sales, managerial decision making, consumer choice and behavior
Example of My Projects

- Developed general purpose problem solving method (Helicopter Thinking) based on protocol study of analytical philosophers
- Development method of knowledge card decks as new approach to leadership development, culture management and behavior change
- Study of the cognition of super star sales agents revealed key value driver for customers
- Patent pending on four financial products with new “cognitive ergonomics”
- Developed knowledge services model for portal design that emphasis cognition-of-use rather than search-and-find as an organizing principle
- Developed novel approach to screen design (patent pending) that uses a common mental model to couple design to associated documentation standards, workflows and continuous improvement processes

I have work hard over the last 10 years to develop a toolkit for modeling cognition and refining a set of principles for “designing for cognition”
Value of Cognitive Models for HCM

- Provides insight into the nature, dynamics and needs of cognition in the workplace
- Provides a new foundation for developing, implementing and measuring interventions that are designed to increase the value of and retain HC
- What we need is a clear understanding of what the latest models tell us about how to “design for cognition” and a accessible toolkit for developing models on our own
  - This is what the Summer course is all about!
Myth #2 – From those that believe

Claim: Human Capital makes a unique contribution to management by providing the means to quantify the connection between human behavior and the economics of the business

– “... new statistical modeling systems that can analyze every facet of the workforce controlling for variables in such an extensive way that CEOs can ascertain the ROI on the millions they’re spending on their people.”

– Making Human Resources a Science, Business Week Interview, 12-06-02

Counter claim: Work in quantitative human capital should be framed more as experimental knowledge microeconomics than promised ROI on interventions designed to change human behavior
Fundamental Challenge: How do I demonstrate causality between HC and economic value?

Valuation Challenge:
- Standing value: How can I determine the HC value of my organization, a core competency, a role or even a person?
- Change in value: How can I estimate the amount of value a given HC program, intervention or program will create or destroy?

Measurement Challenge: How can I measure the increase or decrease in HC at the individual, team and organizational levels?
Many Approaches

- HR Scorecards and Strategy Maps
- Dynamic Modeling
- Accenture Human Capital Development Framework
- Intangible or Intellectual Capital Management Frameworks
- Watson Wyatt Human Capital Index
- Application Specific Statistical Models

Example HC Formulas When HC = People

- HCMVA = Market Cap / FTEs
- HCVA = Revenue – Non People Expenses/FTE
- HCROI = Revenue – Non People Expenses/Pay + Benefits
The economics of every business is strongly determined by a small set of key value drivers (tiny change in driver creates huge change in cash flows). The goal is to discover them and how they are influenced by tacit knowledge and cognitive performance.

What are the key value drivers in your organization?
Long Chain of Cause and Effect from Cognition to Value

Mental Model

Knowledge & Skills

Emotions & Attitudes

values

What I Know, Feel, And Value

Cognitive modeling

Learning Loop

What I Do

Behaviors / Actions

Operational Modeling

Performance

What I Produce

Value

Results I Produce

Financial Modeling

Knowledge & Skills

Emotions & Attitudes

Long Chain of Cause and Effect from Cognition to Value
Value Based Management: Six Levers to Increase Cash Flows

Operational Benefit → Increase Revenue
→ Increase Profit Margin
→ Lower Costs
→ Lower Capital Requirement
→ Lower Cost of Capital
→ Lower Taxes

Discounted Cash Flow

Need to understand how tacit knowledge and cognition move these levers.
Some studies indicate that between 40-70% of interactive knowledge work is burned up in transaction costs.

The goals it to make it easy for talented individuals to put their tacit knowledge to work for the organization by minimizing transaction costs. This can be done by developing platforms for coordination and communication with excellent cognitive ergonomics.

Can you quantify the transaction costs associated with the roles, jobs or competencies in your organization?
How Do We Handle Non Economic Value?

For non profits we need to develop quantitative mission metrics to estimate component of value that is not clearly economic. For example:

- Improve the health of the community can be translated into decreases in disease rates, increases in use of preventative screens and other quantitative measures.

Other types of non economic value e.g. “intangible customer, social or employee value” can be approached in the same way.

Work hard to translate mission or intangible value metrics into the levers of cash flows as this reveals a deeper link between cognition and economics and can help pinpoint key value drivers.

Metrics that cannot be correlated to economic measures require a scorecard approach.
• We know we cannot motivate or retain HC for long with money.
• Survey’s indicate relationship with first-line manager is critical.
• Psychology and cognitive science provide models of “deep needs” and “psychological structures” at work that can be used to design HCM programs and interventions.

Intangible employee value (IEV) is used to attract, retain and maximize the productivity of talent – the primary carrier of tacit knowledge and the foundation for HC.
Quantitative HC - Conclusions

Given the challenges of the value-based approach it is better to view calculations as a hypothesis to test instead of a promise of ROI.

Such experiments are worthwhile given the:

- competitive importance of HC
- opportunity to uncover or verify key value drivers
- reusability of cognitive and transaction cost models that are tested

This approach frames HCM as experimental knowledge microeconomics.
Key Take-a-Ways

- Taken as the value created by leveraged tacit knowledge, HCM can be grounded in applied cognitive science and value-based management.
- Understanding and designing for cognition in the marketplace and workforce is an emerging (and potentially breakthrough) way to maximize and protect HC in customers and employees.
HCM: From Foundation to Practice
Course Plug (I mean overview)

- Explore the specifics of cognitive models that have particularly strong implications for HCM
- Learn basics of how to do cognitive modeling, value-based modeling and transaction cost analysis
- Review (as case studies) specific programs and intervention I have designed and implemented over the last eight years using this approach to HCM
- Understand how the cognitive + knowledge microeconomics approach to HCM compares to other approaches
- Frame or re-frame a critical HC challenge in your organization using this approach to HCM

If HCM is to have a lasting impact on the effectiveness of our organizations we must take the time to think deeply about the concept that drive it.