

Demonstrating the Financial Benefit of Human Resource Development: Status and Update on the Theory and Practice

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A recent business page headline from London's *Daily Telegraph* read, "Training Falls Down on the Job" (October 27, 1997, p. 31). This report was based on a study of business leaders. The popular perception that HRD costs organizations more than it returns in benefits has haunted the HRD profession since its inception. And not being able to change this perception is its Achilles heel. Although organizations are more than economic entities, they are nonetheless economic entities. Any organization that remains alive will ultimately judge each of its components from a return-on-investment (ROI) framework and it will do so with or without valid data.

To face this challenge, four views of HRD have been presented: (1) a major business process, something an organization must do to succeed; (2) a value-added activity, something that is potentially worth doing; (3) an optional activity, something that is nice to do; and (4) a waste of business resources, something that has costs exceeding the benefits (Swanson, 1995).

The dominant view of HRD falls within the third and fourth options, with HRD being perceived as an optional activity or having costs greater than benefits. The simple idea that HRD is not a good investment is popular and entrenched. Economist Paul Krugman (1994) informs us of the dangers of pop economics and that simple ideas—right or wrong—have staying power.

A recent study by ASTD, the profession's largest practitioner organization, reports that in terms of actual evaluation of HRD programs in the field, "3 percent are evaluated for financial impact" (Bassi, Benson, and Cheney, 1996, p. 11). The irony is that ASTD has been the chief advocate of the profession's most widely endorsed evaluation scheme, Donald Kirkpatrick's simple, yet flawed and impotent, four-level evaluation model (Alliger and Janak, 1989; Holton, 1996). Even Kirkpatrick's recent best-selling book is devoid of any elementary economic or psychometric theory (see Kirkpatrick, 1994).

Problem Statement, Historical Framework, and Research Questions

Decision makers in organizations must work up budgets, justify their own salaries, and propose strategies, projects, and programs to top management. Unlike other managers, HRD people tend to resist these tasks. The most likely reason for this is that they originally chose their profession because they are hands-on, people-oriented types who are not inclined toward the financial side of the organization.

A Short History. Economic thinking related to human capacity, human expertise, human effort, and the effects of each is disjointed. History provides a fairly consistent notion that there is much to be gained by being purposeful in managing these domains. Throughout history, the ideological responses to capturing the spoils of human expertise have ranged from communes to slavery to meritocracies. Whatever the ideology, "There's money in those skills!"

The benefit to individuals of attaining expertise is confirmed by society's comparisons of educational level and economic success. Even so, investing in the development of their personnel is still not a clear option for most firms. Organizations can access expertise in ways other than offering development programs. They can hire expertise, for example, or establish the expectation that employees will manage the development of their own expertise. Neither of these two options requires an organization to make direct financial outlays for HRD.

For the HRD 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 HRD and the required conditions for achieving financial benefits.

In the 1960s and 1970s a renaissance in the profession provided the incentive to think more about HRD as an investment. The literature increasingly reported financial analysis methods (FAM) and studies of the costs and benefits of programs (Cullen, Sawzin, Sisson, and Swanson, 1976, 1978; Gilbert, 1978; Meissner, 1964; Swanson and Sawzin, 1975). In the 1980s this financial analysis trend continued with a greater focus on costs and the human resource management perspective versus performance improvement (Cascio, 1987; Flamholtz, 1985; Head, 1985; Kearsley, 1982; Spencer, 1986). These companywide FAMs took an accounting perspective rather than a performance improvement perspective.

Until the 1980s, FAM efforts in HRD did not address the decision-making dilemmas faced by organizations at the investment decision stage of their organizational planning. Difficult as it may seem, any organization can conduct an after-the-fact cost-benefit analysis. What was needed was a method for forecasting those costs and benefits at the point when the investment decisions are being made. The forecasting financial benefits (FFB) of HRD method was

designed to fill this gap (Swanson, Lewis, and Boyer, 1982; Swanson and Geroy, 1983; Swanson and Gradous, 1988). The FFB 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 and Gradous, 1988). The FFB method is best suited to short-term HRD interventions purposefully connected to performance deficiencies. The problem with the FFB method is that it is not as easily applied to large-scale change, long-term change, and interventions loosely connected to performance requirements.

Research Questions. The following three questions serve as the basis of this inquiry: What core findings relevant to the financial analysis of HRD have appeared in the literature? What core findings relevant to the forecasting of financial benefits of HRD have appeared in the literature? What new FAM theories and tools have been reported in the literature that HRD should pursue?

Core Financial Analysis Method (FAM)

The core FAM method, based on several years of research, has proven to be a helpful tool to overcome the difficult and often resisted problem of talking about human resource development in terms of dollars and cents (Swanson and Gradous, 1988). The model and method for analyzing actual and forecasted financial benefits are relatively simple and straight forward. They both have three main components: the performance value resulting from the program, the cost of the program, and the benefit resulting from the program. The basic financial analysis model is *Performance Value Cost = Benefit*.

The FAM method is an expansion of the three components into three separate worksheets. Readers wishing to receive detailed instruction on it should obtain the author's full text (Swanson and Gradous, 1988). For a broad overview of FAMs in context of HRD, see Mosier (1990). In addition, the References at the end of this article include important literature related to the financial analysis of HRD beyond those studies cited directly in this article.

Five Early HRD Financial Analysis Classics. There is a substantial cache of HRD economic research. Unfortunately, it is spread throughout the refereed and nonrefereed, HRD and non-HRD literature, and generally it is not in the hands of HRD decision makers. Five early classics provide excellent examples. The following paragraphs offer abstracts of each of the works, which are listed in chronological order (see the references at the end of this article for complete publication data):

The Training Within Industry Report, 1940–1945, by C.R. Dooley (1945). Although this 330-page report of a massive five-year nationwide effort is not a research report, it contains data sprinkled throughout on the financial results of sample TWI programs that are worth noting. The refrain of TWI personnel was, "Will it fix a production problem?" If not, they did not support the program. When they did support a program, they were able to track the results.

The optical lens grinding case study established a \$15 value to the quality completion of a grinding task (pp. 271–292). At the time, this financial value was quite significant and was magnified by the large number of new workers needed to grind lenses. In another report, improved methods at one arsenal were determined to exceed a savings of \$1 million.

“Measuring Quantitatively the Effect of Personnel Training,” by F. Meissner (1964). This study of “simple” work behavior—bagging groceries—compared workers who had gotten bagging training and those who had not. The premise was that there is a right or optimal way of doing any work and that there are financial consequences to expertise. A major paper manufacturer conducted twenty in-store experiments to determine the cost-effectiveness of a training program in “bagsmanship.” The dependent variable was bag costs. The study concluded that there was an eight-to-one ROI on the training investment if stores paid for the training materials and an eleven-to-one ROI for the stores if the bag supplier paid for the training materials portion of the cost. The further assumption was that the consideration of damaged goods and improved customer relations would increase the ROI.

“A Cost-Benefit Analysis of Industrial Training,” by B. Thomas, J. Moxham, and J.G.G. Jones (1969). This study compared the cost-effectiveness of two alternative forms of general training for clothing machine operators (labeled “new” and “old”). The analysis was based on a comparison of performance of 139 old and 92 new trainee/workers over a four-year period. The dependent variables were performance levels, retention, and length of the training period. It was found that the average performance level of new trainee/workers increased as much as 30 percent during the first year following innovative training and then leveled off. The ratio of benefits to costs over the four-year period was eight to one.

Industrial Training Research Project, by R. A. Swanson and S. Sawzin (1975). (Also reported later in the literature as: “Training: What’s It Worth?” by G. Cullen, S. Sawzin, G. R. Sisson, and R. A. Swanson, R. A. [1976].) This controlled experimental study compared structured on-the-job training to unstructured on-the-job training for two groups of twenty semiskilled extrusion molder operators. The dependent variable was expertise in being able to produce quality plastic pipe. This study concluded that the training time required to reach competence under unstructured training was significantly higher ($p < .005$) than the structured method (16.3 versus 4.55 hours), that structured training workers produced significantly less waste ($p < .01$) and solved significantly more production problems ($p < .025$), and that the financial break-even point in absorbing the development and delivery costs of structured training for trainees (compared with no development and delivery costs of unstructured on-the-job training) was at ten trainees. Every trainee beyond the ten represented additional ROI on the existing training investment. Extension of the data to the actual numbers of employees requiring training yielded a ten-to-one ROI in a two-month period.

“Economic Evaluation of a Training Program,” by G. E. Rosentreter (1979). This financial analysis of an adult education program offered through a community college to company managers focused on communication skills for goal setting. Of the sixty-eight managers, thirty-four attended the fifteen-hour communication skills training. The dependent variables were employee turnover, punctuality, and grievances. The results in all three areas were compared between employees reporting to trained and untrained supervisors. There was no significant difference in the punctuality and numbers of grievances filed between the experimental and control groups. However, there was a significant difference in turnover. Analysis showed that, given the financial consequences of the reduced turnover, there was a nine-to-one ROI for the communication skills training.

Summary. The research results from these varied studies were quite consistent. They demonstrated that HRD imbedded in a purposeful performance improvement framework—and systematically implemented—yielded very high returns on investments, an ROI of eight to one or more in a year or less.

From Financial Analysis of Methods to Forecasting Financial Benefit

There are a substantial number of studies in the realm of forecasting the financial benefits of HRD. This FFB literature is also dispersed in the HRD literature. Again, five studies are identified, presented in chronological order, and briefly abstracted in the following section.

Five Studies. *“Forecasting Training Costs and Benefits in Industry,”* by G. D. Geroy and R. A. Swanson (1984). This study forecasted the financial benefits of a geometric dimension and tolerancing training program for 136 Onan Corporation employees. Using the FFB method, managers forecasted ROIs of 7:1, 11:1, 11:1, and 22:1. All agreed that the training would be a sound investment for the corporation. The follow-up financial analysis of actual performance of two trained workers yielded an ROI of 27:1 on one of the workers and 159:1 on the other. This ideal situation had relevant, low-cost training (\$80.50 per employee) and high-gain application opportunities in the workplace. In this study, the benefits derived from just two employees paid for training all 136 employees, and then some.

Forecasting Financial Benefits of Human Resource Development, by R. A. Swanson and D. B. Gradous (1988). This comprehensive book lays out the theory and practice of forecasting the financial benefits of human resource development. Also included in the book are eight cases and supporting data from actual organizations. The ROI of all these cases met or exceeded eight to one.

“Determining Financial Benefits of an Organization Development Program,” by R. A. Swanson and C. M. Sleezer (1989). This study from a health maintenance organization reports the forecasted and actual performance values, costs, and benefits from a complex companywide organization development intervention

that was combined with an aggressive marketing campaign. The dependent variable was members. The forecasting portion of the study yielded underestimates of the actual data but led to valid investment decisions, the purpose of the forecasting method. Thus, this phase further validated the FFB method. In terms of the total actual performance value resulting from the performance improvement effort, two top executives were called on to estimate the relative contribution of the marketing and organization development components to the total \$12.5 million gain. One of them estimated the OD performance value contribution resulting from the \$44,590 OD investment as \$5,040,000 (11:1 ROI) and the other estimated it to be \$7,452,000 (16.4:1 ROI).

"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. The setting of a large truck-assembly plant and a focus on three production job tasks resulted in the forecasted structured OJT performance value being twice that of unstructured OJT at the end of an equivalent evaluation period. From the perspective of ROI, the forecasted \$39.04 average training cost per worker on the first task resulted in an added average performance gain of \$16,065 over the unstructured training option. This led to a forecasted 411:1 ROI for the training investment. The forecasted \$195.20 average training cost per worker on the second task resulted in an added average performance gain of \$3,174.75 over the unstructured training option. This led to a forecasted 16:1 ROI for the training investment. The forecasted \$139.40 average training cost per worker on the third task resulted in an added average performance gain of \$8,889.30 over the unstructured training option. This led to a forecasted 63:1 ROI for the training investment.

"Training: Quantifying the Financial Benefits," by J. C. Clements and B. M. Josiam (1995). This case study applied the FFB method to an actual small hotel franchise, which was disguised as BUDSYS Hotels. The real hotel franchise has traditionally relied on the buddy system in training new employees. The dependent variable was front desk transactions. The case went on to forecast the performance values, training costs, and benefits of unstructured buddy-system training to a structured self-tutorial package. The forecasted \$81,000 performance gain from the structured training over the unstructured option represents a forecasted 8.7:1 ROI in three months.

Summary. These studies clearly demonstrate that HRD can be a very sound financial investment. The research further provides evidence that HRD interventions focused on appropriate dependent performance variables and systematically executed will financially forecast and return eight to one or more. In contrast, there is no evidence that unfocused and unsystematic HRD interventions yield positive returns or returns that even exceed their costs.

Update from Recent Financial Analysis Research

There is a substantial array of new HRD-related economic research studies. Once again, in chronological order, brief abstracts of five selected studies are presented and implications for HRD are noted in the following paragraphs.

Five Studies. *"Economies of Integration Versus Bureaucracy Costs: Does Vertical Integration Improve Performance?"* by R. A. D'Aveni and D. J. Ravenscraft (1994). The authors studied vertical integration, cost structure, and performance at the line-of-business level. They concluded that vertical integration results in overall lowered costs in spite of the additional bureaucratic costs. Vertical integration cost reductions "may arise from transaction-related costs, shared common costs, and enhanced productivity" (p. 1193). The effect on HRD when an organization alters its structure (for example, through vertical integration) is fundamental, and the ability of HRD to be central to the organization is dependent on its ability to respond systemically (bureaucratically) and demonstrate its economic contributions (improvements in transaction-related costs, shared common costs, and enhanced productivity). The structural impact on HRD has to do with alignment with business unit versus having a function and programs that transcend subunits. In that organization structures change over time, the economics of these organizational strategies for HRD should be studied.

"Organizational Transformation as Punctuated Equilibrium: An Empirical Test," by E. Romanelli and M. L. Tushman (1994). Romanelli and Tushman report that "small change in strategies, structures, and power distributions did not accumulate to produce fundamental transformations" (p. 1141). Their view of revolutionary change largely discounts HRD transformational theories and practices of working from the bottom up or the middle out. They further conclude that the popular cascading model of change within a framework of interdependent relationships actually resists change and prevents small changes in organizational subunits from taking hold. This and other similar studies challenge the viability of HRD to be a significant contributor to the long-term economic vitality of an organization and deserve further research. The results of this line of research would ultimately refine the mission of HRD and how it positions itself in the organization.

Does Implementing an Effective TQM Program Actually Improve Operating Performance? Empirical Evidence from Firms That Have Won Quality Awards, by K. B. Hendricks and V. R. Singhal (1995). This study, sponsored by the U.S. Labor Department, pursues the hypotheses about the effectiveness of TQM on firm performance. TQM companies showed significant gains in the dependent variables of operating income and sales growth, capital expenditures, employment growth, and total assets compared with the control group of firms. There were no significant differences in cost control. This study of companywide implementation of an intensive personnel development intervention (TQM) and the use of standard economic performance data over time compared with a control

group of firms casts a large economic analysis net. The HRD profession needs to study the economic performance of multiple firms that invest in human resources compared with that of firms that do not. Such studies would help us better understand the economic contribution of the human capital to organizations.

“Economic Return on Training at the Organization Level,” by N. M. Lyau and D. J. Pucel (1995). This study examined labor-productivity returns from investments in a manufacturing industry and its 237 large-and medium-sized firms. Two labor-productivity dependent variables (sales per worker and direct costs of training) and two training-investment dependent variables (total training costs and direct costs of training) were the focus. A significant relationship between investments in training and labor productivity as measured by value added per worker was found. The latter is defined as the dollar value of products sold, minus the cost of the materials in those products, divided by the number of workers. On the average, firms increasing their training expenditure by 10 percent could expect a 1.0 percent to 1.2 percent increase in the level of labor productivity. Studies that lead to core generalizations about the return on companywide expenditures are needed to advance HRD's status in the operational budgeting process.

“Development and Validation of the Critical Outcome Technique (COT),” by R. A. Swanson and B. W. Mattson (1997). The COT represents a unique development in post hoc program evaluation. Until now, the primary way to demonstrate the financial results of HRD predictably has been through a systematic development process including up-front performance analysis and systematic evaluation. The COT is conceptually similar to the famed Critical Incident Technique in that it functions within the milieu of an ongoing organization while yielding critical outcome data. The five steps include outcome verification; outcome inquiry; outcome verification and attribution; outcome valuation; and outcome report (see Swanson, 1996; Mattson, Quartanna, and Swanson, 1998). Metaphorically, the COT is a “strategy for finding the needle [financial performance] in the haystack [organization]” and could be an appropriate and powerful tool for validating the financial impact of certain HRD interventions.

Summary. Each of these studies provide a challenge and opportunity in the financial analysis of HRD benefits. Furthermore, each is worthy of further research.

Conclusion

Economics has been purported to be one of the foundational theories of the HRD discipline. As such, it is critical to update continually the status of the economic theories and practices relevant to HRD. Although the existing FAM methods available to the HRD profession are too rarely used, updating the theory and methodology may serve to change this situation.

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