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**U.S. Initiated Human Resource Accounting and Its  
Contribution to Improved Employees' Morale and  
the Quality of Worklife – Case Study #1: Gypsum  
Texas Plant**

**Joseph VanVo  
Adjunct Professor  
College of Business Administration, California State University,  
Sacramento, USA**

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Athens Institute for Education and Research  
8 Valaoritou Street, Kolonaki, 10671 Athens, Greece  
Tel: + 30 210 3634210 Fax: + 30 210 3634209 Email: info@atiner.gr URL:  
www.atiner.gr

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**U.S. Initiated Human Resource Accounting and Its Contribution to Improved Employees' Morale and the Quality of Worklife – Case Study #1: Gypsum Texas Plant**

**Joseph VanVo**  
**Adjunct Professor**  
**College of Business Administration, California State University,**  
**Sacramento, USA**

**Abstract**

Human Resource Accounting (HRA) is basically a proposed cost accounting system which quantifies the worth and expenses of human resources in terms of employees' overall soft skills namely knowledge, experience, expertise, motivation, creativity, followership, leadership, etc. along with organizational recruitment, training, development, promotion, transfer, relocation, termination, etc. It is therefore the value and cost of human resource characteristics and activities within an organization. From its inception in 1960's through 1970's, HRA was well positioned with numerous methods of valuing human resources and accounting cost models, and was actively used in various organizations in the United States, Canada, Europe and Mexico; then spread to Asia for a period of time. By 1980's, however, HRA interests significantly dropped worldwide with only limited applications presently. Many factors served as deterrents to the application of HRA primarily the reporting companies themselves due to (i) different schools of thought about their practices of human resource management with different systems and aims of financial analysis and reporting, and (ii) lack of their HRA financial statements in the companies' annual reports. Effective practice of HRA can ensure both short-term and long-term benefits to the employees and the companies by increasing employees' morale, product quality and customer service, job performance, and thereby company's potential expanded market shares and stock values. This paper serves two purposes (i) identification of HRA as an emerging cost center through its historical background, evolution, and hands-on application; and (ii) selection of an HRA applied MNC on increased employees' morale and the quality of worklife via case study #1 - Gypsum Texas Plant - of the author's HRA case study series.

**Keywords:** Human Resource Accounting, HRA Cost and Valuation Models, HRA Financial Statement, Human Resource Management, Human Capital, Employees' Morale, Quality of Worklife.

## **Introduction**

As an industrial/organizational psychologist since 1996, I've been actively involving in the consultation and management of human resources – i.e., human resource management (HRM) in multi-national corporations (MNC's). The management of human resources (formerly known as 'labor' to 'personnel' to 'human resources') has been around since the industrial revolution in Europe, prospered in the U.S. since post World War II, and currently remains one of the most powerful and influential I/O psychological concepts to have emerged in the field of business and management. Effective practice of human resources in the accounting statement [Hossain, Akhter & Sadia, 2014] can ensure long-term benefits to the employees and the corporations; and the subject human resource accounting (HRA) or human asset accounting (HAA) as some prefer to call it - which was initiated in the U.S. in the mid 1960's - also increases quality, performance, value, and commitment to future needs; though, to date, various MNC's in the field of HRM provide different schools of thought about the practices of personnel management with different systems and aims of financial analysis and statement. This paper serves two purposes (i) HRA as an emerging cost center through its historical background, evolution, and application; and (ii) selection of an HRA applied MNC on increased employees' morale and the quality of worklife via case study #1 - Gypsum Texas Plant – in section 2.14, pages 13 to 18.

## **Literature Review**

My literature review is an expansion of “An Empirical Analysis on Importance of HR Accounting (HRA) Practices in the Organization” by Hossain, Akhter and Sadia [2014] using some of its initial outlined framework\* along with my added extensive research toward HRA evolution, selection of available worldwide companies' application of HRA, and improvement on their employees' morale and the quality of worklife via Case Study #1: Gypsum Texas Plant (\*denotes the initial outlines from Hossain, Akhter and Sadia as shown below).

### *Birth of Human Resource Accounting*

According to Flamholtz (1985), HRA was first introduced in the accounting literature in the mid 1960. Likert [1967] on conventional accounting at the expense of human assets to numerous scholars namely Brummet et al. [1968] as the first user of the term human resource accounting, to other HRA focused issues such as costs and values [Sackmann et al., 1989], the association between different aspects of human resources and firm performance [Bassi and McMurrer, 1998; Grojer,

1998; Boudreau and Ramstad, 1997], different HRA proposals [Conner, 1991], and inclusion of human resource performance and employment values [Archel, 1995].

Flamholtz [1999] divided the development of HRA into 5 stages:

- i. Stage 1 (1960-66): Beginning of academic interest in the area of HRA.
- ii. Stage 2 (1966-71): Developing and validating different models of HRA.
- iii. Stage 3 (1971-76): Widespread interest in the area of HRA leading to rapid researches.
- iv. Stage 4 (1976-80): Decline of interest in HRA due to primarily complex issues to be explored which required much deeper empirical research than was needed in the earlier simple HRA models; and the organizations, however, were not ready to sponsor such research.
- v. Stage 5 (1980-2000): Renewed focus in HRA due to a global shift from manufacturing to service-based.
- vi. Stage 6 (2000 onwards): Human capital analytics.

#### *Objectives of Human Resource Accounting*

It is generally accepted that human resources (HR) are the primary assets and most important to the success of all organizations; however, HR inclusion in the financial statement of firms has been strongly denounced in certain quarters due to different schools of thought [Monday, 2017]. It is interesting to note that successful implementation of HRA objectives can be a plus to the organization and its stakeholders.

Ten important objectives of Human Resource Accounting according to Banerjee [2012] are as follows:

- i. Effective and efficient management;
- ii. Changes in the structure of manpower to the management;
- iii. Investors' better decisions making about investment in human resources;
- iv. Quantitative and qualitative information on human resources;
- v. Costs incurred on human resources by firms;
- vi. Return on investment (ROI) on human capital;
- vii. Worth of human resources of an organization;
- viii. Utilization and allocation of human resources;
- ix. Focused interests in human resource returns equivalent to their worth;
- x. Management and clarification of the financial consequences of various human resource practices.

*Concept of Human Resource Accounting\**

HRA is both the art and science of identifying, valuing, costing, and recording systematically the worth of human resources in an organization. According to the American Accounting Association's Committee on Human Resource Accounting [1973] HRA involves the identification and measurement of data about human resources and then communicating this information to interested parties.

*Theoretical Framework of Human Resource Accounting\**

HRA framework was initiated in 1960s and has since been gradually evolving. Lau and Lau [1978] on the two HRA procedural questions in recording human resource assets and written them off; Jaggi and Lau [1974] on the statistics of human resource capitalization; Dawson [1994] on the relationship between the employees' two valuation models -- replacement cost vs. stochastic rewards.

*Human Resource Accounting in Managerial Reporting & Decision Making\**

Hossain et al. [2014] on HRA focused strategic managerial decision making in relation to the company's overall profitability; reinforced by Bullen [2007] on HRA measures affecting internal decision making and long-term benefits.

Furthermore, Moore [2007] suggests that decisions about the acquisition and disposal of people should be paired with the value of human capital, and notes that current employers' accounting practices can potentially cause undue influences in their strategic decision making.

*Nature of Human Resource Expenditure & Necessities for Capitalization\**

The expenditures include advertisement, recruitment, selection, training, and development along with medical and employment benefits, and entertainment; which are needed to get the best human brain, to achieve the company's predetermined strategic goals according to Lau and Lau [1978], Steffy and Maurer [1988], Roslender and Fincham [2001], and Leffingwell [2002].

*Need for Human Resource Accounting\**

The absence of HRA has undoubtedly affected the manner in which managers regard their human resources and influences the nature of organizational climate. The human resource accounting, on the other hand, will reflect two major innovations in accounting (i) acquisition and development, and (ii) evaluation. Human Resource Accounting (HRA) is basically a proposed cost accounting system which quantifies the worth and expenses of human resources in terms of employees' overall soft skills namely knowledge, experience, expertise, motivation,

creativity, followership, leadership, etc. along with organizational recruitment, training, development, promotion, transfer, relocation, termination, etc. It is therefore the value and cost of human resource characteristics and activities within an organization.

*Implementing Human Resource Accounting System\**

There are three principal steps [Hossain et al., 2014] in implementing a HRA system in the order as shown below:

- i. Definition of objectives;
- ii. Development of a database with accounting measurements;
- iii. Actual employment data management.

Successful organizational implementation of an effective HRA yields the following benefits [Jain, 2017]:

- a. Cost-benefits information about human resources;
- b. Return on money spent on human resources;
- c. Human resource as a major asset;
- d. Lower employee turnover;
- e. Better job performances.

*Application of Human Resource Accounting\**

In 1960's, companies in the United States [Gebauer, 2002] realized the key advantage of their Japanese competitors' human capital productivity edge which, according to Hossain et al. [2014] arose multiple interests in the United States relative to HRA due to the American hire and fire approach which negatively affected the overall company's performance in the areas of productivity, quality and customer services.

United States & North America

- i. In 1960s, The R.G. Barry Corporation, a shoe manufacturing enterprise, developed a system for its human assets for managerial purposes based on the answers to the below questions:
  - a. Quality of profit performance?
  - b. Are sufficient human capabilities being acquired to achieve the objective of the corporation?
  - c. To what degree are they being maintained?
  - d. Is the corporation properly utilizing these capabilities?

After the successful implementation of HRA system by R.G. Barry Corporation, [Hossain et al., 2014] many organizations in the United States and Canada followed:

- ii. Touche Ross & Co. [1971], a Montreal public accounting firm, also developed a system of accounting for investments in its personnel. The firm felt the need to account for its human resources because CPA firms are, by their nature, human resource intensive. Touche Ross & Co. believed that information about investments in people was required in order to facilitate their effective management.
- iii. At Midwestern Insurance Company [1974], an effort was made to develop a pilot system of accounting for human resource replacement costs. The firm was motivated to measure the replacement cost of its human resources because turnover rates among salespeople and certain claims personnel were felt to be quite high.
- iv. And Milwaukee Braves Inc. [1964], Texas Instruments [1971], Witte & Co. [1975], and the U.S. Navy [1984] all have experimented the concept using either historical cost, replacement cost or other valuation models.

#### *Worldwide*

Hossain et al. [2014]:

- i. Adoption of HRA in European and Latin American footballs.
- ii. Globally, India has been actively practicing HRA among its numerous national and international corporations in different industries. The nature of HRA system in India included the profile of human assets, the compensation pattern, training and development, human asset productivity, human asset value and the total wealth of the organization.
- iii. Governments of many nations are reacting positively towards accounting and reporting of human assets. One of the best examples is of the Denmark Government which issued a directive with effect from the trading year 2005.
- iv. In addition to the Danish Government and other Scandinavia countries, other countries like the United Kingdom [Morrow, 1997 & 1996], Australia and New Zealand [Gusenow and Tower, 2006], China [Tang, 2005] and [Ng, 2004], Portugal [Bras and Rodrigues, 2007], Germany [Schmidt and Minssen, 2007], Greece [Andrikopoulos, 2005] and the others have taken very significant steps toward wider application of HRA.

#### *Human Resource Accounting Models*

Numerous HRA models, beginning in the 1960s through the early 1980s, have been proposed and some have been used. These models can be categorized into



Cost and Economic Valuation. Following are six models used in my case study shown in section 2.14 of this paper:

Cost Models

- a. Historical or Acquisition cost model: This model was first initiated by Likert and Pyle [early 1960s] then applied at R. G. Barry Corporation in Ohio in 1967; subsequently expanded by Flamholtz [1999], capitalizing of the actual organizational cost incurred on recruiting, selecting, hiring, training and developing the human resources.

The model could be formulated as:

$$HR \times E(V) = \sum_{z=1}^t c(q_z) + \left[ P(\pi_{tx}, \pi_{tn}) \times \sum_{i=1}^t (\pi_{tx} - \pi_{tn} / (1+r)^i) \right] \times P(\epsilon)$$

Where:

HR × E(V) – is the expected value of a human resource at the point of acquisition;  
 ΣC(qz) -- (q1 + q2 + q3 + ... + qn) – are the historical cost functions;  
 P(πtx, πtn) – is the probability of attending the amount of extra-ordinary earning or net benefits; πtx – is the amount of extra ordinary benefits or earnings correlated with the existing specified HR; πtn – is the amount of ordinary benefits or earnings correlated with the absence of the specified HR;

P(ε) – is the probability of death, accident or resigning from the job;  
 t – the time line of contract;  
 r – discount rate for year t.

- b. Replacement cost model (1985): This method of valuation of human resources was developed by Eric G. Flamholtz on the basis of concept of replacement cost suggested by Rensis Likert:
  - i. Individual replacement cost, and
  - ii. Position replacement cost

Flamholtz traces the movement of an employee through organizational positions or ‘service states’ where the individual employee is expected to render a specified quantity of services to the organization during a specified time period. The probability of the individual occupying these service states is needed so that the ‘expected service’ from the individual can be derived using the following formulated model:

$$E(S) = \sum_{i=1}^n S_i P(S_i)$$

Where:

$S_i$  is the services that are expected from the individual in each service state;  
 $P(S_i)$  is the probability that the individual will occupy a particular service state.

The services that the individual will render determine its "value" to the organization and, according to Flamholtz (1985), the monetary equivalent of the services can be represented in two ways:

1. The first is to determine the quantity and price of the services and use their product as the monetary equivalent, and
  2. The second is to calculate the income expected to be derived from the rendered services. The expected services are discounted so that their present value can be determined.
- c. Opportunity cost model: This model was proposed by Hekimian and Jones [1967] to overcome the limitations of replacement cost model. It attempts to estimate the value of human resources by establishing an internal labor market – thus opportunity - in an organization through the process of competitive bidding for ‘scarce’ employees.

Method: Under opportunity cost method (MBA Knowledge Base, 2011):

- i. The managers will bid for the ‘scarce’ employees they recruit;
- ii. These ‘scarce’ employees come from within the company and include only those who are the subjects of recruitment request made by the managers;
- iii. In other words, employees not considered ‘scarce’ are not included in the human asset base of the organization.

#### Economic Valuation Models

- a. Lev and Schwartz model (Present Value of Future Earnings Method, 1971): The value of human capital embodied in a person of at a certain age is the present value of his remaining earnings from employments.

$$E(V_y) = \sum_{y=1}^T P_{y(t+1)} \sum_{y=1}^T I(T)/(I+r)^{t-y}$$

Where:

$E(V_Y)$  = Expected values of the human capital value of a person's years old;

T= Person's retirement age;

$P_y(t)$  = probability of the person dying (dying includes the probability for an employee to leave the organization, i.e., retirement resignation, etc.);

I = expected earning of the person in period;

r = discount rate specific to the person.

- b. Stochastic rewards valuation model (Flamholtz Model, 1971): The movement (transfer/relocation) of people from one organizational role to another is a stochastic process which yields an expected realizable value as the discounted mathematical expectation of the monetary worth of the future rewards/services an employee is expected to render to the organization.

A person's expected realizable value E (RV) may be expressed as:

$$E(RV) = \sum_{i=1}^n \left[ \sum_{i=1}^m R_i - P(R_i) / (1 + r)^t \right]$$

Where:

R = value, to be derived by the organization in each possible service state;

I = probability that a person will occupy state i; t – Time; m = state of exit;

r = appropriate discount rate.

- c. Jaggi and Lau model (1974): Based on group's valuation rather than individuals' as it is difficult to predict an individual's expected service tenure in the organization or at a particular level or position, but on a group basis it is easier to ascertain the percentage of people in a particular group likely either to leave the firm during each of the forthcoming period, or to be promoted to higher levels.

The following formula is used:  $TV = (N)^n (T)^n (V)$

Where:

TV = Column vector indicating the current value of all current employees in each rank;

(N) = Column vector indicating the number of employees currently in each rank;

n = Time period;

r = Discount rate;

(T) = Rank transitional matrix indicating the probability that an employee will be in each rank within the organization or terminated in the next period given his current rank;

(V) = Column vector indicating the economic value of an employee of rank 1 during each period.

*Human Resource Accounting in Relation to Human Resource Development\**

The usefulness of a HRA model [Hossain et al., 2014] in the process of HRD would depend upon how best it meets certain basic requirements.

These requirements are:

- a. The model should identify the factors which determine the value of human resources;
- b. The model should identify the factors which can improve the value of human resources;
- c. The model should be capable of measuring the value of human resources operationally;
- d. The information generated by the model should help users to make decisions relating to the process of human resource development.

*Human Resource Accounting in Relation to Improved Employees' Morale*

Employees' attitude about the job and the company [Kumar, 2012], which gets reflected in their behavior towards the customers. That behavior in turn translates into customers' retention, recommendations and loyalty, which in turn get reflected in financial performance. Thus, behaviors and attitudes that affect performance are being measured. Some of the attitudes measured are satisfaction, locus of control, organizational involvement and commitment, and motivation; and the behaviors often measured are performance, adjustment, absence or illness and voluntary turnover.

*Human Resource Accounting in Relation to Improved Quality of Worklife*

Quality of worklife consists of soft or intangible and hard or tangible components – soft components relate to knowledge, skills, self-confidence, emotion, human networks, and other intangibles; and hard components relate to all things being physical such as buildings, machineries, monies, and other tangibles.

Sumantra Ghoshal [1998] has classified them into four categories such as intellectual capital, social capital, emotional, and spiritual capital and their contributions to individual effectiveness leading to the quality of worklife.

- i. Intellectual capital: (i) individual level consists of the knowledge, skills and expertise; and (ii) organizational level consists of the members' stock of knowledge, skills and expertise.
- ii. Social capital: (i) internally, the human networks; and (ii) externally, like customers, suppliers, government agencies, etc.
- iii. Emotional capital: Emotional quotient (EQ) as the individuals in an organization depend more on their emotional capital for effectiveness than their intelligence and technical skills.
- iv. Spiritual capital: Recently developed in the practice of HRM whereas with a high IQ, Ullhas Pagey [2001], individuals may get hired, with a high EQ, they get promoted; yet, with good spirit they blossom in their jobs.

*Selected Available Worldwide HRA Applied Companies & Improvement of Their Employees' Morale and the Quality of Work-Life – An HRA Case Study #1*

VanVo [2018] reported that the Gypsum Corporation which has been a multinational and U.S. Fortune 500 building materials manufacturing company during the past several decades, and has also been known for its focused human resources – recruitment, employment, training (line operation to supervisory to managerial) and development (both internal company personnel growth and external academic growth through its 'no string attached' tuition reimbursement). The corporation's individual plant's budgets had various accounting cost systems specifically used for human resources.

Following is a case study [Gypsum, 1990] that reflects the topic of this literature review on the application of human resource accounting in its plant operations and the resulted outcomes of its employees' morale and the quality of worklife:

Plant: Gypsum Corporation's Texas Plant – i.e., Gypsum Texas Plant  
Year: 1988 – 1990

Background: From 1985 through 1988, Gypsum Texas Plant was forced to gradually scale back its operations from 3-shift day, 7-day week, 363-day year with 300 employees to 2-shift day, 5-day week with 180 employees then to 1-shift day, 3-day week with 80 employees remained. Its Texas market shares dropped from 75% to a mere 25% and continued dropping due to increased customers' complaints on increasingly poor product quality and service; internally, employees' morale was at all time low with poor safety records and poor job performances. *Gypsum Corporation Leadership wanted to explore either shut-down option or scale-down option for this Gypsum Texas Plant's operations by laying off or transferring the remaining employees and removing all plant equipment to other company's facilities across the United States.*

Upon hearing Gypsum corporate management's decision on the Texas Plant, an operations manager named JW at the Gypsum California Plant volunteered to relocate to Texas to personally handle the subject shut-down / scale-down project.

Initial plan. JW arrived on-site in mid-November 1988, and took immediate action on:

- x Interview: Interviewing plant leadership, key operating personnel, key marketing and sales leadership, and major account customers;
- x Strategic recovery planning;
- x Corporate approval: Subsequently JW requested for a 6-month extension to salvage the plant as opposed to the planned shut-down / scale-down option – Gypsum Corporation Leadership approved.

Follow-up plan. The following steps were taken:

- x Expanded the Gypsum Texas Plant's human resource accounting system and its funding to handle increased personnel functions and costs;
- x Both cost and economic valuation models (see above 2.10 Human resource accounting models for more details) were used interchangeably depending on the situations at hand. In summary, following were the most used HRA models - among many - due to their applicability and usefulness at the time:

➤ Cost model

- Historical or acquisition cost model (Likert/Pyle):

$HR \times E(V)$  which is the expected value of a human resource at the point of acquisition

Advantages: Simple application

Disadvantages: Not reflect true value of human assets as experienced vs. inexperienced employees

- Replacement cost model (Flamholtz/Likert):

$E(S)$  which is the expected service from the individual

Advantages: Better value indicator of human assets though with some operational problems

Disadvantages: Higher cost than historical/acquisition

- Opportunity cost model (Hekimian and Jones):

'Scarce' Employees

Advantages: Awareness of lost opportunities and relative prices

Disadvantages: Time and lack of accounting

➤ Economic valuation model

- Lev and Schwartz model:

$E(V_Y)$  which is expected values of the human capital value of a person's years old

Advantages: Ease of use and convenience

Disadvantages: Focus more on inputs at the expense of outputs; also not considering other factors such as employees' service state, training expenses and attrition rate

○ Stochastic rewards valuation model (Flamholtz):

E(RV) which is a person's expected realizable value of an organization

Advantages: Results that are responsive to perceived probabilities

Disadvantages: Subjective probability doesn't consider the individual employment cost to produce said results for the company

○ Jaggi and Lau model:

TV which is column vector indicating the current value of all current employees in each rank

Advantages: Group based (not individual) as easier to ascertain the group's future period of service, chances of promotion, and potential quitting, etc.

Disadvantages: At the expense of individual's x numerous meetings were held with the employees -- both in groups and individually -- to mutually strategize plans on business and customer service, personnel development and team building (among plant employees, and between plant and marketing/sales forces), operations (manning, production, process and quality control, and machinery maintenance), cost control, plant safety and housekeeping, environment, and employees' family outreach.

Summarized key strategized plans follow:

- Business and customer service
  - Redefined business scope based on market shares;
  - Prioritized products from customers' needs;
  - Involved plant operating personnel on customers' and jobsite visits as opposed to past practices of just quality and sales marketing staff -- in other words, plant product makers must see their product performances in the market to receive direct feedback from the home builders and customers.
  
- Personnel development and team building
  - Using Dr. Bales' SYMLOG and Dr. Maslow's Need Concepts to help plant employees regain their self-worth, self-confidence and self-actualization;
  - SYMLOG team building techniques applied throughout the plant, between the plant and regional marketing/sales center to regain mutual respect, understanding and cooperation toward only one shared goal which was maximizing Gypsum product performance and servicing the customers.
  
- Operations

- Manning and cross job training;
  - Building materials production and production schedules to maximize operational efficiencies;
  - Process and quality control to ensure that raw materials met required specifications and thereby yielding quality products;
  - Machinery maintenance and upgrading to reduce downtime and delay.
- Cost control
- Use of cheaper alternative raw materials (same quality and performance) in the manufacturing of building products – significantly noted was the following great innovation:
    - For 50 years, the Gypsum Texas Plant produced drywall board from natural gypsum rocks imported from South America via shipping channels at a substantial cost. Taking advantage of the by-product (waste) of the nearby electricity generated power plant, trial runs were conducted on the power plant waste mixing with various chemicals to successfully produce a by-gypsum raw material (equal in strength and performance with the natural gypsum rocks, yet value at a fraction of the imported natural gypsum rocks cost). The Gypsum Texas Plant has since been known as the birthplace of “synthetic” gypsum as opposed to “natural” gypsum rocks,
    - This man-made “synthetic” gypsum effectively revolutionized the gypsum industry, and greatly contributed to the overall environmental control;
  - Trial runs on – and successfully achieved -- drywall board weight reductions (same product quality and performance based on required American Standard of Testing Materials [ASTM], and Underwriters Laboratory [UL] specifications),
  - Motion detectors on electrical and power needs throughout plant operations and offices,
  - Recycling in all usage areas (see environment section below);
- Plant safety and housekeeping
- Best housekeeping initiative by having all Gypsum Texas Plant employees’ teens / children / grandchildren under 18 years of age participated in Gypsum products and by-products painting contests – all paintings got framed and hung up at their work stations, thereby providing all employees the initiatives to up keep their work place throughout the plants;
  - Improved safety performances by frequent safety huddles and meetings, avoiding unsafe acts, guarding machineries, and minimizing personal and industrial accidents.
- Environment (also cost control)



- Recycling operational water,
  - Recycling waste papers in the manufacturing of drywall board manila and newslined papers,
  - Recycling gypsum and board wastes,
  - Improving dust collectors' efficiencies for better air quality within the plant and in the environment and thereby less power usage;
- Family outreach
- Plant "open house" program was setup monthly drawing in the customers and their families, and especially employees' family members on plant tours and BBQ cookouts.

### Turnaround

x After 3 months, Gypsum Texas Plant started turning around at gradually reduced losses;

x After 6 months, Gypsum Texas Plant reached break-even points in most operational categories by resuming its 3-shift operations, and gradually reclaiming and expanding its Texas market shares and beyond with its lowest cost manufactured drywall;

x After 12 months, Gypsum Texas Plant surged into the top product-producing and money-making tier among the company's 36 plants across the United States;

x The Gypsum Texas Plant and its employees received the Gypsum Chairman's Recognition Award and the Pyramid Award for best quality products and superior customer services.

### Takeaways

x Human resource management (HRM) - formerly labor then personnel - has been around since the industrial revolution in Europe, prospered in the U.S. since post World War II, and currently remains one of the most powerful and influential I/O psychological concepts to have emerged in the field of business and management. Effective use of HRM increases employees' participation which, in turn, yields better job performance, better product quality, better customer service, and commitment to future needs.

x Effective practice of, and proper statement on, human resource accounting (HRA) (i) help specifically identify the cost areas of human resource contributions, and (ii) can ensure long-term benefits to both the employees and the corporations.

x Gypsum Texas Plant:

- Employees, as a result of the plant turnaround, (i) regained their individual self-worth and self-confidence; (ii) happier and more productive; and (iii) more committed to their individual career growth within the company;
- During the turnaround period, no major capital investments or large expenditures required, rather only human capital – i.e., employees' self-esteem, effort, attitude, commitment and teamwork;
- The company gained more profits from the subject plant operations and notably significant innovations as mentioned in the case study which were subsequently expanded companywide, thereby added more value to its stock;
- The customers were better served with good quality building products and superior services;
- Improved community service and thereby public relations standing.

[Note: Operations manager named JW, in the above case study (Gypsum, 1990), who successfully and drastically spearheaded the Gypsum Texas Plant turnaround was this author DrJVV who, at the time, a new MBA graduate].

#### *Human Resource Accounting In Public Relations*

VanVo [2018] stated that the turnaround of Gypsum Corporation's Texas Gypsum Plant undoubtedly affected the corporation's overall performance and public standing – especially, with the various positive inventions and re-programmed applications which were subsequently expanded to other national and international gypsum plants of the corporation.

Externally, the value of organization's human resources is helpful to prospective investors and other users in making long-term investment decisions. It provides the organization with a more accurate accounting of its return on the total resources and assets employed. The rate of return (ROI) calculated in this manner will be more realistic. Those interested in making long-term investment decision in an organization will be interested in having an insight into its inner strength [Oluwatoyin, 2014].

#### *Human Resource Accounting in Relation to the Organization*

VanVo [2018] indicated that the Gypsum Corporation's Gypsum Texas Plant [Gypsum, 1990] experienced a successfully drastical turnaround utilizing HRA in the measurements of its employees' recovery performances, and thereby positively identified recovery cost activities which affected the bottom line of the company.

Additionally, Avazzadehfath and Raiashekar [2011] stated that HRA has been proven to have direct impact to the organizations:

- Flamholtz et al. [2003] on employees' participation in a management development program increased the value of the individuals to the firm.

- Chris Dawson [1994] on the relationship between two prescriptive models of HRA which are the replacement cost model (RCM) and the stochastic rewards valuation model (SRVM) in relation the prescriptive and descriptive approaches to the study of management.
- Pekin Ogan [1976] on the finding that HRA information does make a difference in personnel layoff decisions and the manager's level of confidence.
- Tomassini [1977] on pairing between traditional financial information and information containing human resources accounting which led to remarkable differences in decision-making.
- Schwan [1976] on the effects of human resource cost measures on banker decision-making.

### **General Obstacles in Human Resource Accounting\***

In spite of limited HRA application successes in the United States and worldwide to date, many factors have served as deterrents to the full application of HRA. According to Rajshekar [2015], Gates [2002] and Akinsoyinu [1992], the ongoing problems of HRA application have been the reporting companies themselves:

- a. Not something that can be easily measured internally, and shared externally for reporting human capital;
- b. Measurement of human assets is full of problems, and not first priority for the company;
- c. Not enough time and resources to the measurement aspect of the human capital;
- d. Human resource professionals unaware of return on investment value;
- e. Lack of empirical evidence, clear guidance and universal practice to the application of HRA;
- f. The issue of autonomy in global and group companies in the application of HRA.
- g. Unions and employees generally don't like HRA due to its potential results in dehumanizing human resources.

### **Future Trend of Human Resource Accounting**

Since the beginning of time, simple to complex "counting" had been used for various reasons throughout the history of civilizations. Notably, the Industrial Revolution which began in Britain in 1760 to sometime between 1820 and 1840, marked a shift to powered, special-purposed machinery, factories and mass production; which also revolutionized the accounting and book-keeping methods.

For the record, transitions from “labor” to “personnel” to “human resources” to “human resource management” to “human capital” to “human capital analytics” had evolved, correspondingly, from (i) post Industrial Revolution to World War I; (ii) post World War I to World War II; (iii) post World War II to 1979; (iv) 1980 to 2000; (v) 2001 to 2020; and (vi) projected 2021 onward.

Ng [2004] coined the new term of human capital analytics which was then used to systemize additional human resource data collected from finance, customers and suppliers.

### **Suggestion for Future Research**

Future research entails (i) more HRA case studies as the author’s Texas Gypsum Plant case presented in this paper to resolve the lack of empirical evidence, and overcome the concerns of unions and their members/employees; (ii) better approach in tangible and intangible asset measurements is needed; (iii) a willingness to recognize the need for the measurement and use of HRA in future external financial reporting; and (iv) more studies on empirical research, case and field studies of human resource accounting, human asset accounting and human capital analytics are needed.

Furthermore, (i) developing new and appropriate valuation models for human resource accounting (HRA) which should be built on the existing 1960’s through 1980’s models taking into accounts their shortcomings, and will include appropriate discount rate, basis of measurement of future earnings, employees’ working life with the company; (ii) hands-on evaluation of the subject newly created valuation models in terms of its applicability and usefulness in determining the relationship between HRA practices and employee performance, company performance, company’s goodwill, and market capitalization; and finally (iii) undergoing an overall cost-benefit analysis from practicing HRA.

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