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A human resource accounting transmission: shifting from failure to a future

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Abstract

Purpose – This paper seeks to present the positions and conclusions of scholars to support a proposition that the asset approach to human resource accounting has failed.

Design/methodology/approach – Reviews the history of human asset accounting.

Findings – The paper offers an alternative "liability approach" to account for and report human resources.

Originality/value – The paper provides an argument and rationale to demonstrate that a liability paradigm would be compatible with normal accounting and reporting procedures.

Keywords Human resource management, Accounting history, Financial reporting, Liabilities

Paper type Conceptual paper

Introduction

Thomas Kuhn (1996) suggests that a group shares a paradigm when they believe in particular models, they share values, they have shared examples, and they share symbolic generalizations (pp. 182-4). Given this definition, the group of scholars and practitioners who advocated accounting for human resources (HR) as assets surely have created a paradigm. Most modern HR practitioners would generally agree that the people in their organization are valuable assets and are as important, if not more important, than the organization's physical and intangible assets. Many in HR agree that these assets should be measured and bemoan the fact that while the value of a physical asset is, and is required to be, reported in the organization's financial statements, no such treatment is required for the organization's human assets. But as Kuhn (1962) suggests, paradigms do shift and change; they do not change easily, but they do change.

The case for externally reporting HR value has arisen in one form or another since the late 1960s. Originally the cause was carried foreword by William Pyle, Eric Flamholtz, and R. Lee Brummet, the HR accounting proponents from the University of Michigan. Today, it has become part of the domain of intellectual capital and is important to those interested in valuing intangibles. Common to all of these is the notion that accounting for the value of HR will change organization relationships. Each has proposed that the value of HR, either independently or as a part of the concept of intellectual capital or intangible assets, should be measured and reported. Various reasons are given for the importance of reporting the HR value. Cries for transparency (making insider information known to outsiders), is one given reason. The notion that failure to report understates assets is offered as another reason. Improved treatment of

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employees and increased status for those responsible for HR management also are offered as reasons for supporting the calls to measure and report.

From the perspectives of some scholars and practising professionals, the HR valuation advocates have failed. People do not fit the financial definition of assets (Mayo, 2004). Scholars require that proponents of a cause go beyond impassioned pleas. Scholars require that advocates of a position present two things. First, their theory must demonstrate how their explanation works and also how it fits with other known and accepted theories. Simply stated, this requirement asks "How would a human asset concept fit and work with the other current business concepts?" Second, scholars require proponents to explain how to measure the concepts of their theory. This is an important and fundamental scholarly requirement because if, for example, asset value cannot be measured then it is not possible to show what that value affects.

The HRA asset advocates also have failed practising HR professionals because other non-HR managers, such as finance and accounting managers, do not accept the HR measurement proposals. These non-HR managers acknowledge the importance of HR (Kieso *et al.*, 2003). They just are not convinced that the proposed HR accounting processes fit within the accountant's usual system. The proposed HR accounting processes are too different from other asset valuation techniques and it is difficult to demonstrate that human assets meet two tests of an "asset". For accountants, assets must generate a future income stream and be owned (controlled) by the organization. With HR the actual total or even the marginal flow of income attributable to the imprecisely measured HR value is so tenuous that accountants and practising finance professionals are reluctant to report or accept HR values as assets (Kieso *et al.*, 2003). In addition, the fact that HR cannot be owned, and therefore cannot be sold, means that it would be a unique asset with a characteristic very different from the class of other things considered to be assets.

This paper calls for a change in perspective. Unlike some (Pfeffer, 1997; Becker *et al.*, 2001; Boudreau and Ramstad, 1997), who would suggest moving away from costing and reporting HR in financial terms, we suggest a new accounting and reporting approach that is compatible with current accounting methods. This new approach will require a change in the way practitioners and scholars perceive their activities and processes. The perceptual change will result in a shift in understanding the way HR management is practised. The paper begins with a brief discussion of HR accounting's origins and a brief history of the asset approach. It concludes with the introduction of an alternative to the HR asset model. I believe an alternative is needed.

A history of human asset accounting

The modern search for a method to provide HR value information in external corporate reports has interested practising HR professionals since the late 1960s, when the R.G. Barry Corporation included HR as assets on a supplement to their balance sheet. Since that time there have been repeated efforts to include HR value and other intangibles such as intellectual capital in corporate reports. Recent arguments that support including these as assets on the balance sheet have been put forth by a number of individuals. Tom Stewart advocates external reporting of intellectual capital. Baruch Lev has lobbied to change the accounting rules to allow these "new" intangible assets to be reported. Leif Edvinsson is given credit for Skandia Corporation's external reporting system. Birgitta Olsson, Editor of the *Journal of Human Resource Costing*

& *Accounting*, and her associates at the University of Stockholm's Personnel Economics Institute, disseminate their own and others' work in the area. Their arguments include the need for more corporate financial transparency, and concerns that the omission of the value of human, structural and intellectual capital as organization assets results in an under-valuation of the knowledge based companies that drive the new economy (see, for example, Gröjer, 1997; Olsson, 1999, 2001a, b, 2003).

The form of these arguments generally is to demonstrate that human capital, intellectual capital and structural capital according to Sveiby's (1997) concepts are similar to other assets. It is argued that organizations acquire HR to generate future revenues, and therefore HR should be considered when valuing a company by capitalizing instead of expensing them in the current period. The crux of the argument is that human, intellectual, and structural capital should be treated in the same way as the things they are like; the things these advocates think they are most like are assets, and since assets are reported on the balance sheet, these also should be reported along with the physical assets.

Formally accounting for HR's value, a type of intangible capital, on a balance sheet is in the domain of HR accounting, a concept that has intrigued practising HR professionals for almost 40 years. In my view, and it may only be my singular view, a review of this 40-year period can be divided roughly into three parts: the beginning, the mid-term and the recent. I will begin with the history as I learned it and as I lived it while working with Pyle to extend his initial work with Flamholtz and Brummet. This section I call "In the beginning". The section that I call "Midterm entrants" discusses the work of persons who have kept the HR valuation issues alive through their reports, research and teaching. In this part I include Wayne Cascio's efforts, Hunter and Schmidt's utility theory and John Boudreau's contribution. "The recent period" mentions some of the new entrants to the field. These include the scholars at the University of Stockholm's Personnel Economic Institute, along with recent writers on the subject like Baruch Lev, Thomas Stewart, Leif Edvinsson and Karl Erik Sveiby.

In the beginning

The history of HR accounting and the modern interest in determining HR value can be traced to a scholarly article by Roger Hermanson at Michigan State University (Hermanson, 1964). His original work was of interest to R.M. Likert at the University of Michigan, who supported work by two PhD students, Eric Flamholtz and William Pyle. During the late 1960s and early 1970s, as these two completed their doctorates, methods to operationalize and implement a system of accounting for HR at the RG. Barry Corporation developed.

Presentations and articles by Pyle, Flamholtz, and a well-respected member of the University of Michigan's accounting faculty – R. Lee Brummet – led to the formation of a consortium of businesses known as the Human Resource Accounting Association. By 1972 the Association had about 25 (or more) *Fortune* 500 members. As the Associate Director of the Human Resource Accounting Program (the parent organization for the association), this writer, while pursuing an MBA at the University of Michigan, worked with companies and the association to develop, apply and extend techniques to determine the value of HR and to account for HR. Later, that association was relocated to The University of Minnesota, where it became the primary

subdivision of The Human Resource Research Programs. As a Research Fellow with the working title of Program Coordinator, this writer, while pursuing a PhD in Industrial Relations, continued at Minnesota to work on the problems of measuring and operationalizing the construct of HR value. It seemed that if a valuation method acceptable to accountants could be developed, the path to balance sheet inclusion of HR assets would be clear. Slowly, probably due to studying measurement in my course work in the PhD program, I became convinced that the problems of measuring HR value had not been, and probably would not be, overcome. I did not share that conviction privately with William Pyle, my mentor at the time, nor publicly. While I chose to stop advocating accounting for human resources as assets around 1977, my rationale for doing so would not be made public until 1989. Pyle and others continued to work and/or publish in the field.

Pyle, Flamholtz, and Brummet. Pyle's scholarly publications on HR accounting generally tend to be the co-authored articles written with Brummet and Flamholtz (Brummet *et al.*, 1968a, b, 1969a, b). Pyle left the University of Minnesota and relocated to the University of Massachusetts at Amherstberg. He later moved to Eckerd University in Florida, where he held a chaired professorship in management and international business and served a HR institute as its founding director and chair. While he reduced his emphasis on HR accounting, Pyle continued working with an association of companies on proprietary HR issues.

Of the three initial HR accounting proponents, Flamholtz has, by any standards, been the most prolific (Flamholtz, 1985, 1992, 1999). After completing his McKinsey Foundation Award-winning doctoral dissertation "The theory and measurement of an individual's value to an organization" and receiving his PhD in Business Administration (Organizational Behavior and Human Resource Management), Flamholtz became affiliated with the University Of California at Los Angeles. He has continued, to the present, to write on the HR accounting (HRA) topic. His book, *Human Resource Accounting*, is in its third edition (Flamholtz, 1985, 1999). The contents of the earlier edition, which have been included in the most recent edition, were critiqued in a 1989 article (Scarpello and Theeke, 1989) and need not be rehashed here. There are two important conclusions that any reviewers of Flamholtz's work could feel secure in stating. First, in the years after the R.G. Barry project, he has been prolific and persistent in his publications on HR accounting. And second, as evidenced by a lack of widespread adoption of his methods, (Mayo, 2004) his persistent efforts have not provided any acceptable HR accounting approach (Boudreau and Ramstad, 1997). Flamholtz has continued to maintain an active role in HR accounting and serves on the editorial board of the prestigious *Journal of Human Resource Costing & Accounting*.

Brummet's former service as president of the American Accounting Association gave these early HR accounting advocates great credibility and brought positive attention to the HR asset approach used on the RG. Barry project. One would also have to suspect that the involvement of involvement Brummet, as well as the famous Rensis Likert, at the meetings that gave rise to *Human Resource Accounting, Development and Implementation in Industry* (Brummet *et al.*, 1969a, 1975) also provided the impetus for the Human Resource Accounting Association established at The University of Michigan. By the mid-1970s Brummet had left the University of Michigan to join the faculty at the University of North Carolina at Chapel Hill. I think it would be fair to

conclude that Brummet's advocacy of HR accounting was on the wane when he left the University of Michigan.

I know that the creation of the Human Resource Research Programs at the University of Minnesota removed the HR accounting program from Pyle's central focus. Of the three (i.e. Pyle, Flamholtz and Brummet), the only one who has remained active in HRA is Flamholtz. He continues to contribute articles in the area of HR accounting and his human resource accounting book is in its third edition.

Mid-term entrants

More recent contributors to the HR valuation field include Cascio with the fourth edition of his book *Costing Human Resources* (Cascio, 2000), Schmidt *et al.* (1979) with their utility approach for valuing HR, and Boudreau, who has published multiple articles on the subject. These authors attempted to solve some of the application and conceptual problems that kept, and still keep, human assets off balance sheets. While some of these authors' works still linger and are often cited, they and their contemporaries can be considered sort of mid-term entrants to the field. Most of these articles and authors' contributions were critiqued elsewhere (Scarpello and Theeke, 1989). Because Cascio's, Boudreau's, and Hunter and Schmidt's work continues to influence the field, I will comment only on these three mid-term entrant's lines of work.

Cascio. Cascio's books have served the HR profession by providing a record of the kinds of valuation activities HR researchers are interested in. They contain examples of studies that researchers have undertaken using financial decision-making approaches to evaluate and justify HR options and choices. This popular book has kept an interest in costing HR programs alive in the US. He writes in the fourth edition that he does this so that HR professionals can compete with other business professionals (Cascio, 2000). What seems remarkable to some of my colleagues is that this interest in costing emanates from a psychologist who does not have a degree in business or economics. When they raise this to me as an issue, I remind them that when he became interested in HR measurement and valuation, he actually took a bit of time to study some finance classes. I refer them to his *curriculum vitae* on the internet, where they can confirm that he reports this important information. I think it is of importance that Cascio expresses concerns about the asset approach, acknowledges that there are problems with some of the past HRA approaches that tried to measure value of HR, and attempts to develop a tactic to deal with the problem of an asset approach. He writes that the historical cost approach, developed by Brummet, Flamholtz and Pyle, has shortcomings (p. 3); suggests that the replacement cost approach, proposed by Flamholtz, does not solve the problems and might actually increase subjectivity and bias estimates relative to the historical cost approach; and that the present value of future earnings approach, proposed by Lev and Schwartz, with a value based on employee future wages is inadequate (p. 4). Cascio (2000) suggests that human asset approaches are insufficient because they focus only on investments in people (which he contends are inputs) and ignore the outputs these resources produce (p. 5). A careful reading of pages five and six in his book suggests that the problems all of the critics are talking about reside in the human asset accounting models. He then proceeds to distance himself from those asset models, proposing instead to use an alternative approach. Instead of using that incorrect human asset accounting model approach, he claims to use an expense model

approach in his book. He contrasts the potential and different uses for the asset and expense approaches. He writes:

> An organization might use HRA asset models to reflect its investment in employees – models that assess the value of employees, treating them as capitalized resources. In contrast, an organization might use HRA expense models to measure the economic effects of employee's behavior. The latter are particularly useful in attempts to account for intellectual capital (p. 8).

I leave the reader with the strong reminder that Cascio has criticized and distanced himself from the asset approach and the recommendation to search his book for the rest of the expense model.

Hunter and Schmidt's utility approach. An article by Scarpello and Theeke (1989), which reviewed and critiqued the attempts to operationalize and use the measures proposed for HR accounting, gave rise to a 1995 Academy of Management Symposium debate entitled "Should the research on utility theory continue? Why and why not?". Cascio, well known for his book on costing HR, served as moderator. Scarpello and Theeke opposed John Boudreau of Cornell University, who has authored HR valuation articles that employed utility theory (Boudreau and Berger, 1983; Boudreau and Rynes, 1985, Boudreau, 1991) in prestigious journals such as *Journal of Applied Psychology* and *Personnel Psychology*, and Michael K. Judiesch, a former student of Hunter and Schmidt and a devotee of their famous "utility theory" approach for determining HR value (the famous psychology professors Hunter and Schmidt were not available to debate since they were being honored with lifetime achievement awards at another scholarly gathering). Boudreau's position at the debate is contained in Working Paper No. 95-35, available from Cornell University's Center for Advanced HR Studies (Boudreau, 1995). The Scarpello and Theeke (S&T) positions have not appeared elsewhere in print but can be generally described as follows. Schmidt *et al.* (1979), in their seminal article, contend that they had estimated the relative value of different levels of performance for computer programmers. A cursory reading of their approach might lead one to conclude that the valuation method they used was measured in dollars. S&T contend that a careful reading of the approach indicates that the dollar scale was really just a scale that pretended to be the kind of dollars you or I could spend in a real world. The "dollars" were really that old economist's Util. As such it could give the relative values of things, but not the real-world dollar value of things. S&T contend those "dollars" were never validated against real dollars. Instead, replication was offered as evidence for the validity of the "dollar" estimates. But, as any graduate student is taught, reliability, not validity, comes from replication. Reliability is a necessary condition to demonstrate validity, but a measure that is reliable still might not be valid. To be valid, the proposed measure needs to be shown to correspond either with the real thing or something that is accepted as, or corresponds with, that which is accepted as the real thing. Hunter and Schmidt never did show how "their dollars" were linked to, or could be translated into real dollars. To their credit I do not think they ever claimed to have done so (see Hunter *et al.*, 1988, for their discussion of problems when using capital budgeting and accounting techniques). But without such a link, all one measured by using the Hunter and Schmidt method of estimating value changes of improved performance (called "Sdy") was the Utils associated with the change in performance. And the fact that they called their Utils "dollars" did not mean that one knew the value of performance improvements in real dollars. Since Hunter and Schmidt did not develop the link between "their Utile dollars" and real dollars, no manager could

determine the amount of real dollars that should be spent on projects (recruitment, selection, training, performance evaluation) to change performance because the value of the performance change was measured in "their Utile dollars" and no one knew how many real dollars it took to equal one of "their Utile dollars".

For any economist or sophisticated businessman, a second thing Hunter and Schmidt reported would defeat a claim that a valid measure of performance value in real dollars had been developed. Hunter and Schmidt's estimated dollar values were reported to be correlated with wages. Business people estimate value by calculating the difference between cost and revenue.

Cost is generally that which is paid for an item and revenue is that amount for which the item is sold. There is no reason to believe that the difference between revenue and cost is equal for any two items that have equal cost. Why should profit or contribution margin be the same for two things that have equal cost? It is possible in the real empirical markets that two things with the same cost could generate different amounts of sales revenue. Since these two things would have different value, business people and empirical economists have no reason to believe a measure that correlates with wages, which are a cost, is also correlated with value. More simply, there is no reason to assume that high-cost items are also high-value items or that low-cost items are low-value. To a businessperson, value really depends on how much profit one makes on the item. Economists and business people would be more inclined to believe that if a measure that purports to be the equivalent of value is highly correlated with a measure that is known to be an indicator of cost, the purported value measure probably is not valid. Because of the aforementioned, S&T conclude, and still contend, that Hunter and Schmidt's estimation methodology is not acceptable as a measure of asset value, and also that the "dollar" value estimates cannot be used to perform program cost benefit analysis because the program's cost(s) are measured in real dollars and the benefits are measured in "their pretend dollars".

Boudreau's position. By the time of his 1995 Academy of Management debate, Boudreau was well credentialed as an expert on utility analysis. He had written the utility chapter for Dunnette and Hough's *Handbook* (Boudreau, 1991), and had published numerous articles using and discussing the methodology (Boudreau and Berger, 1983; Boudreau and Rynes, 1985). At the time of the debate Boudreau acknowledged that there are measurement and construct validity problems but proposed that instead of resolving these, the focus of the future research on utility theory should shift to the impact of utility analysis. He writes:

> Questions of measurement and construct validity will persist [...] I am suggesting that focusing only on questions of measurement and validity may overlook fundamental value in utility analysis (Boudreau, 1995).

In a 1997 article that he wrote shortly after the debate, he again acknowledges the HR measurement problems, stating "There is no shortage of HR measures [...] these existing metrics seem to fall short" (Boudreau and Ramstad, 1997). Again, citing his 1995 Academy of Management debate presentation he writes:

> Thus, the fundamental question is not, "How to construct the best HR measure?" but "How to induce change through HR measurement systems?" (Boudreau and Ramstad, 1997).

As I read Boudreau's article, I believe he recognizes the problem with treating HR as assets stems from the trouble that researchers have when trying to value the asset. He

writes that Flamholtz has not been able to produce a set of generally accepted HR accounting principles (Boudreau and Ramstad, 1997). Boudreau suggests the reason that measuring people's asset value has been elusive is the tendency to frame HR measures too much in terms of financial measurement systems and not enough in terms of their ultimate purpose (Boudreau and Ramstad, 1997).

So, I would summarize Boudreau's position as follows. He, like Cascio, knows there are measurement problems that make HR measures suspect and unacceptable. Unlike Cascio, however, rather than attempt to find a way to create an acceptable quality of information, he wants to study the effect that the current quality of information has on management decisions in the hope that such studies might improve the measures (Boudreau and Ramstad, 1997).

The recent entrants

Recent HR accounting activities include three developments. One is the work at the University of Stockholm's Personnel Economics Institute. This includes the *Journal of Human Resource Costing & Accounting*, the Institute's sponsored meetings and its support for advancement and incubation of HRA ideas. The second is the work of three consultants/writers – Karl Erik Sveiby, Leif Edvinsson, and Thomas Stewart. Sveiby, in the last half of the 1980s, began writing about knowledge-based companies and knowledge management. Edvinsson, at Skandia Corporation, following the R.G. Barry Company, provided information about HR in corporate reports. Stewart, a former *Fortune* magazine editor, wrote and spoke extensively about accounting for intellectual capital. And third and maybe more obscure to practitioners, but equally if not more important than the others, is the recent effort by the scholar Baruch Lev to secure balance sheet reporting of intangible assets. While each of these new arrivals to the HRA movement has independence from the other advocates and researchers, some have become entwined. For example, on the Editorial Advisory Board of *Journal of Human Resource Costing & Accounting*, one finds Eric Flamholtz and Wayne Cascio and John Boudreau. Leif Edvinsson's work is acclaimed in *Fortune* magazine, which employs Thomas Stewart, the author of popular press books on intellectual capital (Stewart, 1997). Thomas Stewart and Leif Edvinsson, share(d) exclusive representations by the Leigh Speaker's Bureau for public appearances and presentations.

In common to all of these advocates is their call for reporting, as assets, the value of human capital. Also in common is the failure of their approaches to be adopted. While these authors' arguments seemed to have some traction in the early 1990s, today one argument they employed seems less persuasive. Stock market devaluations at the start of this century call into question the argument that the difference between book value and market value for corporations must be due to unreported human capital. While popular press and practising HR professionals have embraced the rhetoric and proposals of these new writers, their proposals have not received serious consideration by scholars with training in finance or accounting. And so, today, we find ourselves in the same place with intellectual capital we were in 1974 with HR accounting, when Kieso and Weygandt (1974) wrote in their *Intermediate Accounting* text about the problem accountants have with human resource accounting. They wrote:

> The first step in the accounting cycle is transaction analysis. The problem is to determine what to record, that is, to identify recordable events. No simple rule exists for stating whether

> an event should be recorded. For example most accountants agree that changes in personnel, changes in managerial policies and the value of HR are important; but none of these items is recorded in the accounts. On the other hand, when the company makes a cash sale, we have no reservations about recording this transaction.
>
> What makes the difference? Generally two criteria are applied in determining whether an event or items should be recorded: can the event or item be measured objectively in financial terms? And does the event or item affect the financial position of the company? If the answer is no to either question, the event should not be recorded. Events that can be measured and that directly affect the financial statements are generally called business transactions and are reducible to dollars and cents. To illustrate: let us examine the problem of human resources. Should human resources be recognized on financial statements? R.G. Barry & Co., for example, in a recent annual report shows as supplemental data total assets of $14,055,926, including $986,094 for "net investments in human resources." Should accountants value employees for balance sheet and also for income statement purposes? Certainly skilled employees are an important asset, but the problems of determining value and measuring objectively have not yet been solved. Consequently, human resources are not recorded; perhaps when measurement techniques become more sophisticated and accepted, such information will be presented, if only in supplemental form (p. 65).

Kieso *et al.* (2003), 30 years later, make the same point again with reference to the R.G. Barry work and say, "certainly skilled employees are an important asset" (pp. 68, 69).

It is clear from the above quote that accountants have long acknowledged the value of these items. But the accountants have not developed, nor have they been provided with, an acceptable method for valuing the items in financial terms. They have not been provided this objective method for the HR value, or the intellectual capital value, or the structural capital value.

Stewart, Edvinsson, Sveiby. While Thomas Stewart, according to the dust jacket of his book, is the world's leading expert on working with intellectual capital in today's knowledge economy (Stewart, 1997), Leif Edvinsson's book jacket reports him to be the world's leading expert on intellectual capital (Edvinsson and Malone, 1997). Karl-Erik Sveiby, formerly the co-owner of one of Scandinavia's biggest publishing companies in the trade press and business press sector, has a number of publications about measuring intangible assets. Together these authors have captured the popular press sector of the intangibles discussion. Edvinsson, while at Skandia Corporation, developed a model for classifying intangibles including human capital as assets and developed a series of measures, most of which were not in dollar terms, to show the value for his intangible assets. In spite of the fact that the methods have been made available for purchase, there does not appear to be wide spread adoption. The failure to adopt cannot be attributed to the obscurity of Edvinsson and Skandia's project since many people, including Stewart, reference Edvinsson's and other's work while imploring their audiences to report intangible assets. I think it would be safe to conclude that the failure to adopt is the result of the method's failure to provide an acceptable measurement technique. Together, none of the efforts of this group has resulted in an accepted method for accounting for HR.

Baruch Lev. Lev's position on HR as assets is summarized in Chapter 3 of his book *Intangibles* (Lev and Schwartz, 2001). He discusses the requirements, including the

ownership requirement, for something to be considered an asset. He explains in a footnote that public corporations are required to report pension obligations, post-retirement benefits and stock and incentive payment plans, and states unequivocally that these disclosures do not convey the direct information relevant to the value of HR intangibles (Lev and Schwartz, 2001, p. 73, footnote 65). He also writes, "systematic research on the measurement and valuation of HR intangibles is extremely lean" (Lev and Schwartz, 2001, p. 73). His definition of a HR asset commences with a declaration that companies spend money to affect employee knowledge and motivation, but that all such expenditures do not create assets. He contends that assets only arise "when the benefits from such expenditures – in the form of increased employee productivity – exceed costs".

Lev concludes that for all the intangibles, the least systematic information exists for HR. He reports that it is not even clear what expenditures on HR create assets, and believes that more corporate disclosure will be needed to advance research on HR intangibles. As if Lev's own conclusion was not strong enough, his position is supported by the conclusions of his book's invited reviewers – Brian Hackett, Stephen Gates and Wayne Upton.

Hackett states:

> I would add that most employers do not track the value of their investments in training. Most large firms spend 2% of payroll on training. Senior managers feel that the value of training cannot be isolated from the many variables that affect performance (Hackett, 1997, New York Conference Board).

As for the usefulness of such investment information, Hackett writes:

> Investment analysts rarely look at a firm's investment in training when evaluating a company (Ernst and Young 1994 Boston: Center for Business Innovation) (Lev and Schwartz, 2001, p. 179).

Stephen Gates, in summarizing Lev's work, reports that:

> To the question "What are HR intangibles?" Lev answers that the identification and quantification of benefits from expenditures on HR pose such problems that the jury is still out.

Gates also notes the United States' Generally Accepted Accounting Principles requirement that to record any thing as an asset a company must demonstrate it has effective control of it, makes it exceedingly difficult to consider a company's employees as its assets (Lev and Schwartz, 2001, p. 181).

Finally, Wayne Upton, in his review of Lev, agrees with Lev that Lev's three categories of intangibles – discovered intangibles, organization intangibles, and human resources – are fundamentally different, and concludes that: "Given the differences, it may be that one reporting system cannot fully communicate information about all three" (Lev and Schwartz, 2001, p. 196).

Conclusions from the history review

Common to all past HR accounting work is the effort to deal with the requirements of the Generally Accepted Accounting Practices. The cost benefit studies attempt to show that there was a flow of value as a result of some HR expenditure. Such a demonstration is often cited as a requirement to claim the HR activity is an asset. Other

attempts have been directed at methods to determine and assign the value to HR. Demonstrations of an ability to assign such value in a reliable objective fashion and so that the determined values are material (significant enough to make some difference) are required to account for them as assets. Even if these approaches have dealt adequately with these two points (and as Lev and his reviewers write, there is still dispute over that), the ownership and/or control issue from the asset definition still needs to be met. Historically, it has not been. Instead the asset advocates argue that they should be granted some special dispensation with regards to that requirement. It is almost as if they want us to accept their position based on an invocation of the old saying "Two out of three ain't bad". Given the 40 years of human resource accounting history, that dispensation is not likely.

The preceding has described the state of a HR accounting field that has emanated from the asset valuation approach. We could sum up that work as culminating with a realization that the asset approach has failed. I think the writings of the scholars on this issue are clear. Cascio is clear that he does not advocate the asset approach; Boudreau reveals that the asset approach has problems by admonishing the intellectual capital investigators not to repeat the HR accounting problems; and Baurach Lev is clear that the HR asset valuation problem has not been solved. I believe the 1989 Scarpello article and the 1995 Academy of Management debate helped reveal the problems of the asset approach. In sharing that position with Birgitta Olsson of the Personnel Economics Institute at University of Stockholm, I remember her challenge. She said, "You are very good at pointing out the problems and what is wrong, but you don't offer any solution." At that time she was correct. I was certain that people were not assets if one applied the accountants' ownership (control) criteria; I knew that the "employment at will" relationship, which is so prevalent in the US, would never allow a company to claim that the company had ownership control over the workforce. Furthermore, it did not seem (and I still believe it is not) possible for one to value the human resource by "teasing out" from the interactions among all input resources the portion of a future value flow that was attributable to labor.

A new direction

Motivated by Olsson's comment to work to fix the problem, I recalled from my management training that sometimes one could solve a problem by recasting and reframing it. For example, instead of casting the HR accounting problem as "how can we get accountants to report HR as assets?" one might ask, "How might we get accountants to report the value of HR so consideration of that value can be used for financial decision making?". The historic logic of "show them that human resources are like something that they do report" is good, but we must be able to find a better fit between some other accounting concepts and human resources than we have for assets. So now the game becomes finding other accounting concepts that are reported and that affect financial decisions, then inspecting them to see if they might provide a model.

One day while considering that problem, I made a simple connection. I realized that the employee's right to leave the organization at any time was a lot like a bank depositor's right to remove the deposit at anytime. I wondered how banks handled these demand deposits from an accounting standpoint, and I investigated. I learned that demand deposits were treated as liabilities. Then I began to explore the implications of similar treatment for the human capital that employees loaned to

companies. My consideration of the implications and investigation of the similarities led directly to consideration of three potential liability approaches:

(1) the demand deposit approach;

(2) the lease capitalization approach; and

(3) the contingent liability approach.

The demand deposit approach challenges the accountants' ownership obstacle for reporting HR as assets: however, it does not resolve the measurement issues. The accountants' lease reporting and lease liability computation and estimation approaches might provide some advances towards acceptable measurement of HR for reporting purposes, but capitalization of people will probably continue to be resisted. When I completed my assessment of the three potential methods, I concluded the contingent liability approach to account for human resources is most consistent with current accounting methods.

Liabilities

Liability[1], like asset, is a term we often use and we think we know the meaning. Often we think liability means bad, but that is not true. It would be better to think of liability as an obligation. Making and meeting obligations is at the foundation of business. We promise things to our customers and we promise things to our creditors. We accept and expect fulfillment of the promises we get from our suppliers. All of these are obligations that at one level are enforced, often by no more than an honor code between entities. When the dealings involve strangers or there is uncertainty, the relationship often becomes contractual so the obligation has some legal force. But most business-people know, as I was taught, that if you cannot trust someone to deliver on an obligation without a contract, you should not feel secure because you have the contract. You provide the other parties with a contract to let them know you are sincere by becoming publicly or legally liable, not as a way of forcing them to deliver. Making and keeping obligations is the cornerstone of business. To business people, therefore, the liability from such obligations is not good or bad – it is just a fact and a necessary way of life.

Understanding the concept of liability is central to the thesis of this paper. This paper presents the rudiments of a liability approach to placing people on the balance sheet. Central to this is the realization that in societies where humans cannot be owned, organizations acquire and retain human resources and human capital by incurring liabilities. If the organization has no HR liability and if it does not expect to have any future liability, it probably does not have and will not have HR.

Accountants define liability as probable future sacrifices of economic benefits arising from present obligations of a particular entity to transfer assets or provide other entities services in the future as a result of past transactions or events (see Kieso *et al.*, 2003, p. 37). So, liabilities are obligations to transfer assets at some future time. The obligations that result in long term liability are of three types. One is from special financing situations like long-term notes, bonds or lease obligations. The second is due to obligations from operations and includes pension obligations and income taxes. The third are called contingent liabilities and depend on the occurrence of some future event. Service warranties and lawsuits are examples of contingent liabilities (Kieso

et al., 2003). To consider a liability approach to HR accounting there are three specific types of liabilities we need to discuss. These are:

(1) the liability from demand deposits;

(2) the liability from leases; and

(3) contingent liabilities.

Demand deposits. Demand deposits are one method organizations use to acquire cash. They are used often in the banking industry. Passbook savings accounts and checking accounts are examples of demand deposits that most people know about. We are interested in demand deposits because they have some similarities with human capital. Demand deposits and human capital are, and remain, the property of the person who loans them. People can contract to entitle someone to use their human capital or cash for specified periods of time. They can contract to give notice prior to recalling the loan just like they might agree to give notice before quitting a job. In the absence of that contract or recall notice, human capital and demand deposits can be removed, or taken back, by the owner at any time. Both are loaned with an expectation of what will be returned when the owner decides to recall them. Both are loaned with conditions that must be met in exchange for their use.

One might be tempted to say that the banks control the deposits they get, but because we have chosen to focus on demand deposits it would be very hard to say that a bank has more control in this situation than a company has in an employment relationship. Some have said to me that the analogy is deficient because in the United States there is the Federal Deposit Insurance Corporation (FDIC) that guarantees the deposit will be returned. Of course there is worker's compensation, OSHA and wrongful death requirements that provide similar assurances to the lender of human capital. Because the owner of the money has the right to remove it at any time, no one at the bank ever thinks that they own the amount of the deposit, but they still employ it in a variety of processes to create gains.

Understanding how banks account for demand deposits might help to understand how we could account for the human capital that has been loaned to companies. The owner of the money treats money as an asset. But when a financial institution accepts demand deposits, that financial institution establishes a liability account, maybe called demand deposits. The liability account is increased by the value of the deposit and an asset account, Cash, is debited. The money that the financial institution is liable for will be used for various types of revenue producing processes. Some might go for auto loans that produce 6 percent interest. Some might go for mortgages and produce 5.5 percent. Some might be lent to businesses to support short term financing at a 10 percent rate. When an amount of money is employed in one of these different revenue-generating processes, the asset account, Cash, is credited and the asset account, Auto Loans, or Mortgages Loans or Business Loans is debited. When the interest payments are received from those loans, they are transferred to a revenue account. When the person who placed the demand deposit at the bank is given the interest on the passbook savings, the bank credits the Cash account and debits an expense account called Interest Paid. The interest paid and the interest revenue is used to calculate the profit (loss) of the bank. If there is a profit, it will mean that the value in the cash account or the total value in one of the other asset accounts (revenue

producing activity) will have increased. We are interested in demand deposits because we see them as analogous to human capital deposits.

I believe that workers are the owner of human capital, which they loan to companies. Companies borrow human capital because they need it to meet the demand for the goods and services they produce. Companies do not own the human capital that they borrow any more than banks own the demand deposit they borrow. And banks do not in fact control the demand deposits they borrow any more than the companies can control (in the accounting sense of the word) the human capital. The owner can remove either at any time. Since the bank and employer, when they accept the deposit or human capital, are obligated to return it when the owner wants it back, the bank or employer incurs a liability at the time that the demand deposit or human capital loan is accepted. If we could measure the amount of liability that the company incurred to acquire the human capital that a worker loaned to a company, then we would be able to bring the value of the HR onto the books as an asset and create a corresponding liability account called Borrowed Human Capital. To bring borrowed human capital on the books, there would need to be an asset account called "Unassigned Human Assets". When the employees are assigned (placed in) a production process, the Unassigned Human Capital asset account would have to be credited and another new asset account called "Employed Human Capital" would be debited. If a production process is downsized, the Employed Human Capital account is credited and the Unassigned Human Assets account is debited. The value of the Unassigned Human Capital would remain in that account until either the worker is severed from the company, in which case the Unassigned HR Asset account would be reduced and the borrowed "Human Capital Liability" account also would be reduced, or until the worker is transferred to another production process and the (an) "Employed Human Capital Account" is debited. While there are some similarities at the conceptual level, one strong difference between the human capital loan and demand deposit loans is the ease of stating the dollar value for the financial loan and the difficulty of determining the financial value for the human capital loan. Another difference in these two is this: when a demand deposit is returned, the value of the total amount of the initial deposit will be given back. With human capital the amount that will be returned might be more or less than the initial loan. This makes the human capital loan look more like another kind of borrowing arrangement called a lease.

Leases. If I were writing this for HR managers in the 1970s, few would have had as intimate an understanding of leases as most managers will have today. Now there is more familiarity with leases because many people have made lease arrangements to get an automobile. Because of this, readers should readily understand that a lease agreement is a method whereby one obtains the right to use someone else's property. The lease agreement obligates the borrower to a liability in the form of periodic payments and the return of the property in a specified condition at the end of the lease period. Sometimes the specified condition might be stated as, "The item must be returned in its original condition, with allowances for normal wear." With auto leases some mileage amount might be specified and appearance, damage to the paint and glass may be specified. The arrangement about the condition of the returned item is important to the owners (lessor) because it helps them determine how much they must charge to make a profit on the deal. The value of the item at the end of the lease period is called the residual value. If the residual value is zero then the owner had better have

received enough in payments to buy a new one. If there is some residual value then the payments received should only have compensated the owner for the reduction in value.

During the course of a lease the lessee might make some improvements to the leased items. These are called leaseholder improvements. To the extent that the leaseholder improvement is a permanent change to the property, it will be given to the owner at the lease termination. The cost for the improvement will be borne by the lessee, and if that cost can not be recovered before the end of the lease, then the lessee would suffer the loss for the portion that was not recovered. If the contract required that the property be returned in original condition, the leaseholder alterations could even trigger a liability for the improvements.

In theory the lease is like a loan, with:

- payments on the principal;
- interest payments on the remaining balance for a few periods; and
- a return of the remainder of the principal at the end of the loan period.

This a lot like the demand deposit which gets everything that was initially deposited back at the end (when it is called) unless some of the initial deposit had been given back (withdrawn) earlier. There are reasons why companies like to use leases. One important reason is that leases are a way businesses can get the use of a factor of production without:

- paying the full cash value;
- giving up the asset equivalent of the cash value; or
- taking on the liability that comes from using debt to get an asset.

If the residual value of the leased item is zero, then the lease arrangement looks a lot like a loan or a sale that had owner financing, since the owner does not get anything back.

Now, businesses would like to not report these leases even when, if they expect to use the borrowed item in the future, they have a legal obligation to make payments in future periods. Businesses would like to claim that they do not get ownership and sometimes the business cannot sublease, so they have diminished control over the leased item. Accountants argue that leases need to be reported because the obligation for future payments is material. The under-reporting of obligations for future payments means that leasing arrangements could understate liabilities which misrepresent debt to equity ratios and also overstate return on asset. The primary reason for capitalizing leases is that accountants want to report the encumbrances to future resources (liabilities) that are contained in lease agreements. Such encumbrances might specify:

- conditions of use;
- amount and conditions of periodic payments; and
- the condition of the return or residual value.

Accountants would point out that stock holders and potential investors should know the present value of the future lease payments, and so accountants will calculate such a value using the lessor's stated or known interest charges, or using an estimated interest

rate they call an "imputed rate". When the number of payments that need to be made, the interest rate that is being charged, the amount of the payments and the schedule of the payments are known, the value of the liability can be estimated and reported. This calculated amount is used to determine the amount that must be capitalized when accounting standards require it. We might consider using this method to value the amount of human capital that an employee loans to the company. Before some reader or critic says that "at will" agreements mean that the employers only have short-term or current liabilities and can end that liability at any time, let me remind you that in the human capital loan or lease arrangement there is a very strong agreement regarding the residual value of the human capital and that agreement with respect to the residual value is a real – if only a contingent – liability. At the same time there is another source of contingent liability arising from misuse, abuse, improper treatment, and improper application of the asset and from failure to adhere to obligatory payment rules. This leads us to the discussion of the third liability issue that is relevant for HR accounting – contingent liability.

Contingent liabilities. A contingent liability is a liability that depends on the occurrence of an event in the future to establish:

- the amount payable;
- who is required to pay;
- when a payment must be made; or
- if a payment is required.

The contingent liability arises as the result of some possible future event that, if it were to happen, would encumber the organization's assets and obligate the organization to tender payments. Losing a lawsuit and imposition of fines by the government are examples of contingent liabilities. Accountants following FASB guidelines classify the possibility that such payments would be required as:

- probable;
- reasonably possible; or
- remote.

"Probable" means the future event is likely to occur. "Reasonably possible" means the chance of the future event is more than remote but less than likely, and "remote" means the chance of the future event is slight.

The accounting standards say a liability should be recorded and charged to expense if two conditions are met:

(1) there is information that makes it probable that a liability has been incurred; and

(2) the amount of the loss can be reasonably estimated.

For example, if your company has been charged with a wrongful death suit of an employee and you know that your policies and practices for safety were such that you will have difficulty defending against the charge, then you will need to estimate the total value of that employee, which will include the employee's earning potential, the value of lost emotional relationships and guidance, and report that as a liability. If you

were charged with wrongful termination and can show that the procedures you used for discharge will support a claim of "discharge for cause", then the chance a future event will give rise to a liability is remote, and so you have no contingent liability to report. Many of the activities that we call "best HR practices" are designed to move the contingent liability from a classification of probable to remote. The method for determining the amount of human capital loaned to the company and the method for calculating the borrowed human capital liability account will be determined by accounting convention. The imputed amount of human capital that the employee loans the employer could be used to calculate the potential amount of the contingent liability in many cases. However, from a practical standpoint, I think it would be difficult to sell that method to accountants. In the absence of proper HR programs for hiring, selection, training, health and safety, compensation, orientation, severance and benefit administration, the classification of the contingency moves from remote to probable. Better HRM practices are designed to move the contingent liability toward the remote or zero probability. What are the chances of a sexual harassment suit if you have poor selection and no supervisory training, etc.? I would feel comfortable arguing that in the absence of excellent HR management programs, an accountant should be compelled to establish and report some contingent liability.

Reporting methods

Most of us who have studied any accounting or who have worked in business are familiar with the concepts of assets, liabilities and owner's equity. Many, if not all, of you also know these are items you would expect to see on a balance sheet. Kieso *et al.* (2003) present some additional balance sheet items that persons concerned with HRA and putting people on the balance sheet will find useful (p. 138). These are called supplemental balance sheet information and include five items:

(1) *Contingencies* – Material events that have uncertain outcomes.
(2) *Accounting policies* – Explanation of valuation methods used or basic assumptions made concerning inventory valuation, depreciation methods, investments in subsidiaries, etc.
(3) *Contractual situations* – Explanations of certain restrictions or covenants attached to specific assets or more likely to liabilities.
(4) *Post-balance-sheet disclosures* – Disclosures of certain events that have occurred after the balance sheet date but before the financial statements have been issued.
(5) *Fair values* – Disclosures of fair values, particularly for financial instruments.

Three of these – points (1), (3), and (5) – are very important for a HR liability approach. Contingencies were previously described as material events that have an uncertain future that will be resolved when some future event(s) occur or fail to occur. Because accountants think significant contractual obligations should be disclosed, lease arrangements, pension obligations and stock option plan reporting is mandatory. These must be clearly stated in footnotes. Commitments related to obligations to maintain working capital, to limit the payment of dividends, to restrict the use of assets, and to require maintenance of certain financial ratios must all be disclosed if they are "material". Much judgment is used here, but the rule according to Kieso *et al.*

(2003) is "When in doubt, disclose. It is better to disclose a little too much than not enough" (p. 140). Contractual obligations to pay are liabilities and are a type of financial instrument and, as such, should be reported at fair value. Kieso *et al.* (2003) write that parenthetical explanations, notes, cross-references and contra items or supporting schedules are possible techniques for the disclosure of the various contingencies.

When considering the three proposed liability methods discussed in the preceding, we conclude that the contingent liability approach is most acceptable. In order to use the demand deposit approach or the lease approach, HR accountants will first need to convince the finance and accounting professionals that imputed values for HR are valid, because those two approaches actually create an asset that would be included on the balance sheet and offset by the lease or demand deposit liability. The contingent liability is expensed only if it is so probable as to make failure to do so an under-representation of the financial position. If the probability of the loss is less certain, then the potential can be reported as a note without either expensing or generating an asset. In other words, *no adjustments to the balance sheet or the income statement are required if contingent liabilities are reported as a supplemental note*.

What should such a note contain? A contingent liability should state an estimate of the amount of the loss and the probability of the loss. These two pieces of information allow an expected loss to be calculated. For HR accounting the amount of the potential loss probably equals the cost of replacing the entire workforce with a new one of equal quality. The potential of experiencing that loss depends upon the compensation package, motivation programs, worker satisfaction scores and turnover reduction programs. The health and safety, workers compensation and unemployment packages in the event of separations are also important. A calculation of the loss amount and the company's efforts that affect the probability of the loss experience should be required for inclusion in this supplemental note.

Conclusion

Early in this paper we discussed the history of HR accounting's asset approach and suggested that it has failed. It was suggested that a new paradigm might solve the problem. The proposed paradigm would focus on the liabilities that organizations incur when they employ people. It would focus on the management of the liability exposure. Such a focus also allows an alternative, and maybe more acceptable way, to account for and report HR financial information. This paper makes no claim that all the details have been worked out. At best, the paper proposes that the future of HRA, if there is to be a future, seems to reside in shifting to this new liability paradigm and then getting on with the normal science of working out the details.

Note

1. Much of the accounting material and information contained in the rest of this paper has been distilled, by the writer, from Kieso *et al.* (2003). This standard intermediate accounting text is widely available to HR practitioners and should provide a solid reference that has widespread acceptance among professional accountants.

References

Becker, B., Huselid, M. and Ulrich, D. (2001), *The HR Scorecard: Linking People, Strategy, and Performance*, Harvard Business School Press, Cambridge, MA.

Boudreau, J.W. (1991), "Utility analysis for decisions in human resource management", in Dunnette, M. and Hough, L. (Eds), *Handbook of Industrial and Organizational Psychology*, 2nd ed., Consulting Psychologists Press, Palo Alto, CA, pp. 621-745.

Boudreau, J.W. (1995), "Future utility analysis research: continue, but expand the cognitive and strategic focus", CAHRS Working Paper, No. 95-35, Center for Advanced Human Resource Studies, Cornell University, Ithaca, NY.

Boudreau, J.W. and Berger, C.J. (1983), "Decision-theoretic utility analysis applied to employee separations and acquisitions", *Journal of Applied Psychology*, Vol. 70 No. 3, pp. 581-612.

Boudreau, J.W. and Ramstad, P.M. (1997), "Measuring intellectual capital: learning from financial history", *Human Resource Management*, Vol. 36 No. 3, pp. 343-56.

Boudreau, J.W. and Rynes, S.L. (1985), "Role of recruitment in staffing utility analysis", *Journal of Applied Psychology*, Vol. 70, pp. 354-66.

Brummet, R.L., Flamholtz, E. and Pyle, W.C. (1968a), "Accounting for human resources", *Michigan Business Review*, Vol. 20 No. 2, pp. 20-5.

Brummet, R.L., Flamholtz, E. and Pyle, W.C. (1968b), "Human resource measurement – a challenge for accountants", *The Accounting Review*, Vol. 43, pp. 217-24.

Brummet, R.L., Flamholtz, E. and Pyle, W.C. (1969a), *Human Resource Accounting – Development and Implementation in Industry*, University of Michigan Press, Ann Arbor, MI.

Brummet, R.L., Flamholtz, E. and Pyle, W.C. (1969b), "Human resource myopia", *Monthly Labor Review*, Vol. 92 No. 1, pp. 29-30.

Brummet, R.L., Flamholtz, E., Pyle, W.C. and Likert, R. (1975), *Human Resource Accounting: Development and Implementation in Industry*, Foundation on Human Behavior, Ann Arbor, MI.

Cascio, W.F. (2000), *Costing Human Resources: The Financial Impact of Behavior in Organizations*, 4th ed., South-Western College Publishing, Cincinnati, OH.

Edvinsson, L. and Malone, M.S. (1997), *Intellectual Capital: Realizing Your Company's True Value by Finding its Hidden Brainpower*, HarperBusiness, New York, NY.

Flamholtz, E.G. (1985), *Human Resource Accounting: Advances in Concepts, Methods and Applications*, Jossey-Bass, San Francisco, CA.

Flamholtz, E.G. (1992), "Relevance regained: management accounting – past, present and future", *Advances in Management Accounting*, Vol. 1, pp. 21-34.

Flamholtz, E.G. (1999), *Human Resource Accounting – Advances in Concepts, Methods and Applications*, Kluwer Academic, Boston, MA.

Gröjer, J.-E. (1997), "Employee artifacts on the balance sheet: a model illustration and implications", *Journal of Human Resource Costing & Accounting*, Vol. 2 No. 1, pp. 27-53.

Hermanson, R.H. (1964), "Accounting for human assets", Occasional Paper, No. 14, Graduate School of Business Administration, East Lansing, MI.

Hunter, J.E., Schmidt, F.L. and Coggin, D.T. (1988), "Problems and pitfalls in using capital budgeting and financial accounting techniques in assessing the utility of personnel programs", *Journal of Applied Psychology*, Vol. 73, pp. 522-8.

Kieso, D.E. and Weygandt, J.J. (1974), *Intermediate Accounting*, Wiley, New York, NY.

Kieso, D.E., Weygandt, J.J. and Warfield, T.D. (2003), *Fundamentals of Intermediate Accounting*, Wiley, Hoboken, NJ.

Kuhn, T. (1962), *The Structure of Scientific Revolutions*, University of Chicago Press, Chicago, IL.

Kuhn, T. (1996), *The Structure of Scientific Revolutions*, 3rd ed., University of Chicago Press, Chicago, IL.

Lev, B. and Schwartz, A. (2001), *Intangibles: Management, Measurement, and Reporting*, The Brookings Institution, Washington, DC.

Mayo, A. (2004), "Measuring human capital", *Worldwide Link*, Vol. 14 No. 2, p. 3.

Olsson, B. (1999), "Editorial: the construction of transparency through accounting for intellectual capital (IC)", *Journal of Human Resource Costing & Accounting*, Vol. 4 No. 1, pp. 7-9.

Olsson, B. (2001a), "Editorial: the dilemma of accounting for intellectual capital", *Journal of Human Resource Costing & Accounting*, Vol. 5 No. 2, pp. 7-10.

Olsson, B. (2001b), "Annual reporting practices: information about human resources in corporate annual reports in major Swedish companies", *Journal of Human Resource Costing & Accounting*, Vol. 6 No. 1, pp. 39-52.

Olsson, B. (2003), "Editorial: the annual report is more than a report on the results from the last operating year in the company", *Journal of Human Resource Costing & Accounting*, Vol. 7 Nos 1/2, pp. 5-7.

Pfeffer, J. (1997), "Pitfalls on the road to measurement: the dangerous liaison of human resources with the ideas of accounting and finance", *Human Resource Management*, Vol. 36, pp. 357-65.

Scarpello, V. and Theeke, H.A. (1989), "Human resource accounting: a measured critique", *Journal of Accounting Literature*, Vol. 8, pp. 265-80.

Schmidt, F.L., Hunter, J.E., McKensie, R.C. and Muldrow, T.W. (1979), "Impact of valid selection procedures on workforce productivity", *Journal of Applied Psychology*, Vol. 64, pp. 609-26.

Stewart, T.A. (1997), *Intellectual Capital: The New Wealth of Nations*, Doubleday, New York, NY.

Sveiby, K.E. (1997), *The New Organizational Wealth: Managing and Measuring Knowledge-Based Assets*, Berrett-Koehler, San Francisco, CA.