

## HUMAN RESOURCE ACCOUNTING

Submitted in partial fulfillment of the requirements for graduation with honors to the Department of Accounting, Business Administration and Economics at Carroll College, Helena, Montana.

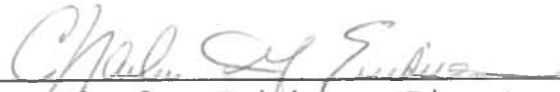
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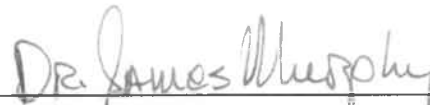
This thesis for honors recognition has been approved for the Department of Accounting, Business Administration, and Economics.



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## FOREWORD

### HUMAN RESOURCE ACCOUNTING

According to Charles P. Edmonds (1989), "People are our most important asset." (p. 42) This appears to be especially true as the global economy changes from an agricultural and industrial based economy to a service oriented one. In a service oriented economy, people are the product. Whether they are accountants, computer programmers, or retail sales clerks, it is the service they provide that allows their companies to prosper. Yet as Edmonds (1989) states: "an analysis of company financial statements reveals no human assets. Although everyone agrees people are important to an organization, no one knows how to place a monetary value on their importance." (p. 42) This thesis focuses on determining the monetary value of human resources and accounting for them on financial statements.

## CHAPTER 1

### INTRODUCTION

Human Resource Accounting (HRA) is "the process of identifying, and measuring data about human resources and communicating this information to interested parties" (American Accounting Association, 1973, p. 169). Interested parties are divided into at least two groups: management and investors. The purpose of HRA is to improve the quality of the financial information that influences the decisions managers and investors make about an organization.

#### Internal Uses of HRA

With the use of HRA, management will have a broader scope for making internal decisions. Generally, internal decisions ignore the income statement and balance sheet impact of human resources on both short and long run decisions. According to the Accounting Association Committee on Human Resource Accounting (1973), "the availability of quantitative data on human resources should permit their impact to be readily incorporated in the decision-making structure." (p. 169) For example, when

companies need to downsize, quantitative HRA information is beneficial. Its use could help improve morale of employees who survived the lay off and help justify the decisions about which positions to eliminate. Employees would be comforted knowing that positions eliminated were based on financial decisions, not based on personality and it would show the justification for keeping the positions not eliminated.

In addition to downsizing, HRA could be used to show management and employees which departments or units were not accomplishing the company's financial goals and should be eliminated or restructured. Periodically evaluating departments could help management avoid the difficult decisions of whether to downsize by handling problems as they occur. For example, suppose a sales department is not meeting their quotas. Management could review HRA records to determine if more training is needed or if the department is under-staffed due to employee resignations. After reviewing the records, management can make the appropriate decision to help increase productivity.

### External Uses of HRA

The external use of HRA for investors may provide a more realistic view of the company's utilization of a firm's scarce resources. For example, Likert in his book The Human Organization: Its Management and Value, has suggested that if the company has increased profits in the short-run because of employee layoffs, then the actual level of income earned by the company may be distorted (Committee Report, 1973, p. 170). This distortion may actually result in lower profits in future years. In the financial statements, this distortion would be reflected in the income statement. The sudden loss of employees will cause salary expense to be substantially less than it had been, resulting in the appearance of increased profits. When potential investors are comparing financial statements with previous financial statements, they may wonder why profits are higher than they had been when the actual profit margin, ratio of net income to net sales, may not have changed at all. On the other hand, if the company should show a lower profit margin, this decrease could be due to increases in human resource training, which could equate to higher future profits as employees generate more income for the company. As the



employees gain experience or receive more training, their services are more valuable to the firm. In a service based company like an accounting firm, the increased value of employees would mean charging more for the employee's services, such as a higher hourly billable rate charged to clients for an accountant's services.

## CHAPTER 2

### METHODS OF ACCOUNTING FOR HUMAN RESOURCE ACCOUNTING

There are two possible methods of accounting for human resources. One could develop the financial value of human resources with the use of present value. Present value is defined by Belverd E. Needles, Jr. (1994) as "the amount that must be invested now at a given rate of interest to produce a given future value." (pp. 457-458) This technique allows companies to place a present monetary value on the future benefits of its employees. Once these human present values have been determined, they could be listed as assets on the balance sheet. Or, one could assign non-monetary values to human resources such as those listed by the Committee on Human Resource Accounting (1973): "inventory of skills and capabilities of people within the organization, listings of key people in an organization with some of their personal skills" and list them in a human resource schedule in the financial statements (p. 175).

These behavior measurements, attitudes, motives, and actions, are beneficial to HRA in that they provide a method of determining the conditional value of human resources.

The conditional value determines three factors for the individual employee: productivity, transferability, and promotability. When considered with the organization's goals, these factors help management determine how to budget for their human resources. Non-monetary measurement factors are discussed further in Chapter Five.

The Committee on Human Resource Accounting considers both financial and non-financial variables to be of importance in the development of HRA.

## CHAPTER 3

### HISTORY OF HUMAN RESOURCE ACCOUNTING

The interest in human resource accounting (HRA) was first established in the late 1950's by economists interested in the value of humans in a business setting. The theory of HRA was developed by Roger H. Hermanson in 1964 (Lelevre, 1977, p. 21). The actual use of HRA was initiated in 1966 and was published in pro forma financial statements in 1969 by the R. G. Barry Corporation, a small soft goods manufacturer headquartered in Columbus, Ohio (Paperman, 1976, p. 96). Pro forma financial statements are statements used for informational purposes only and are not an accepted format for actual financial reporting. The concept was studied in the public sector as well by the United States Office of Naval Research during the 1970's (Flamholtz, 1985, p. 4). During the 1980's, the interest in HRA waned. Most of the basic theories had been studied, but the concept of implementation proved to be costly. The cost of obtaining historical human resource data and producing additional financial statements was considered too high for the benefits received, as shown in the R. G. Barry Corporation

case discussed in Chapter Six. In addition, the concept was not well received by the American Accounting Association which is now known as the American Institute of Certified Public Accountants (AICPA). The American Accounting Association felt that the concepts placed in use did not follow generally accepted accounting principles (GAAP), those principles that have substantial authoritative support, and without further research "had little to offer regarding its practical applications." (Roser, 1983, p. 35)

Patrick R. Delaney, James R. Adler, Barry J. Epstein, and Michael F. Foran explain further, "only items whose value can be objectively determined are assets under GAAP" (GAAP, 1993, p. 34). For an item's value to be objectively determined, the item must have been obtained in a market transaction. A market transaction is one in which a price is paid for the item. Because a market transaction is not made when measuring the financial value of human resources, internally generated goodwill, and other secret processes, they are of financial value, but are not considered assets according to generally accepted accounting principles and as such should not be included as assets in the financial statements.

However, Flamholtz (1985) feels that a renewal in the interest of HRA is forthcoming, necessitating the importance of HRA. He states, "the recognition that the United States (US) economy had undergone a fundamental metamorphosis from an industrial to a high-tech service economy in which human capital is the critical resource." (p. 4) The involvement of US companies in the global economy further necessitates the use of HRA. For example, Japanese companies have historically treated their employees as assets while US companies have treated them as expenses (Flamholtz, 1985, p. 4). Several articles recently published in the *Wall Street Journal*, *Fortune Magazine*, and *Business Week* show the trend is changing. These articles point out that American companies are reassessing the value of their employees even though they still are not using HRA. This author feels the use of HRA will become more essential as companies expand into the global economy and the need for uniform accounting regulations increases.

## CHAPTER 4

### OBJECTIVES OF HUMAN RESOURCE ACCOUNTING

The theory of human resource accounting has three major objectives. The first objective is measurement. Measurement tries to develop valid and reliable models and methods of measuring the cost and value of people to organizations using both monetary and non-monetary measurement methods. The second objective is application. Application means to design operational systems that apply these measurement methods in actual organizations. The third objective is the cognitive and behavioral impacts of the measurements and application. Cognitive and behavioral impacts determine the impact of the human resource accounting measurements and frameworks on human attitudes and behavior (decisions and performance).

#### Measurement

Human resource accounting changes the human resource from an expense (outflows or other using up of assets or incurring of liabilities) such as wage or salary expense to an asset which is to be capitalized on the balance sheet.

The definition of an asset is complex and varies depending on the source. According to generally accepted accounting principles, an asset is "something which provides an economic benefit to the enterprise" (GAAP, 1993, p. 229). Historically, an asset was viewed as "something of value owned" (Moscove, 1981, p. 6). This view limited HRA in that human resources cannot be owned. In a broader sense, an asset is something of value, the right to which is owned or controlled by an organization or entity and from which the organization or entity has the right to receive future measurable economic benefits. Although human resources cannot be owned, they can be controlled by an organization but the control does not need to be absolute. Human resources can be controlled by the organization through contractual agreements or verbal understandings. Contractual agreements between an employer and employee may specify the length of time the employee agrees to work for the employer, the pay schedule, and the termination procedures. For example, verbal understanding could be an informal agreement stating that the employee will work Monday through Friday from 8:00 to 5:00 with one hour for lunch.



The next step in evaluating whether human resources are assets is to determine whether they should be classified as current or long-term assets. Assets are classified as "current" if they are expected to be converted into cash, sold, or consumed either in one year or the current accounting cycle, whichever is longer. Because human resources are expected to be utilized for more than one year, they would not be classified as a current asset. Therefore, they must be long-term assets. The next decision is what type of long-term asset human resources would be. For example, are they tangible or intangible? Tangible assets, such as property, plant and equipment, are assets of a physical nature used in the production or sale of goods or services. Intangible assets are assets which provide future economic benefit to the enterprise but have no physical substance. Goodwill, patents, and copyrights are examples of intangible assets. Although human beings are of a physical nature, the services they provide to a company are nonphysical. The provided services are the human resources used in HRA. These human resources provide anticipative benefits to the company. As such, they are intangible assets and a HRA model must be selected to capitalize a

dollar amount for human resources on the balance sheet.

According to the Committee on Human Resource Accounting (1973), there are four types of HRA models: historical costs, replacement costs, future expected economic values (present value or discounted cash flows), and non-monetary behavior measures (pp. 171-177).

The first model, the historic cost modeling method, is the easiest and most objective method to use because it involves costs that have actually occurred.

The second model is the replacement cost method. This model is an alternative to the historical cost model. The replacement cost method measures the cost of replacing existing human resources.

The third model is future expected economic values. This model can be very complex and subjective. Future expected economic values are based on estimates of what future benefits the employee will provide to the company and the estimated salaries the employee will receive based on the expected benefits. The estimated future salaries are discounted to present value.

The fourth model is the behavior measures model. It is based on performance evaluations of various methods

discussed later, which in theory are objective, but in reality tend to be subjective.

#### Historical Cost Method of Measurement

The historic cost method of accounting for human resources is simply capitalizing the cost of acquiring a new employee; the dollar amount that the company spent to recruit, hire, and train a person, becomes the capitalized cost on the balance sheet under Long-Term Assets. For example, assume a firm hires an administrative assistant. The firm spent \$1,000 for advertising the position, \$2,000 on interviewing ten applicants, \$1,500 for the loss of income while the new employee was being trained for the position. The capitalized amount of long-term asset equals \$4,500. This amount is amortized over the estimated employment period of the employee. If the employee was terminated or resigned, the balance would be written off at the termination/resignation date. The challenge of this model is estimating the useful life of the employee. The useful life is how long the employee will work for the firm. During the 1960's and 1970's, this usually meant working until retirement. Today, employees are less inclined to

remain with a company until retirement. General indications are that employees will change careers at least four times during their lifetime. Therefore, the useful life of an employee is considered to be ten years for this example.

-----  
EXAMPLE 1-HISTORICAL COST METHOD

10/1/x0	Human Resources	\$4,500	
	HRA Capital		\$4,500

Hired Betty Smith, October 1, 19x0

12/31/x0	Amortization Expense	113	
	Allowance for Amortization		113

Amortization for 19x0, straight-line method for three months.  
 (\$4,500/10)x 3/12)

-----

The human resource asset account for Betty Smith will continue to be amortized for ten years or until she leaves the company if less than ten years. This entry would be used for years x1 through x9:

12/31/x1	Amortization Expense	\$450	
	Allowance for Amortization		\$450
			(\$4,500/10)
12/31/x10	Amortization Expense	337	
	Allowance for Amortization		337
			(\$4,500/10 - \$113)

-----

If the company spends money for training, such as Betty attending management seminars or taking a computer class at the local college, this monetary amount can be either expensed or added to Betty's asset account. The method used will depend on whether the company considers training to be material to the value of their human resources. To determine this, the company would need to establish a materiality limit. For example, anything over two hundred dollars is capitalized and under two hundred dollars is expensed. If the cost of training is capitalized, it would be added to Betty's human resource account and a new amount would be amortized. For instance, Betty attended a computer class for one semester at the community college at a cost of \$350. The \$350 is considered material and is added to the human resource asset account.

-----			
6/30/x3	Human Resources	\$350	
	Cash		\$350
Computer training for Betty Smith			
-----			

At the end of the year, the amortization expense taken will be adjusted to reflect the increase in the human resource asset account.

-----

12/31/x3	Amortization Expense	\$475	
	Allowance for Amortization		\$475
		$(4500/10) + [(350/7) \times (6/12)]$	

Years 19x4 through 19x9 will be reflected as follows:

12/31/x4	Amortization Expense	\$500	
	Allowance for Amortization		\$500
		$[(4500/10) + (350/7)]$	

Year 19x10 would consist of the remaining balance:

12/31/x10	Amortization Expense	\$362	
	Allowance for Amortization		\$362

-----

If Betty Smith leaves the company on December 31, 19x5, which is before ten years, the journal entries would be as follows:

-----

12/31/x5	Amortization Expense	\$500	
	Allow for Amortization		\$500
		Amortization for 19x5	

12/31/x5	Loss on HRA	\$2,362	
	Allow for Amortization	2,488	
	Human Resources		\$4,850

To write-off Betty Smith,  
resigned effective 12/31/x5

-----

### Replacement Costs

Replacement costs is the cost required to replace one human resource asset with another. With the replacement cost method, the old human resource is taken off the books and the new person is added. Using our example, if the old person left before ten years of employment, a loss would be reflected on that particular employee due to the fact that the company was not able to utilize the employee for the full ten years. The loss would be the book value of that employee. The book value is the historical cost of the employee less any amortization. Using the information from the historical cost example in 19x5, the book value of Betty Smith is \$2,362. This is historical cost plus training (\$4,850) minus amortization taken (\$2,488). If we hire Jackie Jones at a cost of \$5,000 for hiring, interviewing, and training her to replace Betty Smith, our replacement cost journal entry is as follows. The annual amortization journal entries are the same as in the historical cost method.

-----  
**EXAMPLE 2-REPLACEMENT COST**

12/31/X5	Human Resources	\$5,000	
	Loss on Replacement	2,362	
	Allow for Amortization	2,488	
	Human Resources		\$4,850
	HRA Capital		5,000

-----

Another method of accounting for replacement costs is to charge the cost of hiring the new employee directly to amortization expense. The cost of the old employee is not written off as in the first two examples. With this method, there is not an allowance for amortization account established. However, this replacement cost method is, according to Donald E. Kieso and Jerry J. Weygandt (1992), "subject to the criticism that a proper allocation of costs to all periods, particularly in the early years, does not occur." (p. 550) It does not conform to the matching rule under GAAP, the matching of revenues with expenses in the year they occur. To overcome this criticism, an allowance account can be established with amortization taken each year. When an employee is replaced, the book value of the old employee is charged to amortization expense rather than loss on replacement. See the second journal entry in Example 3.



-----  
EXAMPLE 3-REPLACEMENT COST

12/31/X5	Allowance for Amortization	\$5,000	
	HRA Capital		\$5,000

To replace Betty Smith with Jackie Jones.

12/31/x5	Amortization Expense	2,362	
	Allowance for Amortization		2,362

-----

Present Value Method

The third HRA model takes the future values of wages or salaries of a human resource and discounts them back to present value. When determining the future values, a company should take into consideration whatever training costs may be encountered over the life of the human resource and wage adjustments that may occur. To calculate present values of future wages, which discount rate to use and how many years to discount back are the immediate decisions the company must make. If the employee has a contract with the company which states the amount of compensation the employee will receive over X number of years, then the company need only determine the discount rate. The commonly accepted definition of discount rate is "the annual rate of return that could be earned currently on a similar investment. The

discount rate is also the opportunity cost of holding this investment" (Fundamentals of Investing, 1993, p. 136). However, if the company does not have a contract with the employee, then five years is the standard used by the Accounting Committee on Human Resource Accounting (Committee Report, 1973, p. 181).

According to Eric G. Flamholtz (1985), a leading authority on HRA, the discount rate is the same as the yield to maturity rate on long-term treasury bonds and adjusting this figure for expected inflation. (p. 285) The November 25, 1994 Wall Street Journal quoted long-term treasury bills at 8% which includes the expected inflation rate of 3%. In the case of Betty Smith, she is expected to earn \$20,000 the first year with a 4% cost of living increase per year for the next five years. With a discount rate of 8%, five years, her present value would be \$85,984. For calculations, see Exhibit A. This amount would be amortized over five years. If she continues to work for the expected ten years in the original example, after amortization is completed, the company will then calculate the present value of the next five years. This calculation will be figured in the same fashion as the previous five years. The journal

entries for the present value amounts are:

```
-----  
10/1/x0  Human Resources          $85,984  
          Human Resource Capital      $85,984  
  
          Hired Betty Smith-10/1/x0  
  
12/31/x0  Amortization Expense      4,299  
          Allowance for amortization    4,299  
          ($85,984/5 X [3/12])  
-----
```

Amortization Expense is calculated the same (amount divided by number of years) regardless of the method of determining the human resource asset: historic cost, replacement cost or present value.

## CHAPTER 5

### NON-MONETARY MEASURES OF HRA

Non-monetary measures of human resource accounting are measurements of human resource factors such as the inventory of skills and capabilities of people within the organization, people's attitudes, motives, and actions. This type of measurement has been developed through the behavioral sciences (Committee, 1973, p. 175). The behavioral sciences used in this report are sociology, which is the study of the development of society and social relationships, and psychology, which is the study of mind and behavior.

Many firms already use non-monetary measurements of human factors through human resource management. They conduct training seminars for management, time management, and new employee orientation training to enhance their employees' worth and self-esteem, as well as other types of training. Firms monitor employee performance with performance evaluations. Rensis Likert and his Associates (1967) developed a model to tie the training seminars and management styles of a firm to the productivity of the

organization. Their model is called the Causal-Intervening-End Result Theory.<sup>1</sup> The theory is comprised of three classes of variables: causal, intervening, and end-result. The three classes are described by the Committee on Human Resource Accounting as follows:

The causal variables include the organizational structure, managerial leadership styles, and organizational policies. The causal variables are believed by Likert and associates to affect the quality and capabilities of the organization. The quality and capabilities of the organization are defined in terms of certain organizational processes such as decision-making, communication, and coordination. Causal variables are variables within the organization controlled by management.

The intervening variables reflect the internal state of the organization such as the loyalties, attitudes, motivations, performance, and perceptions of all members and their collective capacity for effective action, interaction, communications, and decision making.

The end-result variables are the dependent

variables which reflect the results achieved by the organization, such as productivity, costs, growth, share of the market, and earnings (Committee, 1973, pp. 175-177).

Likert and Associates state, "that the causal variables influence the intervening variables which in turn lead to certain levels of end-result variables." (Flamholtz, 1985, p. 192) Their research shows that certain patterns of causal variables result in certain intervening variables, which cause the end-result variables. The most positive model determined by Likert and Associates is the management style where management supports their subordinates rather than dictates to them. The participative (causal variable) manager yields more favorable attitudes, loyalty and trust (intervening variables) with the end-result being a more productive organization (Committee, 1973, p. 177). Likert's model stresses the value of employees in relationship with management and the organization. The values assigned to employees are determined using various measurement techniques, such as performance evaluations, employee attitude tests and management leadership questionnaires that the employees fill out. These values are used to make

personnel decisions (hiring, re-organizing, or downsizing).

Flamholtz (1985) also developed a model of non-financial measurement to determine an individual's value to an organization. He used social and psychological determinants as well as economic ones in his model. He determined that individuals bring certain attributes to an organization: intelligence, experience, and attitudes (p. 244). According to Flamholtz, "an individual is not valuable to the organization in the abstract. He is valuable when considered in relation to the roles he can or will potentially occupy." (Committee, p. 177) This value is determined by the organization's attributes interacting with the individual's attributes which produces the elements of values (productivity, promotability, and transferability) and the individual's satisfaction with the organization. Satisfaction and conditional value (productivity, promotability, and transferability) produce the individual's expected realizable value (Committee, 1973, p. 177).

The resulting non-monetary values developed using the above models can be reported in the financial statements using a human resources schedule. The schedule is a summary of the information collected from the various model

measurements such as skills inventories, performance evaluations, ratings, assessment of potential and attitude measurement. Some examples of the non-monetary value measurements are shown in Exhibit B, B-1, and C.

The non-monetary values of human resources can be converted into monetary human resource accounting values by predicting a firm's future earnings based on the current status of causal (social) and intervening (psychological) variables and then discounting to net present value and allocating a portion of this value to human assets. Likert recommends "the status of the causal and intervening variables be measured and reported periodically so that their impact can be considered subjectively, thus making the measurement conversion more accurate." (Committee, 1973, p. 177) Since the firm's future earnings are estimates, the periodic review enables management to adjust the estimates according to the economic trends. For example, if a firm develops a monetary human resource accounting system based on estimated future earnings for ten years and a recession hits, the firm may want to lower the amount of predicted earnings. Should the company develop new technological advances, they may want to adjust predicted earnings higher.



## CHAPTER 6

### APPLICATION OF HRA

Although human resource accounting has not been accepted by the AICPA and other accounting authorities because it does not adhere to GAAP, HRA has been applied using the two methods of accounting mentioned earlier, monetary and non-monetary. There are several published reports of companies using the HRA system. The most often cited cases of using monetary methods of HRA are those of R. G. Barry Corporation, Touche Ross & Co., and a case study conducted by Eric G. Flamholtz for the Midwestern Insurance Company. A T & T used non-monetary HRA to facilitate downsizing. Each company used a different variation of HRA.<sup>2</sup>

The R. G. Barry Corporation (Barry) developed a system in which they used the historical cost method of HRA. Barry's management identified the cost of its investment in human resources (hiring, training, etc.), capitalized the costs and amortized them over time. The motivation for developing a HRA system was based on the corporation's recognition of the importance of its human resources to the profitability of the corporation. From this recognition,

corporate philosophy was developed to include HRA. The philosophy is stated by Gordon Zacks, the president of Barry:

We believe that it is the job of the manager to plan, organize, and control the utilization of three types of assets-**human assets, customer loyalty assets,** and **physical assets**-and to employ these in such a way that he generates a profit by creating new assets. Furthermore, he should manage his profit in such a way as to remain solvent (Flamholtz, 1985, p. 89).

Barry developed their HRA system to provide information to management regarding their human resources, to help analyze how management was responding to the human resource information and to show this information in financial statements (Flamholtz, 1985, p. 89).

The first effort made by Barry to use human resource accounting was limited to 100 staff who were exempt from the Federal Wage and Hour Law. The reason for the limitation was to make the experiment easier. To start, the corporation did not want to invest substantial time and money into a system that may not provide the information

their management needed. The corporation also felt that this group of 100 staff represented one of its most valuable segments of human resources. In 1969, they extended the group to include factory and clerical staff in two of Barry's plants. In 1970, the group was extended again to include 425 factory and clerical personnel (Flamholtz, 1985, p. 91).

The historical cost HRA system was developed for the R. G. Barry Corporation by Brummet, Flamholtz, and Pyle. Using historical costs made the plan easier to implement with conventional accounting methods for calculations. The conventional accounting methods were used for deciding which human resource costs should be assets and which should be expenses. The costs were assets if they were expected to provide benefits beyond the current accounting period. If the costs' benefits were to be consumed in the current accounting period, then they were expenses. Expenses are treated the same whether using GAAP or HRA.

The assets were then categorized into seven functional accounts for management personnel:

1. Recruiting outlay costs-costs associated with locating and selecting new personnel such as search fees,

advertising, travel expenses, etc. Costs for unsuccessful candidates were allocated to the cost of obtaining the successful person.

2. Acquisition costs-costs incurred in bringing a new person on board. This included moving expenses, placement fees, physical examination, placing the person on the payroll and situating him or her with the necessary office equipment.

3. Formal training and familiarization costs-normally incurred immediately after hiring such as a formal orientation program, vestibule training and so forth.

4. Informal training costs-the process of teaching a new person to adapt existing skills to the new job. This included salary allocations only and varied with each new position.

5. Informal familiarization costs-costs associated with integrating a new manager into the organization to the point where the new manager can be a fully effective member of the organization, such as learning the company's philosophy, history, policies, objectives, communication patterns, etc. These costs can be sizable depending on the level and scope of the position.

6. Investment building experience costs-investments in on-the-job learning that occur after the initial familiarization period and are expected to have value to the company beyond the current accounting period.

7. Development costs-investments in increasing a manager's capabilities in areas beyond the specific technical skills required by the position, such as training seminars and university programs or courses. (Flamholtz, 1985, p. 93)

For non-management personnel, three of the functional accounts were used: acquisition, orientation, and training costs.

Due to the unavailability of prior records containing HRA information, Barry used this system for future investments and prior investments were estimated. Personnel forms were modified to collect the required HRA data. Selected data included hiring costs, on-the-job-training, turnover costs, and upgrades (Flamholtz, 1985, pp. 94-95).

The type of journal entries used by the R. G. Barry Corporation's system are similar to the journal entries used in my examples for hiring Betty Smith using the historical cost method. The amortization of the assets were the same also. The human resource asset accounts were reviewed periodically to maintain proper accounting. If a person quit or was transferred, then the account was written off as in Betty Smith's case. An example of the type of financial

statements issued by R. G. Barry Corporation is as follows:<sup>3</sup>

R. G. BARRY CORPORATION  
1970 (Pro Forma)

BALANCE SHEET	1970 <u>Conventional and Human Resource</u>	1970 <u>Conventional Only</u>
<u>Assets</u>		
Total current assets	\$25,896,452	\$25,896,452
Net Property, Plant and Equipment	3,492,475	3,492,475
Excess of purchase price over net assets acquired	1,452,326	1,452,326
Net investment in human resources	1,896,153	-0-
Other assets	<u>456,852</u>	<u>456,852</u>
	\$33,194,258	\$31,298,105
	=====	=====
 <u>Liabilities and Stockholders' Equity</u>		
Total current liabilities	\$ 3,445,041	\$ 3,445,041
Long term debt, excluding current liabilities	7,617,107	7,617,107
Deferred compensation	191,784	191,784
Deferred federal income taxes based upon full tax deduction for human resource costs	592,331	-0-
Stockholders' equity:		
Capital Stock	5,216,390	5,216,390
Additional capital in excess of par value	9,896,624	9,896,624
Retained earnings:		
Financial	4,931,159	4,931,159
Human resources	<u>1,303,822</u>	<u>-0-</u>
Total stockholders' equity	<u>21,347,995</u>	<u>20,044,173</u>
	\$33,194,258	\$31,298,105
	=====	=====

R. G. BARRY CORPORATION  
1970 (Pro Forma)

STATEMENT OF INCOME	1970 <u>Conventional and Human Resource</u>	1970 <u>Conventional Only</u>
Net sales	\$45,850,900	\$45,850,900
Cost of sales	<u>33,205,653</u>	<u>33,205,653</u>
Gross profit	12,645,247	12,645,247
Selling, general and administrative expenses	<u>9,823,470</u>	<u>9,823,470</u>
Operating income	2,821,777	2,821,777
Other deductions, net	<u>621,051</u>	<u>621,051</u>
Income before federal income taxes	2,200,726	2,200,726
Net increase in human resource investment	<u>237,271</u>	<u>-0-</u>
Adjusted income before federal income taxes	1,963,455	2,200,726
Federal income taxes	<u>589,036</u>	<u>660,218</u>
Net income	\$ 1,374,419 =====	\$ 1,540,508 =====



The financial statements of R. G. Barry Corporation were used to show management how company performance compared with conventional accounting methods when using HRA. The financial information was also used by management to determine where reductions should take place or where increases should be made. Without the use of HRA, department managers may have reduced personnel to show profits. With HRA, any reductions would need to be justified.

To substantiate management decisions, the HRA system used by R. G. Barry Corporation provided a human resource capital budget. The financial statements provided historical human resource costs. Using these historical costs, management estimated needs for personnel costs. This way, management could project where increases or decreases of human resources were needed. Using the human resource budget, the company improved its strategic planning.

Company president, Gordon Zacks describes the process best:

We use human resource accounting information in strategic decision making. The information is employed in evaluating alternative investment opportunities. We have rejected the conventional

return-on-assets approach because it does not recognize human investments. In evaluating a project, we take the physical assets into account as everyone else does, but we also add to that the investment to be made in the human resources required to support the opportunity. And when we develop relationships to profit, it is the relationship of all those resources, tangible and human, to a particular profit opportunity (Flamholtz, 1985, p. 100).

In addition to strategic planning, HRA budgets can be used to establish efficiency standards by comparing cost standards to various scenarios. Any variances could then be examined.

Although the system developed by the R. G. Barry Corporation was a positive step toward using HRA, there were some drawbacks. One drawback was the lack of reliability. Because historical costs data was estimated, the validity of the estimated human resource asset information was questionable. The cost parameters developed for estimating the investment values used by Barry could not be substantiated by documentation. For Barry to try to develop

reliable documentation would have been cost prohibitive because of the time involved in researching prior costs.

Another drawback was the lack of documentation where HRA actually helped Barry's management make better decisions. However, according to Flamholtz (1985), "the HRA system did have a positive impact of R. G. Barry Corporation's management if only to give them a greater awareness of the importance of human resources." (p. 102)

Another HRA system was developed by the Montreal branch office of Touche Ross & Co., Certified Public Accountants (CPA). Touche Ross developed its HRA system to account for its investment in the people who worked for the firm. They also considered HRA because it is common knowledge that CPA firms typically have a high turnover rate. The use of HRA would help determine cost effective ways to hire, train, and reduce turnover costs to the firm.

The historical cost system produced by Touche Ross & Co. took into consideration that the firm's long-term survival depended largely on the development of its human resources. Typically, CPA firms measure personnel performance by the amount of billable hours produced. This does not take into consideration the time spent training new

accountants. The system considered outlay costs (actual expenditures) and opportunity costs (billings foregone). Outlay costs are those spent on training the new accountant. The opportunity costs are the lost income while the existing accountant trains the new accountant. These costs were estimated in measuring the investment in each individual since the firm did not have published data about these investments. The investment costs estimated by Touche Ross were more reliable than those of R. G. Barry Corporation because the firm already generated most of the information required as inputs to the HRA system. Employees at Touche Ross were already filling out time reports which show how each hour was spent and whether it was chargeable to clients or not (Flamholtz, 1985 p. 105). Since chargeable hours were reported in the time reports, the outlay costs could easily be estimated based on the amount of employee time not charged to clients.

According to Flamholtz (1985), "the firm's HRA system generated reports for internal use by management. The four main reports were the cost of time analysis report, the summary of human resources investments, the statement of human resource flows, and the contribution report." (p.105)

The cost of time analysis report showed the planned and actual allocation of time for a specific period. The report pertains to the number of chargeable hours generated by personnel. Because the services of the employees are closely related to time, chargeable hours (time billed to clients) represents income to the firm. Time is the essence for formation of investments in human resources. Time in this report is represented in three ways: chargeable, investment, and maintenance. Investment is time devoted to building human resource assets. Maintenance is time that has no future service potential such as staff meeting, cleaning one's desk, or reviewing one's schedule.

The cost of time analysis report helps management determine the variance between planned and actual hours worked. The variances may be due to a different number of people working or jobs taking more or less time than anticipated. The planned hours are based on standards set by the firm and the industry. For example, a basic tax return (1040 and Schedules A-D) should take four hours to prepare or a bank reconciliation for one month should take one hour. The standards used by the firm are set by planning each activity. The standards are to help the

control of human resources and to help motivate employees to allocate their time better when they know standards have been set and they need to meet those standards or justify why they did not.

The summary of human resource investments report shows the sum of investments made in people during the accounting year. It compares planned investments with actual. It also reports outlay and opportunity costs of investments. This report monitors the effectiveness of the firm's human resource programs, whether the firm is doing what it projects it will do. For example, is the firm actually achieving the formal training of employees as it had planned? When used in conjunction with the cost of time analysis report, this report lets management know why planned projections were not made. For example, the amount of tax training was insufficient. This can be determined by analyzing the number of hours employees spent processing tax returns. If the estimate was four hours and employees were taking six, either tax returns are harder to process or the employees did not have the necessary training to process the returns. Management can look at the summary of human resource investment report to determine how much time the

firm spent training employees about the new tax laws. From the report, the firm could also determine if it budgeted for a relevant number of employees. If the workload is heavier and training was appropriate, the firm may have underestimated the number of employees it needed for the current tax season. It could then use this information in planning for the next tax season.

The statement of human resource flows report shows the changes in human resources during the accounting year. It measures changes both in manpower and monetary terms. One important aspect of this report is it also shows the amortization of human resources. Management can use this report to determine if its estimates for useful life (used for amortization) are accurate or if the estimates need to be adjusted due to increased training or other factors. The human resource flows report also provides management with a tool to track growth or decline in the firm's human resources.

The contribution report shows how human resource contributions (profits) were generated as compared to planned contributions. This report is designed to help management calculate potential fees by studying the

variances of actual verses planned contributions.

The benefit for Touche Ross & Co. of the HRA system was that it provided management with information that improved the ability to manage human resources (Flamholtz, 1985, p. 109). Touche Ross used the system to reduce turnover costs, improve employee training, and to reassess its current hiring practices. Use of the HRA system enabled Touche Ross to change their traditional personnel rules to ones that result in improved profits and higher employee morale.

The final HRA system that we will look at in this report is that of the Midwestern Insurance Company. The Midwestern Insurance Company is a medium-sized mutual insurance firm consisting of more than 4,000 full-time employees engaged in business throughout the United States. The company became interested in accounting for the replacement costs of its human resources due to the high rates and cost of turnover among sales people in the insurance business and at Midwestern in particular. An example showing the high turnover rates at Midwestern is approximately one-third of all new salespeople left the firm during the first twelve months (Flamholtz, 1985, p. 110). The system, developed by Eric G. Flamholtz as a case study,



was used by a branch of Midwestern to measure replacement costs.

To gather information in determining replacement costs, Flamholtz used historical records, time sheets, and wage rates. He also interviewed several employees to try to get the most reliable information possible. Data collected was then used to determine anticipated replacement costs and standard replacement costs. Anticipated replacement costs are those actually expected to be incurred. Standard replacement costs are those necessary to replace an individual assuming he or she is replaced by the natural or most desirable substitute. For example, the natural substitute for a claims examiner in the insurance industry may be an office adjuster. However, it may not be possible to make this replacement, so the claims examiner will be replaced by the best available substitute, a claims adjuster (Flamholtz, 1985, p. 113). The difference in anticipated and standard replacement costs is the amount of training that would be required for the replacement.

This system was designed to aid in planning and controlling the use of human resources. Management can forecast personnel needs as well as costs for training,

recruiting, selecting and hiring of personnel.

One limitation of this system is the reliability of data used to measure replacement costs. Flamholtz (1985) refers to the Midwestern system as "a case study. No attempt was made in the study to study the use of the data derived in management decisions." (p. 117) Because this was a case study, no application was applied. The theory for the system is sound, but unproven.

The second application method of HRA, non-monetary, was used by American Telephone and Telegraph (AT&T). AT&T designed their HRA system to increase managements' effectiveness in developing and retraining employees. AT&T used employee replacement costs (hiring, training, benefits, etc.) as capital investments (Committee Report, 1973, p. 178). Using this information, management could make lay-off decisions more objectively by analyzing which department would require more human resource costs to reach an optimum level. For example, if department A has three people trained as telephone linemen and department B has one person trained as a fiber optics lineman, management would need to decide whether to train some of the people in department A as fiber optics linemen or lay them off. The decision will

be based on the cost of training, the selection process for determining which employees will be retrained or laid-off, and future benefit to the company.

## CHAPTER 7

### RECOMMENDATION AND CONCLUSION

As this thesis has pointed out, the importance of human resource accounting pertain to many people in a wide variety of professions, from the plant manager concerned with employee turnover to the financial analyst making investment decisions. This importance has been pointed out by Flamholtz, argued about and discounted by the Committee on Human Resource Accounting and supported by Touche Ross & Co. For every argument against placing human resources in the financial statements, there is a counter argument for placing human resources in the financial statements.

One of the main arguments against HRA is whether human resources are assets. Dr. Jacob B. Paperman, CPA, (1977) comments, "In the almost 500 years since Pacioli wrote the Summa, accountants have still not been able to agree on such a basic issue as the definition of an asset." (p. 23) This author has concluded that human resources are long-term intangible assets.

Another argument for or against placing human resources in the financial statements is the reliability of the

measurement of human resources. This argument is not easily settled. Although several measurement models have been discussed in this thesis, none have been tested thoroughly enough to determine reliability. However, the discounted cash flows method of measurement appears to be the most reliable. It can easily be adjusted for terminations or extensions. If the employee quits before the estimated 10 years as in the example given on page 10, the write-off can easily be made. If the employee works longer than 10 years, the discounted cash flow amount can be merely recalculated. Discounted cash flows is also the most accurate calculation.

Possibly the greatest challenge of human resource accounting is for managers to determine how to evaluate human resources objectively. As stated earlier, when an employee is hired the method of human resource accounting used can be easily determined. Managers determine what the position is worth, hire the new employee, and account for the human resource according to which measurement method (historical cost, replacement cost or discounted cash flows) the company is using.

The problem of objectively evaluating human resource happens when a company is starting a HRA system with

existing employees. Managers need to determine if human resources should be valued based on the emotional value they give to a firm or their hard work. The emotional value is the value of how an employee molds with the organization. As an example, one employee gets along well with others, is compatible with the organization's culture, and performs her job satisfactorily. The other employee performs her job excellently but does not fit well in the social aspects of the organization. The employer must decide which aspect of the position is most important, the employee's hard work or the ability to get along well with others. To be objective, the employer should analyze the financial value of each employee or use non-monetary methods of HRA. For example, the compatible employee produces 100 widgets a day while the hard working employee produces 200 widgets. At face value, the hard working employee is worth more because she produces 100 extra widgets, which means more money to the firm. However, the compatible employee takes time to help other employees perhaps showing them easier ways to perform their widget making so that overall more widgets are being produced. How should management value these two employees? If the company's culture is "every man for himself, just

make money", then the hard-working employee is more valuable. If the culture is "we are a team and should work together for the benefit of the company", then the compatible employee is more valuable. The non-monetary value of the employee is based on the goals of the organization and determined through employee performance evaluations. Once management determines which value is most important (hard-working, compatible, or a combination of both), they can place a value on their human resources.

James A. Craft (1976) offers a solution to the emotion valuation problem. His solution is for the company to "develop and maintain several measures of human resource worth...for different operational purposes-evaluative, investment, etc.-one will need different estimates of worth to reasonably carry out the HRA analysis for manpower decisions." (p. 30) The argument can be made that to maintain several measures of human resources would be too time consuming and costly. The benefit of having human resource information would not be greater than its cost. Again, this argument can be disputed. For this author, this challenge needs more research and discussion than can be allotted in this paper.

This author's conclusion is that human resource accounting is important, especially as the global economy changes toward service orientation. Companies can use HRA to make future projections in determining where the firm is heading in five or ten years as well as budgeting for the next year. HRA is useful in analyzing departments' performances and whether layoffs or personnel increases should occur. Externally, HRA can be used to show investors or potential investors how well the company is using its resources. Sir Matthew Webster Jenkinson states the need for HRA best in the following poem:

Though your balance-sheet's a model of what  
balance-sheets should be,  
Typed and ruled with great precision  
in a type that all can see;  
Though the grouping of the assets is  
commendable and clear,  
And the details which are given more  
than usually appear;  
Though investments have been valued at  
the sale price of the day,  
And the auditor's certificate shows  
everything O.K. ;  
One asset is omitted-and its worth  
I want to know,  
The asset is the value of the men who  
run the show. <sup>4</sup>



EXHIBIT A

PRESENT VALUE CALCULATION:

Assumptions:

1. Cash will be received at the end of the year.
2. Discount rate is 8%.
3. Salary for 5 years with 4% increase each year.

YEAR 1	\$20,000 X .92593	=	\$18,519
YEAR 2	(20,000 X 1.04) X .85734	=	17,833
YEAR 3	(20,800 X 1.04) X .79383	=	17,172
YEAR 4	(21,632 X 1.04) X .73503	=	16,536
YEAR 5	(22,497 X 1.04) X .68058	=	<u>15,924</u>
	TOTAL		\$85,984

See attached tables for present value factors.

**EXHIBIT A-1**

Exhibit A-1 is to show present value calculations using the same interest rate and percentage of increase per year as in Exhibit A for ten years.

PRESENT VALUE CALCULATION:

Assumptions:

1. Cash will be received at the end of the year.
2. Discount rate is 8%.
3. Salary for 10 years with 4% increase each year.
4. The first five years are the same as Exhibit A.

YEAR 1-5	From Exhibit A	=	\$85,984
YEAR 6	(22,497 X 1.04) X .63017	=	14,744
YEAR 7	(23,397 X 1.04) X .58349	=	14,198
YEAR 8	(24,333 X 1.04) X .54027	=	13,672
YEAR 9	(25,306 X 1.04) X .50025	=	13,166
YEAR 10	(26,318 X 1.04) X .46319	=	<u>12,678</u>
	TOTAL		\$154,442
			=====

See attached tables for present value factors.

EXHIBIT A-2

Exhibit A-2 is to show present value calculations using a different interest rate and percentage of increase per year than used in Exhibit A.

PRESENT VALUE CALCULATION:

Assumptions:

1. Cash will be received at the end of the year.
2. Discount rate is 12%.
3. Salary for 5 years with 2% increase each year.

YEAR 1	\$20,000 X .89286	=	\$17,857
YEAR 2	(20,000 X 1.02) X .79719	=	16,263
YEAR 3	(20,400 X 1.02) X .71178	=	14,520
YEAR 4	(20,808 X 1.02) X .63552	=	13,488
YEAR 5	(21,224 X 1.02) X .56743	=	<u>12,284</u>
	TOTAL		\$74,412
			=====

See attached tables for present value factors.

**EXHIBIT A-3**

Exhibit A-3 is to show present value calculations using different interest rates and a different percentage rate increase for each year.

PRESENT VALUE CALCULATION:

Assumptions:

1. Cash will be received at the end of the year.
2. Discount rate starts at 6% and increases 2% every 2 years.
3. Salary for 5 years with 1% increase each year starting with 4%.

YEAR 1	\$20,000 X .94340	=	\$18,868
YEAR 2	(20,000 X 1.04) X .89000	=	18,512
YEAR 3	(20,800 X 1.05) X .79383	=	17,337
YEAR 4	(21,840 X 1.06) X .73503	=	17,016
YEAR 5	(23,150 X 1.07) X .62092	=	<u>15,381</u>
	TOTAL		\$87,114
			=====

See attached tables for present value factors.

## EXHIBIT B

The Skills Inventory is presented in the financial statements in a human resources schedule like the one shown here.<sup>5</sup> Employees are rated as to how much education they have completed and the ratings are summarized in this schedule. The first column lists the area of concentration for the employees' education. The next three columns list the type of degrees the employees have. For example in economics, one employee has a bachelor's degree in economics and one employee has a Master's. The next five columns show the number of years of work experience relating to the degree field. This schedule gives the readers an idea of the levels of education and experience the organization as a whole has.

EXHIBIT B (Continued)

X Y Z CORPORATION  
HUMAN RESOURCES SCHEDULE  
December 31, 19x0

Skills Inventory

	BS/BA	MS/MA	PhD	0-3	3-5	5-10	10-15	>15
Economics	1	1			1			1
Education	5			1	2	1	1	
Psychology	2					1	1	
Business Admin.	2	1	1		1			1
Accounting	10	3		2	3	3	1	1
Humanities	5	1		1		2	1	1
High School				3	1		2	2

## EXHIBIT B-1

An example of Managerial Leadership Questionnaire is shown in this exhibit. The employee analyzes management and how well the employee fits in with the organization. The questionnaire varies with content depending on the type of information the organization is trying to analyze. The questionnaire used here is based on one developed by Renis Likert and Associates.<sup>6</sup>

### MANAGERIAL LEADERSHIP QUESTIONNAIRE

Rank the following statements 1-Never, 2-Hardly Ever, 3-Sometimes, 4-Most of the Time, 5-Always. Answers are confidential.

#### Extent manager displays the following:

- \_\_\_\_\_ 1. Support
- \_\_\_\_\_ 2. Encourages best effort
- \_\_\_\_\_ 3. Encourages team building

#### Extent of Group Process:

- \_\_\_\_\_ 4. Planning together
- \_\_\_\_\_ 5. Sharing information
- \_\_\_\_\_ 6. Knows jobs well

#### Peer Leadership-Extent peers display the following:

- \_\_\_\_\_ 7. Support
- \_\_\_\_\_ 8. Shows ways to do a better job
- \_\_\_\_\_ 9. Listens to your problems
- \_\_\_\_\_ 10. Encourages team work

#### Satisfaction with:

- \_\_\_\_\_ 11. Fellow workers
- \_\_\_\_\_ 12. Your supervisor
- \_\_\_\_\_ 13. Your job

EXHIBIT B-1 (Continued)

Organization climate:

- \_\_\_\_\_ 14. Communication
- \_\_\_\_\_ 15. Decision making process
- \_\_\_\_\_ 16. Concern for employees

-----

The rankings are totaled and averaged for each question. This gives management an idea of how employees feel about their supervisor, their jobs, and the organization.



EXHIBIT C

The performance evaluation schedule listed below is a summary of each employee's evaluation. This schedule is also listed as a Human Resources Schedule in the financial statements.<sup>7</sup> It is just a sampling of the types of ratings that each employee receives. The individual ratings are summarized for reporting purposes and the actual numerical rating is an average of all the employees' performance with ten being the best and zero being the worst.

X Y Z CORPORATION  
HUMAN RESOURCES SCHEDULE  
December 31, 19x0

Performance Evaluation  
Overall Ratings

<u>Duties</u>	<u>Average</u> <u>(0-10)</u>
Performs job satisfactorily	9
Works well with others	8
Technical knowledge	10

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## END NOTES

1. This theory has been published in several sources. The original source is Rensis Likert, **The Human Organization: Its Management and Value**, McGraw-Hill, 1967. The basis for Likert's theory used in this thesis is from the Committee on Human Resource Accounting, 1973, pages 175-177.
2. The following case material for HRA applications is cited from Eric G. Flamholtz, 1973, Chapters 7-9. Although, the cases have been published by several sources, Flamholtz offers the most complete description of the methods and reasons each company opted to apply HRA.
3. The financial statements in this example are not the financial statements used by the R. G. Barry Corporation. The format used is the same, but the financial data is not. The format for the financial statements was derived from the example printed by Eric G. Flamholtz, 1985, page 97
4. This poem is quoted from Archibald Bowman, "Reporting on the Corporate Investment", Journal of Accountancy, May 1983, page 399 and reprinted by Eric G. Flamholtz, 1985, pages 30-31.
5. The following schedule is similar to the one designed by Rensis Likert and published by Eric Flamholtz, Table 8-1 on page 245.
6. The source for information used in this example was designed by Rensis Likert and published by Eric Flamholtz, Table 6-1, page 191.
7. The employee evaluation model used in this example is modeled after the one used by the State of Montana, Department of Natural Resources-Water Rights Bureau. The individual employee information is summarized for confidentiality. This particular report was never publicized and is just an example to show how it would appear if it had been.