Objectively Evaluating Human Resource Development Activities

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Abstract
This project concerns the issue of objectively evaluating Human Resource Development activities and interventions. The focus is: How are Human Resource Development activities and interventions objectively evaluated? A review of literature on past and current practices identifies how Human Resource Development activities and interventions have traditionally been evaluated objectively and what methods of objective evaluation are currently used by researchers and practitioners alike. Six methods of evaluation are presented and discussed. The implications of the literature review along with suggestions for future research and study are also presented.

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ABSTRACT

This project concerns the issue of objectively evaluating Human Resource Development activities and interventions. The focus is: How are Human Resource Development activities and interventions objectively evaluated? A review of literature on past and current practices identifies how Human Resource Development activities and interventions have traditionally been evaluated objectively and what methods of objective evaluation are currently used by researchers and practitioners alike. Six methods of evaluation are presented and discussed. The implications of the literature review along with suggestions for future research and study are also presented.
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CHAPTER 1

Introduction

The perception that Human Resource Development, as a set of organized activities, costs organizations more than it returns has haunted the profession since its inception. Not being able to change this perception is Human Resource Development's Achilles heel. A recent study by the American Society for Training and Development, the profession's largest practitioner organization, reports that in terms of actual evaluation of Human Resource Development programs in the field, only three percent are evaluated for financial impact (Bassi, Benson, Cheney, 1996). Linking Human Resource Development activities to beneficial organizational outcomes and evaluating these activities through objective methods is a difficult process that many Human Resource practitioners and their organizations are unwilling or unable to undertake. Given the large quantity of resources spent on Human Resource Development activities, some estimates identify that upwards of $100 billion per year is currently spent on these types of activities (Noe, 1999). Practitioners are under increasing pressure to justify these expenditures and show worth, value and return on an individual as well as an organizational level. Human Resource Development practitioners need to be able to quantify, measure, analyze and evaluate objectively their activities in order to justify that these activities are indeed cost effective and value added. The inability of Human Resource Development professionals to demonstrate objectively the value of what they do is not an empty criticism. Human Resource Development professionals need to be able to link better their efforts to bottom line results in order to overcome the idea that Human Resource Development is not cost effective nor a good investment.
Human Resource Development Defined

Human Resource Development was a term coined in the late 1970's to serve as an umbrella for an organization's Training, Employee and Organizational Development efforts. The term is more currently used to represent the wide range of behavioral sciences and management technologies applied to improve both the operational effectiveness of an organization and the quality of work life experienced by its employees (Mills, 1975). On its own, Human Resource Development is defined as the process of changing an organization, the stakeholders outside it, groups inside it and people employed by it through planned learning so they possess the knowledge and skill needed in the future (Rothwell, 1989). The Human Resource Development efforts of an organization serve to guide, unify and provide direction to the organization's learning efforts.

Traditional Human Resource Development activities provide individuals who otherwise lack some type of knowledge, skill, or ability, with structured opportunities to learn and gain from distilled organizational experience. When viewed in this traditional way, Human Resource Development functions as a maintenance subsystem, intended to improve organizational efficiency by increasing routinization and predictability of human behavior (Katz, Kahn 1978).

While the traditional definition of Human Resource Development tends to rely on the past as an anchor for the present, modern practitioners have taken a new approach (Rothwell, 1989). This new approach views Human Resource Development as a mechanism to cope with a future that is not necessarily like the past. It is an approach that helps anticipate what knowledge, skills and abilities will be needed rather than reacting once issue become apparent.

Strategic Human Resource Development, a cutting edge term, defines the practice of Human Resource Development in terms of the combined principles of strategic business planning and long-term Human Resource Development efforts.
For the purposes of this literature review Human Resource Development is defined as the activities associated with Training, Employee and Organizational Development that organizations apply to more effectively utilize their human resources thereby increasing operational effectiveness. The scope and breadth of Human Resource Development activities are those associated with Training and Development, such as hard skill training and on-the-job training; Employee Development, such as succession planning and career pathing and planning; and Organizational Development, such as organizational effectiveness, efficiency and strategy.

Overview of the Problem

When Mark Twain made his famous statement, "everybody talks about it, but nobody does anything about it", he was, of course, talking about the weather. However, he could very well have been talking about evaluating Human Resource Development. The first part of his statement - almost all those associated with Human Resource Development talk about objective evaluation - is as true as the second part - very few of those associated with Human Resource Development are doing anything about it.

Evaluation, as a business tool, has been undertaken for centuries. Spice traders evaluated the efficiency of trade routes, farmers evaluated the yields of growing different crops, and merchants evaluated the positives and negatives of different economic systems and models.

Given that the term Human Resource Development wasn’t commonly used until the mid 1970's one would assume that the evaluation of Human Resource Development activities is a relatively new phenomenon. The reality is that the conceptual roots of Human Resource Development date back almost 100 hundred years and were formed, in part, as a by-product of the Industrial Revolution.
The precursor of Human Resource Development, Training and Development, was formally recognized during the late 1800's (Weisbord 1987). Evaluation, both subjective and objective, of Training and Development has been undertaken for well over one hundred years beginning with Frederick Taylor and continuing in the organizations of noted industrialists such as Andrew Carnegie, John D. Rockefeller, Alfred Sloan and Henry Ford. Initial evaluation measures resulted from the increased focus on human productivity measurement by America’s early industrial giants.

Following World War II, W. Edwards Deming and Donald Kirkpatrick picked up where the early industrialists had left off. Their work not only focused on human productivity measurement, but began to link together concepts such as human performance, training and quality (Weisbord, 1987).

Most of the evaluation of Training and Development over the past hundred years has focused on evaluating the efficiency and returns of “hard” skill training or training that is task or functionally specific. Until recently little attention has been paid to the evaluation of Training and Development activities that were considered to be “soft” skill in nature such as leadership training, organizational development initiatives, .... Many of these soft skill activities are most often associated with Human Resource Development principles and practices. Most of the work in this area attempts to evaluate outcomes on a individual or micro level, however, very little has been done to address evaluation at the organizational or macro level. Human Resource Development evaluation has borrowed largely the evaluation methods of Training and Development (that is, the objective methods used to evaluate Training and Development have been applied to the evaluation of Organizational and Employee Development activities). The lack of research, models and practice applied specifically to Human Resource Development has translated into a perception that quantifying, measuring and evaluating results for “soft” skill development is, at best, highly inaccurate or maybe impossible.
With the growth of the field of Human Resource Development since the 1970's, the need to measure, analyze and evaluate has never been more urgent or difficult. Management is becoming more demanding about the return on its investments and although organizations are more than economic entities, they are, if nothing else, economic entities. Today's organizations survive by evaluating their actions and inactions, from both subjective and objective points of view. Human Resource Development practitioners are under increasing pressure to justify Human Resource Development expenditures and show worth, value and return on an individual as well as an organizational level. The primary means of accomplishing this is to be able to objectively quantify, measure and analyze their activities in order to justify that these activities are indeed cost effective and value added.

The inability of Human Resource practitioners to evaluate objectively Human Resource Development activities and initiatives and translate those evaluations into meaningful and measurable results should be a paramount concern in organizations today. As Twain implied, many are talking, but few are doing, and those that apparently are doing, are not being as successful as desired or needed.

**Problem Statement**

The lack of commonly identified, accepted and understood methods of objectively evaluating Human Resource Development activities poses a problem for Human Resource Development practitioners who seek to justify their contributions to their organizations, add value to the bottom line, and consistently and accurately demonstrate that their efforts return more than they cost. Not being able to objectively quantify and justify their work puts Human Resource Development practitioners at a competitive disadvantage. Having the ability to show and evaluate the results of
Human Resource Development efforts in commonly accepted business terms would greatly boost the value, image and credibility of Human Resource Development and those that practice it. Hence, the lack of a generally agreed upon, or widely used, method of objectively evaluating Human Resource Development activities prohibits practitioners and researchers from portraying Human Resource Development’s full value to an organization.

**Purpose of Literature Review**

This literature review focuses on the issue of objectively evaluating Human Resource Development activities and interventions. Specifically, this review will seek to present the commonly recognized approaches to objectively assessing Human Resource Development activities and interventions. The guiding question being researched is: What are the more recognized and established methods used to evaluate objectively Human Resource Development activities and interventions?

Six methods of evaluation are identified and reviewed. Cost-Benefit Analysis, which uses basic accounting principles to analyze the value of an activity. Return-on-Investment Analysis which uses financial theory to analyze activities. Utility Analysis, a theoretical approach to evaluation that uses the basic principles of economics. Donald Kirkpatrick’s 4 Level Evaluation model, a widely recognized evaluation tool that combines subjective and objective measures. And finally, the Financial Analysis and the Forecasting Financial Benefits models which combine the principles of Return-on-Investment and Utility Analysis. The implications of these methods and their use will also be discussed and recommendations for further research and investigation will also be presented.
Significance of Literature Review

The significance of this review is that it identifies commonly accepted methods of objectively evaluating Human Resource Development activities; succinctly summarizes each of the commonly accepted methods; provides research supported explanations of permutations of the basic theoretical methods; and gives brief examples of how each particular method, and or permutation of the method is applied.

Human Resource Development practitioners will benefit from this review through the identification and presentation of six commonly recognized methods used to objectively evaluate Human Resource Development activities. Human Resource Development researchers will benefit from the review in that six methods of evaluation identified, along with related gaps in the research and areas for potential future exploration are discussed. Organizations will benefit from this review in that reasonably practical methods of evaluation are presented that can be utilized by Human Resource Development professionals to objectively evaluate the work they are performing.

Definitions of Key Terms

Cost-Benefit Analysis. A form of analytical analysis that identifies the cost of producing a unit of benefit in monetary terms (Cascio, 1987).

Delimitations. Details of how a study is narrowed in scope.

Employee Development. The activities associated with the development of an individual with an organization.

Human Resource Development. The process of changing an organization, the stakeholders outside it, groups inside it and people employed by it through planned learning so they
possess the knowledge and skill needed in the future (Rothwell, 1989). An umbrella term used to define an organization’s training, employee and organizational development efforts.

**Human Resource Management.** The activities associated with the attraction, selection, retention and utilization of people in organizations.

**Limitations.** Details of potential weaknesses of the study.

**Organizational Development.** The planned process of change in an organizations’s culture through the utilization of behavioral science technologies, research and theory (Burke, 1994).

**Return on Investment Analysis.** A form of Cost-benefit Analysis that utilizes the time value of money in calculating per unit benefits (Cascio, 1987).

**Training and Development.** The activities associated with the educational, skill and competency development of people in organizations.

**Utility Analysis.** A process of the determining the institutional gain or loss anticipated from various courses of action (Cascio, 1987).

**Research Methodology**

This literature review consisted of three phases. The first review examined literature and research on how Human Resource Development activities are evaluated from both a subjective and objective perspective. The second phase further refined and focused on commonly recognized objective evaluation methods. The final phase concentrated on information and research in support of the commonly recognized methods.

The review also concentrated on literature and research published in North America over the past 100 years with a primary focus on works published since 1960. Information more than 40 years old was used mainly in an ancillary, supportive manner. This time frame was selected because of
the relative newness of the formally recognized field of Human Resource Development and the corresponding lack of reviewed literature prior to 1960. This review relied primarily on qualitative data to determine what methods are available to objectively evaluate Human Resource Development activities.

**Delimitations**

One important delimitation of this review is that it seeks simply to present commonly accepted methods of objective evaluation of Human Resource Development activities. It does not, however, attempt to present information on how one would precisely evaluate Human Resource Development activities and interventions using the described methods and models. Stated differently, the methods and models are presented; the methodologies and processes of actually conducting an evaluation are not.

Another delimitation is that much of the information discovered during the literature review did not derive solely from the Human Resource Development literature. Information prior to the 1920's on human productivity enhancement derived from the literature review was derived from historical writings on turn of the century industrialization. From the 1920's to the late 1950's an industrial/organizational psychology perspective dominated the research and Training and Development was the focus of the following two decades. Starting in the 1970's and continuing through the 1980's and 90's the research flowed from a purely Human Resource Development perspective.

A third delimitation is that a distinction must be drawn between objective methods of analyses, which this paper does not address, and objective methods of evaluation, which is the primary focus of this paper. Objective analysis, which generally takes the form of statistical
analysis, differs from objective evaluation in that objective analysis can be performed on subjective data while objective evaluation cannot. An example of this is that one can objectively analyze, through the use of statistics, subjective data such as a yes/no answer to a question. Objective evaluation, by contrast, utilizes objective, quantifiable metrics as the inputs and outputs of the analysis.

Finally, a fourth delimitation the review was limited to literature published in North America because of the greater prevalence of the field of Human Resource Development there and also to be consistent with commonly accepted North American business terminology, practice and culture.

Limitations

Limitations of this literature review include a lack of relevant literature prior to 1960; a preponderance of literature that supposedly focuses on evaluating Human Resource Development activities which, in actuality, addresses Human Resource Management activities; and an excessive amount of literature written by authors (supposed Human Resource Development professionals) that has no theoretical foundation.

Summary

This chapter provided a brief overview of the problem of objectively evaluating Human Resource Development activities; defined Human Resource Development; provided the research methodology for the literature review; and described the delimitations and limitations related to the review. In the next chapter a review of relevant literature will be undertaken to identify history, practices, theories, methods and models.
CHAPTER 2

Introduction

The purpose of this literature review is to determine how Human Resource Development activities and interventions are evaluated objectively. This chapter presents a review of literature focused on how Human Resource Development activities and interventions have historically been evaluated, as well as six methods that are used today to objectively evaluate Human Resource Development activities and interventions.

History of Human Resource Development Evaluation

Although history provides a fairly consistent notion that there is much to be gained by measuring human capacity and human expertise, economic thinking related to these domains is relatively disjointed.

The Industrial Revolution revolutionized the way European and American industries operated. Following the American Civil War in the 1860's, dramatic industrial change swept across America. Small factories became large plants, local trades - glass, steel, meat - became national industries. Mass production became the rule, not the exception. These changes created significant labor problems and the managerial talent of the time sought ways to motivate production and ease labor strife. Some of the resultant solutions created the principles of work measurement, external control systems, narrow jobs, fragmented expertise, as well as piece rate plans, incentives, and skills training.

In the early 20th Century, Frederick Taylor, who many consider to be the father of scientific management, attempted to teach American industry how to untangle cost, improve motivation and
increase productivity (Weisbord, 1987). "Taylor's treatise on scientific management ... is first and foremost a treatise on human resource management" (Weisbord, 1987). He sought to manage better the processes as well as the relationships of the workplace in order to motivate employees toward higher and more efficient production.

Out of Taylorism grew the new science of performance management. With a insatiable appetite for labor, America's industrial giants began to utilize performance management to improve their industry's efficiency. Although the 1920's and 1930's are often recognized as a time of significant labor strife, they were also a time of significant labor gains. From a Human Resource Development perspective, skill training, workplace safety, work/life programs, compensation practices and benefit systems all saw marked improvements during this time period. Industrial leaders such as Alfred Sloan of the General Motors Corporation, Henry Ford of Ford Motors, John Rockefeller of the Standard Oil Corporation not only benefitted greatly from an increased emphasis on performance management but also became great advocates of many of the principles that are associated with modern day Human Resource Development such as skill training, labor-management cooperation and performance based pay systems (Weisbord, 1987).

For the modern Human Resource Development profession, the Training Within Industry project (Dooley, 1945) was a watershed. This massive national performance improvement effort that occurred from 1940 to 1945 clearly and consistently demonstrated the economic impact of Human Resource Development and the required conditions for achieving financial benefits. Dooley used meta analysis techniques and the Financial Analysis model of Human Resource Development evaluation to show an organization's aggregate benefit its from training and development investment. The 1950's brought more research into the subject culminating in 1959 with Donald
Kirkpatrick’s 4 level model of evaluation. Kirkpatrick begin a movement that focused on a four tiered approach to the evaluation of training activities.

In the 1960’s and 70’s a renaissance in the Human Resource profession provided the incentive to think more about Human Resource Development as an investment. Literature from this period increasingly reported the use of the Financial Analysis Method of evaluation along with many studies of the costs and benefits of Human Resource Development programs (Cullen, Sawzin, Sisson & Swanson, 1976, 1978; Gilbert, 1978; Meissner, 1964; Swanson & Sawzin, 1975).

In the 1980’s this trend of financial analysis trend of evaluation continued with a greater focus on costs from a human resource management perspective versus the performance improvement model (Cascio, 1987; Flamholtz, 1985; Head, 1985; Kearsley, 1982; Spencer, 1986). The methods, models and processes began to take an accounting perspective rather than a performance improvement perspective.

Until the 1980’s, evaluative efforts in Human Resource Development did not address the decision-making dilemmas faced by organizations at the investment decision stage of their organizational planning. Complex as they may have been, most evaluations were conducted in an after-the-fact manner. What was needed was a method for forecasting those costs and benefits at the point when the investment decisions were being made. The Forecasting Financial Benefits model of Human Resource Development evaluation was designed to fill this gap (Swanson, Lewis & Boyer, 1982; Swanson & Geroy, 1983; Swanson & Gradous, 1988). The Forecasting Financial Benefits model is a practical step-by-step method for making accurate investment decisions based on forecasting the financial value of improved performance projections for a program, the cost of implementing a program, and the return on the program investment (Swanson & Gradous, 1988). The Forecasting Financial Benefits model was best suited to short-term Human Resource
Development interventions purposefully connected to performance deficiencies. The perceived problem with the Forecasting Financial Benefits model is that it is not as easily applied to large-scale change, long-term change, and interventions loosely connected to performance requirements.

The late 1980's and 1990's continued to show an increased focus on methods of financial analysis, although the trend seems to focus and refine the techniques for Human Resource Management as opposed to Human Resource Development activities. Also, during this time period Utility Analysis reemerged as an accepted method of evaluating Human Resource Development (Cascio, 1987). Utility Analysis takes a highly theoretical approach using basic tools and practices of economic principles and is designed to analyze quantitatively Human Resource Development Activities whose inputs and outputs are vague, and/or difficult to quantify.

Common Methods of Objectively Evaluating Human Resource Development

A synthesis of the findings from the review of literature showed that there are six common methods that are utilized, both historically and currently, to analyze Human Resource Development.

Three of the six, Cost-Benefit, Return on Investment and Utility Analyses, can be considered primary methods of analysis. Three others, Kirkpatrick's 4 Level, Financial Analysis and Forecasting Financial Benefits models, are derived methods. Derived methods are models that encompass one or more of the primary methods of analysis coupled with other extrinsic factors used as means of evaluation.

The primary evaluation methods were developed in the early 20th century and are applications of theories and practices utilized by other fields. The derived methods of evaluation were developed in the mid 20th century and evolved as hybrid applications of the primary evaluation methods.
It is of interest to note that there are countless permutations of both the primary and derived methods of evaluation. However, credit is given to the founders and/or majority contributors of a particular method.

Table 1 provides a brief summation of the six methods that are presented in this chapter.

### Table 1

<table>
<thead>
<tr>
<th>Method</th>
<th>Primary or Derived Method</th>
<th>Time frame Developed</th>
<th>Analytic Basis</th>
</tr>
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<tbody>
<tr>
<td>Cost-Benefit Analysis</td>
<td>Primary</td>
<td>early 20th Century</td>
<td>Accounting and Financial Analysis Principles</td>
</tr>
<tr>
<td>Return-on-Investment Analysis</td>
<td>Primary</td>
<td>early 20th Century</td>
<td>Accounting and Financial Analysis Principles</td>
</tr>
<tr>
<td>Utility Analysis</td>
<td>Primary</td>
<td>1920's</td>
<td>Laws of Economics</td>
</tr>
<tr>
<td>Donald Kirkpatrick's 4 Level Evaluation Model</td>
<td>Derived</td>
<td>1959</td>
<td>Levels 1-3: Subjective Methods</td>
</tr>
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<td></td>
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<td></td>
<td>Level 4: Objective Methods</td>
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<tr>
<td>Financial Analysis Model</td>
<td>Derived</td>
<td>1960's</td>
<td>Accounting and Financial Analysis Principles</td>
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**Cost-Benefit Analysis**

Cost-Benefit Analysis focuses on identifying, quantifying and measuring the costs and gains that are associated with a particular Human Resource Development Intervention. While some form of Cost-Benefit Analysis has probably been performed for centuries, modern Cost-Benefit Analysis
emerged from the post Industrial Revolution formalization of American industry. As the principles of performance management were applied to industry, formalized accounting methods emerged to evaluate business practices. Those accounting methods were applied to Human Resource measures, probably at the time referred to as “personnel” costs. It is unclear who initially applied Cost-Benefit principles to Human Resource Development given that formalized Human Resource Management was not recognized until well into the 20th century. However, the general idea of costing human resources is not new. Frederick Taylor, who in the late 1800’s developed the principles of scientific management, was a proponent of Cost-Benefit Analysis (Weisbord, 1987). In one form or another Cost-Benefit Analysis drove the industrialization of American well into the 1940’s and 1950’s. In the 1950’s H. Brogden and E. Taylor published significant work on addressing the potential for developing on-the-job performance criteria expressed in dollars (Cascio, 1987).

While there are no generally accepted accounting procedures for Human Resource Development valuation, Cost-Benefit Analysis at its basis is a simple yet effective tool that can be utilized by Human Resource Development practitioners.

**Return on Investment Analysis**

Return on Investment Analysis is simply a permutation of Cost-Benefit Analysis that utilizes the principle of the time value of money. Return equates to benefit, while investment equates to cost. While Cost-Benefit Analysis assumes that the cost of money is constant, Return on Investment Analysis assumes that the cost of resources will change over time. Put simply, if a Human Resource Development activity is planned to last for an extended period of time, then the value of future costs and benefits must be quantified in terms of current or future dollars. Return on Investment Analysis generally will take one of three forms: historical, replacement, or present value (Casio, 1987).
The historical cost approach to valuing Human Resource Development activities follows what is called an asset model of accounting. That is, it analyzes employee costs as if the employees were assets attempting to establish a market value for human resources. The first major attempt to value Human Resource Development in this manner was undertaken by the R.G. Barry Corporation in the 1960's in an attempt to report accurately, the value of the company's human assets (Swanson, 1989).

The replacement cost method of Return on Investment Analysis was developed in the 1970's as a counter to the historical or asset approach to valuing human resources. E. Flamholtz (1985) theorized that it was easier in practice to estimate replacement costs rather than assess market value. Simply put, this method sought to compare the costs of Human Resource Development to the replacement cost associated with turnover, recruiting, selection, compensation and training and development.

The present value method of Return on Investment Analysis was proposed in 1971 by B. Lev and A. Schwartz (1971). They proposed analyzing human resources based upon the present value of future earnings. To do this, organizations were to measure an employee’s future contribution and analyze it with respect to the ongoing cost (wages, benefits, costs of training) of that employee. Using some relatively sound assumptions one could determine the investment that could be made with respect to developing employees. This measure is truly objective because it relies on highly reliable statistics, but can be considered to be limiting on a macro or organizational basis because value is assigned to the average.

Advocates of Return on Investment methods of analysis make compelling cases for this approach to measuring Human Resource Development (Cascio, 1987). However, it must be taken into account that dollar values cannot always be quantified or attached to specific actions. The
primary weakness in these methods seem to be that they typically only account for inputs and ignore output produced. Return on Investment Analysis can also have limitations when scaled or applied to a large base, i.e. while the analysis may provide an effective evaluation of a single activity it may not be accurate when scaled to multiple activities.

Utility Analysis Model

The term utility can be defined as the institutional gain derived from an anticipated course of action (Cascio, 1987). Organizations seek to maximize utility but to do so decision makers must be able to estimate the gain, or loss, associated with various outcomes. The unique feature of Utility Analysis is that it evaluates possible outcomes against each other essentially providing a framework for making decisions by forcing the analyzer to clearly define goals, enumerate expected consequences, and attach value to those outcomes.

Utility Analysis has its roots in basic economic principles dating back to the introduction of Keynesian economic theory in the early 20th century (Cascio, 1999). In the late 1930's Psychologists H. Taylor and J. Russell posed the first Utility Analysis method applicable to Human Resource applications. The Taylor-Russell theory proved most appropriate to measuring and evaluating Human Resource Development activities where differences in output are believed to have occurred but are difficult to quantify and measure.

In 1965 Psychologists J. Naylor and L. Shine proposed a utility theory whereby validity and utility were linearly related, that is, the more valid the action, for our purposes a Human Resource Development activity, the more utility derived. The Naylor-Shine method is most applicable when differences in output and performance cannot be expressed in terms of dollars but are clearly a function of payoff (Cascio, 1999).
The Brogden, Cronbach-Glessner theory was developed in the 1940's by H. Brogden and expanded in the 1960's by L. Cronbach and G. Glessner (Cascio, 1987). The Brogden, Cronbach-Glessner theory is considered the most versatile Utility Analysis method available. It is most appropriate where performance criteria can be expressed monetarily. Application of this theory provides for a direct estimate of monetary value making it a highly utilized tool for both researchers and practitioners of Human Resource Development (Cascio, 1999).

The Raju-Burle-Normand method, which was formulated in the 1980's is comparable to the Brogden, Cronbach-Glessner theory. It prescribes a linear relationship between performance and the monetary or economic return of that performance (Cascio, 1999).

Overall, Utility Analysis can be used in place of Cost-Benefit or Return on Investment Analysis when the metrics of the measurement are not easily quantified. Likewise when the metrics become difficult to analyze from an accounting and/or financial perspective, Utility Analysis is a tool that can be used to shed some objective light on the subject. The primary drawback of Utility Analysis seems to be in setting up the analysis. Utility results can fall victim to the garbage in, garbage out theory if the proper metrics are not initially identified.

**Donald Kirkpatrick’s 4 Level Evaluation Model**

The first common, or major, hybrid model of analyzing Human Resource Development activities is Donald Kirkpatrick’s 4 Level Evaluation Method (1959). In the early 1950's, while a doctoral student studying human performance, Kirkpatrick wrote his dissertation on evaluating supervisory training programs. Out of this process, along with ancillary research that Kirkpatrick had collected, came a model for evaluating Training and Development activities which was published in 1959. The model, contains 4 “Levels” or stages of evaluation: reaction, learning,
behavior and results. This model has become one of the most popular assessment tools used by those in the Human Resource Development field.

It is important to note that Kirkpatrick’s model is not considered to be a standard bearer for objective analysis of Human Resource Development activities. It is however, the most widely taught, accepted and applied method of evaluating Human Resource Development activities - and therefore requires inclusion and discussion in this study.

If a true objective measure of Human Resource Development Activities is needed, and Kirkpatrick’s model is the method of choice, then one must bypass the first three of Kirkpatrick’s Levels and concentrate on Level 4 - results. While Kirkpatrick’s model provided a four part framework it did not provide any specifics with respect to analyzing within each level. He did initially provide “guideposts” for individual Levels; however, he left most of the concentrated analysis at each level open to interpretation. Given that Kirkpatrick did not provide a specific method of evaluation for his 4th Level, in order to analyze objectively with respect to Kirkpatrick, one must revert back to one of the primary or derived methods of objective analysis - Cost-Benefit, Return on Investment, Utility Analysis, Financial Analysis model or Forecasting Financial Benefits model - when Level 4 is reached.

Financial Analysis Model

The Financial Analysis Model, based on several years of research, has proven to be a helpful tool to overcome the difficult and often avoided problem of analyzing Human Resource Development in terms of financial returns (Swanson, Gradous, 1988). The model, a method of analyzing actual financial benefits that derive from Human Resource Development activities, is relatively simple and straightforward. It has three main components: the performance value
resulting from the Human Resource Development activity, the cost of the intervention, and the benefit resulting from the implementation.

Theoretically, the Financial Analysis Model has its base in both Return on Investment Analysis and Utility Analysis. The model uses Cost-Benefit Analysis (with or without the time value of money) and a performance value metric most often associated with the economic principle of utility. The model is entirely reactive or backward looking, that is, it analyzes, rather than predicts, the results of Human Resource Development interventions.

The Financial Analysis Model was accepted as a Human Resource Management and Development tool in the 1970's and four significant research studies are often referred to that provide examples that purportedly validate the value of the Financial Analysis Model.

"The Training Within Industry Report", 1940-1945, by C.R. Dooley (1945) is a 300 plus page summation of analyses focused on a massive five-year nationwide performance improvement effort that begin on the eve of World War II. The summation showed the financial benefits of providing training to employees; and Dooley's meta analysis used the Financial Analysis Model to show the aggregate benefits of training and development initiatives.

"Measuring Quantitatively the Effect of Personnel Training", by E. Meissner (1964), a study of simple work behavior that compared workers who had received training to those who had not. Meissner's hypothesis was that there was a right or optimal way of doing work and that there were financial consequences to this expertise. Meissner's analysis showed, through the use of the Financial Analysis Model, the performance value and cost-effectiveness of job and task specific training programs.

"A Cost-Benefit Analysis of Industrial Training", by B. Thomas, J. Moxham, and J.G. Jones (1969), a study that compared the cost-effectiveness of two alternative forms of general training for
clothing machine operators. The Financial Analysis Model analysis found that the average performance level of trained workers increased significantly following training.

"Industrial Training Research Project", by R. A. Swanson and S. Sawzin (1975), described a controlled experimental study that compared structured on-the-job training to unstructured individually driven training. The study concluded that the training time required to reach competence under unstructured training was significantly higher than the structured method. Furthermore, it suggested that structured trained workers produced significantly less waste, solved significantly more production problems and that the financial break-even point in absorbing the costs of training was associated with as few as ten participants. That is, every trainee beyond the initial ten represented additional returns on the initial training investment.

In all four of the above studies, the Financial Analysis Model of evaluating Human Resource Development activities was utilized as the primary method of analysis. These studies focused primarily on performance value, and secondarily on costs and benefits of the intervention. In each case, the results were analyzed retroactively, as the model was intended to be used.

**Forecasting Financial Benefits Model**

The Forecasting Financial Benefits Model, a more recent take on the Financial Analysis Model, is another helpful tool used to overcome the problem of analyzing Human Resource Development activities. Like the Financial Analysis Model, the Forecasting Financial Benefits Model is a method used to analyze financial benefits that derive from Human Resource Development activities and is relatively simple and practical to apply. Like the Financial Analysis Model, the Forecasting Financial Benefits Model has three main components: the performance value resulting
from the Human Resource Development activity; the cost of the intervention; and the benefit resulting from the implementation.

The Forecasting Financial Benefits Model's theoretical base is in both Return on Investment Analysis and Utility Analysis, using Cost-Benefit Analysis (with or without the time value of money) and a performance value metric most often associated with the economic principle of utility. Unlike the Financial Analysis Model the Forecasting Financial Benefits Model is an entirely proactive tool that attempts to analyze and predict the value of a Human Resource Development activity before the activity is undertaken. It is a decision making tool rather than a decision supporting tool.

The Forecasting Financial Benefits Model was embraced as a Human Resource Management and Development tool starting in the 1980's arising out of the need to better understand the objective implications of Human Resource Development activities before they were undertaken. Like the Financial Analysis Model four bodies of work are often referred to that provide examples of the validity and value of the Forecasting Financial Benefits Model.

"Forecasting Training Costs and Benefits in Industry," by G. D. Geroy and R. A. Swanson (1984). This study forecasted the financial benefits of training programs in manufacturing companies. Using the Financial Forecasting Benefits Model, significant returns on investments were found for various training programs. Follow-up analysis of actual results confirmed that the interventions had yielded significantly higher returns than initially predicted.

"Forecasting Financial Benefits of Human Resource Development" (Swanson, Gradous, 1988) lays out the theory and practice of forecasting the financial benefits of human resource development. It presents eight cases and supporting data from actual organizations that show the validity of using the Forecasting Financial Benefits Model in the analysis of Human Resource Development activities.
"Determining Financial Benefits of an Organization Development Program," by R. A. Swanson and C. M. Sleezer (1989). This study analyzed the forecasted and actual performance values, costs, and benefits from complex companywide organizational development interventions. The forecasting portion of the study yielded underestimates of returns with respect to the actual data, but led to valid investment decisions, the purpose of the forecasting method.

"A Case Study in Forecasting the Financial Benefits of Unstructured and Structured On-the-Job Training," by R. Jacobs, M. Jones, and S. Neil (1992). Jacobs, the originator of the term structured on-the-job training, and his co-investigators conducted a case study comparing the forecasted financial benefits of unstructured and structured forms of on-the-job training. From the perspective of returns, the actual results compared favorably, and in some cases exceeded, the forecasted results.

In all four, the Forecasting Financial Benefits Model of evaluating Human Resource Development activities was utilized as the primary method of analysis. The studies focused primarily on return on investment performance, and secondarily on performance value. These studies attempt to demonstrate that Human Resource Development activities can be analyzed proactively and objectively.

**Summary of Methods**

As outlined in chapter one the purpose of this study was to identify the methods of objectively evaluating Human Resource Development activities in order to provide Human Resource Development practitioners and researchers with the methods and means to evaluate their efforts.

The key findings of this literature review were the six methods of objective evaluation that were presented in this chapter. Certainly all six methods have been shown to be techniques
applicable to the process of objectively evaluating Human Resource Development activities and each is applicable in its own right.

Cost-Benefit Analysis, perhaps the simplest method of the six and is a useful tool for evaluating Human Resource Development’s impact when the inputs and outputs of a particular activity are easily quantified. Cost-Benefit’s results are plain, simple to understand and commonly accepted in terms of business vernacular. Compared to the other methods Cost-Benefit Analysis may seem rudimentary, but its effectiveness is in its simplicity. Cost-Benefit Analysis is easy to learn requiring nothing more than basic math and business skills to utilize and can be tailored to the analysis of individual interventions very easily.

Return on Investment Analysis is the method that would be accepted by most practitioners and researchers in that it analyzes, evaluates and presents its results in common, accepted business terms. Return on Investment Analysis allows for a more complex analysis than the Cost-Benefit approach, taking into account the time value of money, but still presents results in a simple, accepted format. Return on Investment Analysis is most applicable to large scale, more complex interventions that are longer in duration. The Return on Investment approach can also be easily tailored to a particular evaluation application.

Unlike Cost-Benefit and Return on Investment Analysis, Utility Analysis is a form of objective evaluation best utilized when the inputs and/or outputs of a particular intervention are not easily quantified. When looking to objectively evaluate outcomes that cannot be quantified in terms of dollars, units, ... Utility Analysis is a relatively straight forward method of evaluation. Utility Analysis might be most applicable to Organizational Development type activities whose benefits are not readily identified in objective terms such as: leadership training, team building and human resource strategic planning.
Kirkpatrick’s 4 Level Model is the simplest of the derived methods (those that combine primary methods of evaluation) of objective evaluation. The value of Kirkpatrick’s model is that it combines subjective and objective measures of evaluation. It is flexible from the objective analysis perspective in that it does not define a particular method of evaluation that must be utilized at Level 4. Users of the model are free to define the method and utilize what they feel is most applicable. Kirkpatrick falls short for the very same reason - many practitioners, left to their own devices, choose an inappropriate method of objective evaluation at Level 4.

The Financial Analysis Model is a complete method of objectively evaluating Human Resource Development that combines Return on Investment and Utility Analysis. It allows for some vagueness in the input and output metrics while still analyzing from an objective point of view. It has some limitations in that it’s a retroactive method - done after an activity or intervention has been completed - but is still useful in analyzing, after the fact, what could probably not be evaluated beforehand. Just because one could not do a proactive evaluation does not imply that a reactive evaluation should not be done.

The Forecasting Financial Benefits Model operates similarly to the Financial Analysis Model except that it works proactively - the evaluation is undertaken before the activity - therefore it is predictive in nature. The Financial Analysis Model and Forecasting Financial Benefits Models could probably be used in conjunction with each other with the Forecasting Financial Benefits Model be utilized up-front with the Financial Analysis Model being employed after the activity is complete. The results from the two analyses could be compared for accuracy.

Table 2 provides a brief summary of the details of each method presented in this chapter.
<table>
<thead>
<tr>
<th>Method</th>
<th>Primary or Derived Method</th>
<th>Time frame Developed</th>
<th>Analytic Basis</th>
<th>Characteristics of Application</th>
</tr>
</thead>
</table>
| Cost-Benefit Analysis          | Primary                   | early 20th Century   | Accounting and Financial Analysis Principles | -Simplest method  
-Applied before of after activity  
-User determines level of complexity  
-Not scalable |
| Return-on-Investment Analysis  | Primary                   | early 20th Century   | Accounting and Financial Analysis Principles | -Analysis can be simple or complex  
-Accounts for time value of resources  
-Results expressed in common terms  
-Acceptable in business vernacular |
| Utility Analysis               | Primary                   | 1920’s               | Laws of Economics                         | -Applicable when inputs and outputs are not easily identified or quantified  
-Strong theoretical foundation |
| Donald Kirkpatrick’s 4 Level Evaluation Model | Derived          | 1959                 | Levels 1-3: Subjective Methods  
Level 4: Objective Methods | -Commonly accepted (HRD standard)  
-User defined analysis  
-Combines objective and subjective methods of evaluation |
| Financial Analysis Model       | Derived                   | 1960’s               | Accounting and Financial Analysis Principles & Laws of Economics | -Applied retroactively to determine the financial benefits derived from HRD activities |
Summary

This chapter presented a brief history of Human Resource Development evaluation based on a review of the literature. Six commonly accepted methods of evaluation were highlighted in the review. Three primary models of evaluation were described: Cost-Benefit; Return on Investment; and Utility Analysis. As well, three derived models of evaluation were described: Kirkpatrick’s 4 Levels; The Financial Analysis Method; and the Forecasting Financial Benefits Method. All of the methods and models were presented with supporting research. Table 2 summarizes the methods and models reviewed. A discussion of the information derived from the literature review and its significance to Human Resource Development practitioners, along with the implications of the review and recommendations for future research will be presented in the next chapter.
CHAPTER 3

Introduction

The purpose of this literature review was to determine how Human Resource Development activities and interventions are evaluated objectively. A literature review identified six common methods of practice used to objectively evaluate Human Resource Development activities and interventions. This chapter will discuss the results of the literature review, present implications for Human Resource Development practitioners and make recommendations for future study and research.

Discussion

The primary goal of this literature review was to identify methods that could be used to objectively evaluate Human Resource Development activities. While the review touched briefly upon the basic premise of each method, it did not discuss the application or methodology associated with any of those methods. Likewise the validity, accuracy, or evaluative rigor of the methods were not addressed. Hence, in the absence of conclusions related to the models themselves, this researcher would like to briefly reflect upon and discuss the results of the review in general.

It is clear from the review that regardless of which method is chosen, there are key factors that go a long way toward making the evaluation successful. It must be remembered that the evaluation of the effectiveness of a Human Resource Development activity is only part of the overall function of implementing a Human Resource Development intervention. Evaluation is one of five parts of the Human Resource Development intervention process. Needs identification and assessment, intervention design, implementation, results identification and measurement, and
evaluation are all key factors that will determine the level of achievement with respect to any evaluation effort (Burke, 1994).

Also, the information from the literature review implied that objective evaluation is a process dependent upon the proper inputs and outputs. If any of those inputs or outputs are suspect, or ill defined, then the results of the evaluation could be invalid. Simply put, "garbage in, garbage out". Good evaluation techniques and processes don't necessarily justify the value of a Human Resource Development intervention. A good evaluation technique and process will either support or discount the value of the intervention. In other words, evaluation is a representative process that qualifies and quantifies the worth of a Human Resource Development process. The Human Resource Development process itself must be good in order for the evaluation of it to be good. If the evaluation is good, it is generally because the process is good.

Given the complexity of the evaluation methods presented, and the complex nature of the field of Human Resource Development, complete and thorough experience and understanding of the field and also the business in which it is practiced can be critical to the success of an evaluation. In order to evaluate an activity successfully one needs to be able to identify and understand the problem that indicates that a Human Resource Development intervention is needed. An understanding of the context and business, goes a long way toward helping one to identify and assess needs. Without a true understanding of an issue it would be difficult to assess need, thereby, making it difficult, from an evaluative point of view, to even begin the process of evaluation.

If the Human Resource Development function can be evaluated objectively, who determines its worth to an organization? i.e. If we could ascertain a dollar value for each Human Resource Development activity, who determines if that nominal value is acceptable or not? Given the age old economic quandary of unlimited wants and limited resources, expecting Human Resource
Development to compete for resources within an organization is not unreasonable. However, if the returns provided by an investment in Human Resource Development are not deemed acceptable, assuming they can be accurately measured in an objective manner, will further investments be made? This raises the following questions: What would be an acceptable return from a Human Resource Development activity? This literature review found no information on what practitioners, researchers, or organizations consider to be an acceptable return.

The six methods of evaluation are each complex in their own way. None appear easily applied and there are certainly no “silver bullets” among them. A range of opinions seems to exist amongst researchers and practitioners regarding the ability to measure objectively Human Resource Development’s contribution to an organization. Each practitioner, in turn, will have to make up his or her mind whether, based on the business, Human Resource Development evaluation even makes sense, and if it does, what would be an acceptable level of return.

**Implications for Human Resource Development Practitioners**

The findings of the literature review present a number of implications for practitioners of Human Resource Development particularly in the areas of: why objective evaluation of Human Resource Development activities is needed; the basis of the theories and practices of objective evaluation; the history of objective evaluation; and the methods of objective evaluation available to practitioners today.

The need to demonstrate value and show positive return on Human Resource Development activities has never been greater. First, as business becomes more competitive the Human Resource Development function may have to assume more responsibility for an organizations external success.
In order to assume this responsibility practitioners will have to be able to justify costs, show returns and demonstrate that their work adds value to the company’s bottom line. Secondly, internal competition for resources will drive Human Resource Development practitioners to demonstrate that their efforts are sound investments and are worthy of the resources directed to them, and that in order to be accountable to the greater organization, Human Resource Development will have to evaluate itself compared to other parts of the organization. Lastly, Human Resource Development professionals need to be able to better link their internal efforts to external results in order to overcome the idea that Human Resource Development is not cost effective nor a good investment. To do this, organizations will need to establish the relationship between Human Resource Development objectives and business objectives and accurately measure that relationship.

One of the key findings of this literature review was the notion that Human Resource Development activities (or activities commonly referred to today as Human Resource Development activities) have been undertaken and evaluated in one form or another for over 100 years. The end result may not have been a metric that was exclusively used to evaluate the Human Resource Development function, but the fact that measurements have historically been applied to these type of activities lends support to the belief that objective approaches to evaluation exist. Also, it is important to recognize that regardless of what kind of method of evaluation is applied, the measurement of Human Resource Development activities has consistently been done. Either currently, or in the past, Human Resource Development is/was not immune or absolved from justifying their work and worth within an organization.

The review also pointed out that the roots of the theories of Human Resource Development evaluation evolved from modernizing industry’s business practices such as accounting, finance and quality; theoretical sciences such as economics; and the social sciences of organizational and
industrial psychology. A sound basis exists around which Human Resource Development practitioners can evaluate their work. Given that there are evaluative methods available that have sound theoretical foundations and frameworks, practitioners can avoid the utilization of "pop" methods of evaluation that are commonly offered to justify Human Resource Development practices.

Most importantly, the review of literature showed that there are six common methods practitioners can use to objectively evaluate Human Resource Development. Practitioners can take the information provided about each method, explore and learn more about the method, and begin to apply the methods to their work.

**Recommendations for Future Study and Research**

There are a number of directions for future research suggested by this literature review. The review presented the commonly accepted methods of objectively evaluating Human Resource Development activities. The review did not present any methodology with respect to each method, nor did it offer proof that the methods are valid, accurate, or widely accepted and utilized. These gaps in the literature should certainly be pursued in the future.

An initial recommendation would be to research each of the methods in detail, explore their individual methodologies and test their theoretical soundness and validity. Subsequent to that, each method could be applied, tested and evaluated for validity and accuracy. Essentially, this research would be investigating the questions of: How does the method work (how is it applied)? Is it valid to the application (when is it applied)? Are the results accurate? The methods could then be tested against one another with the thought of evaluating each one’s validity and accuracy with respect to the other models. A final phase of research might be to adapt individual methods in some manner.
or reshape them to better fit into the scheme of objectively evaluating Human Resource Development activities.

Additionally, it is suggested that future research could be done to examine the use and utilization of these methods within organizations and within the field of Human Resource Development. Also, study could be undertaken to examine the perceptions of practitioners, researchers, customers of Human Resource Development activities, and organizations in general with respect to the issue of objectively evaluating Human Resource Development.

Finally, research could be conducted that examines, compares, and contrast the methods of objectively evaluating Human Resource Development and Human Resource Management activities. Common methods of objective evaluation could be identified, and methods not currently being utilized by one of the disciplines could be transferred, adapted, and utilized by the other discipline.

**Conclusions**

This literature review investigated the methods of objectively evaluating Human Resource Development activities. The focus of the review was to identify and present the common methods used to assess Human Resource Development activities from an objective perspective. Specifically, the results of the literature review have shown that there are commonly accepted, aggregate methods that can be used to estimate, calculate and evaluate Human Resource Development activities in an objective manner.

The review has contributed to the literature by presenting aggregate methods and models by which Human Resource Development activities can be objectively evaluated. The review has opened the door for researchers to further investigate, study, validate, apply, evaluate and adapt the techniques to the practices of Human Resource Development.
The review’s findings contributed to the practice of Human Resource Development in that organizations and practitioners can utilize the methods and models presented to evaluate better their Human Resource Development activities, functions and departments. Specifically, the review suggests that the application of methods presented will benefit organizations and practitioners alike by allowing them to focus on the true value of Human Resource Development activities. The ability to evaluate Human Resource Development activities using commonly practiced and accepted business evaluation methods will allow practitioners to explain, justify and increase their value to organizations.

Over the past 40 years a large amount of material on the subject of evaluating Human Resource Development activities has been accumulated (Kirkpatrick, 1988). The literature, developed from prior work in three fields, accounting and finance, economics, and organizational/industrial psychology, is largely unknown to Human Resource Development practitioners and researchers alike. Although methods for objectively evaluating Human Resource Development activities are available, I believe that much of what we do in the Human Resource Development field with respect to evaluation remains generally misunderstood, misinterpreted and underestimated. In part, we are responsible for this state of affairs because much of what we do is evaluated in subjective terms if it is evaluated at all.

The purpose of this literature review was to contribute to the field and practice of Human Resource Development. The results of the review and preceding discussion were intended to provide insight on how Human Resource Development activities are objectively evaluated. If as a result of this literature review there is new clarity on what tools are available to Human Resource Development practitioners to objectively evaluate their work, then this effort will, hopefully, have been useful.
REFERENCES


