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Macro, Meso, Micro: Human Capital

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New techniques that value intangible assets are becoming increasingly prominent in finance, HR and government regulator circles (Lev, 2001). Employee contributions are a key missing asset in traditional financial valuation information. Historically, I-O psychologists have used utility analysis to retrospectively determine the financial value of interventions (e.g. Raju, Burke, & Normand, 1990). However, these approaches have had limited success (Latham & Whyte, 1994). Utility analysis-based valuations have had both technical and social problems. Technically, it has been difficult to validly estimate the standard deviation of performance in dollars. Socially, executives don't always believe the results, and sometimes even feel less convinced about intervention efficacy after reviewing utility estimates (Latham & Whyte, 1994). Together this has stopped utility techniques from being adopted widely in organizations.

It might be surprising to those of us with a psychological education that a solution could be emerging from outside our discipline. Finance is starting to acknowledge the gaps between traditional accounting practices, market capitalization, and asset values (Lev, 2001). Investors for a long time have been valuing stock shares beyond the book value (i.e., physical and financial assets) of the companies (Lev, 2001). Take a look at your favorite securities portfolio, and you'll note that in spite of the recent stock market deflation, many stocks are still trading significantly above what their tangible assets are worth. This is because markets realize that intangibles help predict what the future cash flows will be worth (Lev, 2001). Empirical evidence and theory increasingly suggest that stock-market wealth creation involves optimally mixing people, technology, and physical assets as they perform together in combination to produce strategic goals (Becker & Huselid, 1998; Boudreau & Ramstad, 1997; DiFrancesco & Berman, 2000; Huselid 1995; Lev, 2001; Provo, 2000;).

Commonalities between the approaches proposed to manage human intangibles seem to be emerging. I'm happy to say that it appears that they may be fruitful in overcoming both technical and social problems with traditional utility analysis approaches.

For example, the "HC BRidge™" (Boudreau & Ramstad, 1997; Boudreau, Dunford, & Ramstad 2001) and "Human Capital Asset Management (HCAM™)" (DiFrancesco & Berman, 2000) models consider the strategic alignment of employees in the value chain. The value chain is the sequence of work activities that produces products and services at a meso-organizational level of analysis. Combinations of people, technology, and physical assets perform this "chain" of work activities. Both the HC BRidge™ and HCAM™ models suggest that the key to measuring and maximizing the value of the intangible assets (e.g., employees, brand, technology) is in their joint contributions to the overall throughput. Releasing constraints in the value chain are the places most fruitful for I-O interventions to produce economic value (Boudreau & Ramstad, 1997; DiFrancesco & Berman, 2000).

The HC BRidge™ and HCAM™ models provide causal explanatory mechanisms to describe how revenues are created by employee performance. In contrast, utility analysis struggles with estimating SDy, and sometimes substitutes employee salary as a crude proxy. Newer macro-level approaches (e.g., Huselid, 1995) use correlational associations between HR practices and economic outcomes without explicitly describing the mechanism by which employees create value in tandem with other resources. The Boudreau/Ramstad and DiFrancesco/Berman approaches explicitly describe how human labor (and supporting HR systems) creates value by partitioning costs and investments and returns. By using a model of logic about how employees create value along with traditional balance sheet financials, I believe these approaches have promise to persuade CFOs and CEOs beyond what our previous techniques have been able to achieve.

These methods can provide a meaningful way to consider, prospectively in HR planning, where investments in I-O interventions will pay off, and how much to invest. These are the sorts of tools I-O psychologists need to become cocreators and managers of businesses.

Interview

I'm thankful that Jeanne DiFrancesco, one of the thinkers and practitioners in the area, has agreed to introduce the topic to our readers. DiFrancesco is the Principal of ProOrbis™, LLC, a consulting firm specializing in the development and application of advanced management concepts. She holds an MBA from the University of Pennsylvania's Wharton School of Business and an interdisciplinary undergraduate degree from the College of William and Mary. Her previous experience includes 15 years of executive and strategic-level positions in human resources for firms ranging from small start-ups to multi-billion dollar global concerns. She is the author of the general theory of Human Capital Asset Management (HCAM™) which includes the economic methods for the valuation of intangible assets (DiFrancesco & Berman, 2000).

How did you get involved with the topic of human capital? I got involved with the topic while at Wharton where, after years as an HR executive, I was awakened to the

cold hard reality that human capital was not a business asset (at least not to the finance profession). My keen interest was in how to handle human capital as a business asset and how you would actually calculate return on investments in that asset—from training to incentive pay to the company picnic.

How would you characterize Human Capital Asset Management (HCAM™)? It's the way to understand human capital as a business asset by connecting all the various arenas of HR into a system that helps the firm create revenues. We do this in a way that makes it clear where the investments are and where returns will be achieved. The key difference between this technique and academic work is that we incorporate systems theory (operations research) more than appealing to inferential statistics. This is because we understand how HR participates in the creation of human capital, so we don't have to infer anything. Because the theories academics appeal to currently do not articulate the causal relationship, they have to rely on inferential approaches. In our projects, we're not constrained in the way academics are constrained. In our model, we know what to make happen to create returns. Even though this approach is conceptually elegant, and meets very high standards for theoretical integrity, it was really developed with a deep understanding of the way things work in real companies.

Macro, Meso, Micro's ***readers are I-O psychologists, and have familiarity with traditional utility analysis. How does the Human Capital Asset Management approach overcome some of the challenges of the past?*** I'm not an expert at Utility Analysis—I understand it from a rewards mix strategy point of view. What makes this approach different from most academic work in this arena at this time is that it uses many different business disciplines (such as economics, finance, HR, OD, social psychology, and business management) in a way that is consistent with their core principles but very differently than the current state of the practice.

For example, if you look at a cost in finance versus a cost in economics, they are two very different ideas. I've found that as disciplines specialize, they move farther away from their core principles. After they get very specialized, it's hard for them to speak the language of the other disciplines. We try to live comfortably at the core of those key disciplines, and we borrow techniques and use them in unexpected ways. This gives our techniques a lot of analytical power and understandability across a host of disciplines.

Human Capital Asset Management (HCAM™) uses these core principles to create a very different view of the firm and affords us the great luxury of using analytical techniques that were developed for one purpose and use them for another. In this way, analyses that may have seemed impossible in the past, all of a sudden look relatively straightforward. The calculation itself is not always easy, but what the number means when you are done with the calculation is a lot more clear.

Any view of the firm must consider "business science." You have to be able to speak to and relate to what it is that you're suggesting. I think that any sort of one-dimensional approach to human capital is unlikely to be accepted across the firm, or implementable. In principle these disciplines don't disagree; they just disagree in practice.

HCAM™ is more of a strategic framework that views human capital as an asset of the firm—this isn't a view of the individual—which is how I view utility analysis. One of the critical paradigm shifts required to understand human capital as an asset is to understand that the human capital of a business is not people. People are the owners of their own human capital and invest some of it in their work. Therefore, the human capital of a business is the sum of what all its people have invested in their work. We consider individual behavior and the limits of individual performance in developing our solutions, but it is not the focus of our work. We are more interested in how individuals perform together and in combination with other assets such as technology and physical capital to create economic value.

Some have argued that the reason utility analysis and human resource accounting hasn't taken hold is because it's not credible to managers (Johanson, Eklov, Holmgren & Martensson, 1998; Latham & Whyte, 1994). What reactions have you had with your approach from general managers and finance leaders? It is always difficult to generalize, but my experience says in general, the closer you are to a P&L (Profit & Loss statement) the more receptive you are to this concept. The people with the biggest problems with our ideas are the single disciplinary people. If you're a finance person three layers down in the organization, you may have a hard time wrapping your brain around this. If you're a plant manager, you get this intuitively, and it makes a lot of sense to you—and you can't understand why people don't do this already. In finance, the people who get it the best are the very most sophisticated professionals. That's a very small population, but fortunately, it's an important, influential group. CEOs and GMs get it way faster than finance professionals in general. HR is somewhere in the middle.

One of the new ideas you introduce into HR systems is the concept of tolerance and employee performance. Would you explain this idea? Basically, any business process is designed to tolerate certain kinds of performance from the assets that execute the process. This is well understood for physical capital—the same is true of human capital. Understanding the system tolerance and variability in performance of human capital is one of the most important ideas in understanding human capital as an asset—how human capital can make a difference to the business outcome. If you know how human capital creates value, then you know how you can cause it to create more value. The value of human capital is derived from the value it helps to create.

Business assets (as opposed to financial assets) are assets because they have certain productive capabilities. This is an important concept. This is not a concept of liquidated value, more a concept of "value in use." Business assets have value as part of a production function. When the liquidated value is greater than the "value in use," companies get broken up. We deal with human capital's value in a going concern—not its liquidated value.

One of the HCAM™ analytic approaches involves understanding input costs, throughput value and capital's (physical, human, and technology) role in producing this value. How does this work at a micro or meso level of analysis—for example in a

department, work group, or division? Basically, to do the analysis in a segment of a business, it's very important to understand the role of that segment's process in the overall value chain. The same analytic techniques apply as those we would use for the entire business. In this way, you can decompose any part of the organization, as long as you understand the costs of what's coming in and the value of what's coming out. Where it's an internal operation, often the cost coming in is a true accounting concept of cost. To the extent the cost is coming on a value basis (transfer price), then you have inputs that are more market valued. The transfer price might represent the cost to the segment. This is the attempt of firms to place the value where the value gets created.

There is some controversy over whether HR metrics and intangibles in general should be regularly disclosed in corporate financial reports (e.g., annual report, balance sheet). What is your thinking on this? For the most part, people don't understand what the assets of a firm are—tangible or intangible—so disclosure would have to educate consumers of financial information about what the assets, in fact, are. Then, public disclosure could be focused usefully on providing the core information to make various assessments about what is happening to the intangible assets.

What concerns me the most about the clamoring to report intangibles, is that most people don't know how to think about intangibles, so making disclosures would be potentially confusing, just like any information that has no reasonable standard or context. But I do think public disclosure of certain variables would be extremely helpful to investors and other consumers of financial information, like employees. I just think a lot of education would be required to make the information useable.

Some experts on intangibles, like Baruch Lev (2001) have suggested that if the financial community is educated and companies report intangibles, that stock market volatility could be reduced. Do you agree? I absolutely agree—today markets are speculating on intangibles, and market volatility would be reduced if people really understood intangibles. Otherwise, market volatility could be increased if people misunderstand them. I think that's the fear of the people on the other side. I'm a very big supporter of standards in this regard, because people should know what they're looking at. By understanding value, they'll make better decisions.

You have a nice overview of your approach in the National Productivity Review. Are there any additional references you can recommend for readers interested in more details? You can look at CFO Magazine in the April 2001 issue or go to www.proorbis.com. We haven't published as much yet; we've got a lot of behind-the-scenes stuff going on.

Any final comments? It's exciting to see the HR disciplines starting to grab on to HC as an asset. I would encourage specialists to broaden their perspective to get a strategic understanding, so they can create more value for their organizations.

In many ways, HR is my first love—it's the discipline with the most hope of leading this new disciplinary arena. Many observers write off HR as the last bastion of

administration, but I don't believe that. I think to do HR well, it takes a lot of knowledge of many disciplines, and that it is the breadth of knowledge that is the best foundation for building the tools and techniques to treat human capital as an asset.

Closing Thoughts

I'm heartened that these ideas about valuing intangibles are getting increasing attention from many prominent sources, including the Financial Accounting Standards Board and the Securities and Exchange Commission (Lev, 2001). Given I-O psychologists' quantitative training, we should be some of the first to lead organizations down this path. To do that, as DiFrancesco suggests, it may require us to borrow ideas outside of our traditional academic tradition and from other areas of organizational science (e.g., industrial engineering, strategy, marketing, and finance).

I always appreciate your feedback and ideas; please write to me at matt.barney@motorola.com.

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