INDICATORS OF HUMAN CAPITAL
INVESTMENT AND OUTCOMES FROM THE
AMERICAN SOCIETY FOR TRAINING & DEVELOPMENT

COUNTRY COVERED: UNITED STATES

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BACKGROUND

1. The shift toward an information-based economy has elevated the importance of human capital in recent years. An increasing number of corporations now perceive that their financial success and even survival is tied more and more closely to the human capital of their workers. Paradoxically, despite growing acknowledgment of its importance, corporate investment in human capital—such as basic skills, quality training, or funding continuing education—is rarely measured, and little is known about the value produced by such investments. While corporate accounting systems provide detailed and extensive measures of investments in the areas of physical capital and research and development, and have clear methods for measuring intangibles such as corporate goodwill, human capital investments rarely appear on corporate balance sheets. And when they do appear, it is in the form of an expenditure—not an investment. Little attention is given to developing systematic methods to evaluate the effects of these investments.

2. This state of affairs likely reflects the difficulty of achieving accurate measurement of human capital investments such as training. This is, in large part, a result of the lack of standard indicators for measuring investments and effects—combined with the dearth of generally accepted methods for treating such expenditures as investments. Further, determining the “bottom line” effect of such investments is even more difficult for individual companies because training and other forms of human capital investment are deeply imbedded among many other variables that contribute to improved organisational performance. Separating the effects of these variables is a knotty problem that requires the use of advanced statistical techniques, as applied to a large sample of data.

3. There are two primary arenas within which this information would be used, if available: internally (by a variety of actors within the firm itself) and externally (by actors with some interest—usually financial—in the firm). Internally, because efficient management and decision-making is extremely difficult (or perhaps even impossible) in realms that lack adequate information, the inadequate measurement of firms’ investments in human capital has at least three inevitable results: (1) some of the human capital investments that are made will be ineffective; (2) the inability to distinguish good investments from poor ones will result in underinvestment; and (3) firms will further underinvest in human capital because external forces--most importantly, financial markets--are unable to adequately value these investments.

4. Externally, the financial markets fundamentally shape the management decisions of publicly-traded firms by rewarding or punishing various behaviours through changes in valuation and access to capital—which are driven by the information available. Because of the lack of information on both the nature of human capital investments and the outcomes of such investments, stockholders, for example, do not provide current rewards for these investments—even if they are profitable over the long run. Instead, they focus on the indicators that are available—which are primarily short-run measures, such as earnings. In short, companies that make investments in education and training must do so in spite of pressure from the investment community, rather than because of it.

5. Undoubtedly, this has an effect on behaviour inside firms, as managers will seek to improve their standing on those measures that do exist. Expenditures that do not make demonstrable contributions to the bottom line are at risk. Indeed, 93 percent of training professionals polled recently reported that they are under increased pressure to demonstrate return on investment for training expenditures.
Identification and Measurement of Indicators

6. Ideally, the problem described above would be resolved by market forces, or by some public entity taking action to address what is basically a public good problem—a lack of adequate information. Neither solution, however, appears likely in the United States. It would be almost impossible for firms to solve this information problem on their own. A vast amount of information must be gathered and evaluated in order to gauge the relative effectiveness of investments in human capital under a variety of circumstances and in various forms of work—meaning that no one firm is capable of addressing the problem in isolation. The information must be collected using a common set of measures and indicators that are shared across firms. Recognising the need for action in this area, the American Society for Training & Development has worked over the last few years to (1) identify relevant indicators for measuring human capital investments and outcomes and (2) create systems to enable the broad collection and application of these data. Much of this work to date has focused on indicators for the measurement of employer-provided training—the most significant component of workplace human capital investment. As the premiere membership organisation for training and development professionals (with over 50,000 members), ASTD has unique access to these individuals and is well-positioned to play such a role in establishing standard indicators for use in the training industry. This section includes a description of the process of identifying the indicators, followed by discussion of the indicators themselves. A key goal at all stages of the process was to create indicators that could be used by all organisations—any size, any industry, any country.

Process: Identifying Indicators of Training Investments and Practices

7. The identification and application of these indicators has proceeded in a series of steps. First, ASTD’s Benchmarking Forum was founded in 1992 to bring together a number of large corporations for the purposes of improving understanding and measurement of training and learning strategies, and to allow firms to compare their own data with those of other firms in the Benchmarking Forum.

8. In order to make such comparisons possible, ASTD has worked closely with the member organisations over the last seven years in developing what is now a well-established set of indicators to measure companies’ human capital investments. These indicators were fundamentally shaped by the needs of the participating organisations, who worked to ensure that the indicators would capture the elements of training investments and practices that they considered to be relevant from the internal perspective of the firm. Some additional indicators were included by ASTD to ensure that the collective data would represent as complete a picture of training as possible. The set of core indicators used by the Benchmarking Forum has become relatively stable over time, although there remains some change year to year in some of the other indicators on which data are collected. The system established by the Benchmarking Forum represented a solid foundation for ASTD’s later efforts to extend available indicators to a wider set of organisations.

Process: Identifying Indicators of Training Effects

9. ASTD’s processes for measuring the outcomes of human capital investment—that is, the value produced by such investments—are newer. A subgroup of ten Benchmarking Forum firms worked actively with ASTD in 1996 and 1997 in the Performance Metrics Working Group. Their efforts focused on developing methodologies and metrics that could be applied universally across firms to isolate the effects of investments in education and training, independent of other performance improvement interventions. The measurement of impacts represents a particularly important extension of the search for appropriate indicators in the human capital area, as it is clear that the actual effect of an investment is far more important than the investment itself.
10. Through the Performance Metrics Working Group, this group of firms worked to create purposeful benchmarks related to the outcomes of training and learning activities. They developed core questions that can be applied across firms to measure (1) employee reaction to training or learning programs in which they have participated (recent analyses suggest that this information is more valuable than previously recognised, as it may have some predictive validity for improved job performance—meaning that this information may be useful as a cost-effective short-run predictor of long-run effects), and (2) changes in employees’ on-the-job behaviour resulting from such training or learning programs. Finally, the group also developed a system through which these data could be reported for benchmarking purposes.

Process: Bringing the Indicators to Organisations

11. As the final step in making these indicators available broadly, ASTD has made a modified set of the indicators identified by the Benchmarking Forum and its Performance Measurement Working Group available to any interested organisation through the ASTD Measurement Kit™. This Kit contains indicators in both training investment and training outcomes, and has been broadly distributed in 1998 and 1999 (this followed a smaller-scale pilot effort in 1997, then called the Human Performance Practices Survey). To promote firms’ participation, ASTD offers a free Benchmarking Service, discussed in additional detail below.

12. ASTD believes that these sets of indicators will have maximum effect if they are adopted by a broad collection of firms—both inside and outside the United States—and become, in effect, a standard component of an organisation’s system of training and development. As a result, we have distributed the Measurement Kit as broadly as possible in 1998 and 1999—and will continue to do so in the future. It is sent directly to over 50,000 ASTD members (in approximately 15,000 companies) with Training and Development magazine, as well as to a mailing list of over 2,000 individuals in the training field who have expressed some interest in the measurement initiative. It is also made available free of charge to anyone who requests a copy. Further, the set of indicators is made available on ASTD’s web site, where participating organisations can interactively enter their data at any time.

13. Consistent with its goal of distributing the standard indicators as broadly as possible, ASTD has also worked to build partnerships with other organisations that can bring the Measurement Kit to their members or clients who may be interested. In 1999, ASTD is working with over 70 international organisations (training and development associations, management institutes, universities, etc.) who are distributing the Kit to contacts in their countries. Over ten other organisations are working with ASTD in a similar capacity in the United States.

Training Investment Indicators

14. The current set of indicators of training investment is broken into two sections (the full set of indicators can be found in the Measurement Kit, attached or available at the conference to participants). These indicators were developed in order to serve both internal and external purposes for an enterprise, although their primary use to date has been internal.

15. First, a set of core indicators contains many of the “summary” statistics that are used to gain a broad picture of an enterprise’s training investments and related practices. Many of these are used in calculating “key ratios,” including total training expenditures per employee, expenditures per employee eligible for training, expenditures as a percentage of payroll, percent of employees who are eligible for training, percent of eligible employees who actually receive training, hours of training per eligible employee, ratio of employees to training staff, relative use of delivery methods (classroom versus learning
technologies), and a variety of breakdowns of training expenditures (measured per employee), including wages and salaries of training staff, payments to outside companies, expenditures on tuition reimbursement, and expenditures on learning technologies. Other core indicators include the use of other human resource practices and the percentage of training expenditures used to provide training to “low-skill” workers (defined as those with less than 12 years of formal education).

16. Second, a set of other optional indicators are provided for use by organisations particularly interested in better measurement in one or more of the available areas. These other indicators include the distribution of training expenditures across various course types, use of various specific forms of learning technologies (and projected uses of those methods in the future), external sources of training, use of evaluation methods for training outcomes, and various measures of the salaries and functioning of the training staff itself.

17. Finally, in 1999, ASTD expanded the set of indicators provided to interested organisations to include other intellectual capital measures, many of which were identified in conjunction with ASTD’s Knowledge Management Working Group. Organisations that use these intellectual capital measures can be benchmarked against other organisations in a similar process to that used for the training variables. These indicators include measures of essential employees, use of computer applications by staff, recruiting costs for key employees, measures related to the development of new products and services, documentation of business-critical processes, customer satisfaction, and various performance comparisons with competitors. In addition, core questions for an employee satisfaction and commitment survey were provided to enable firms to capture various measures of employee attitudes.

**Training Outcomes Indicators**

18. The indicators of training outcomes or effects also can be broken into two groups. Both groups are designed to be captured directly from training participants and/or their supervisors through a survey administered by the firm (which then tallies the results for all respondents and submits them for benchmarking).

19. First, a set of initial evaluation questions are designed to be administered to training participants immediately following the training intervention. These questions capture the participants’ assessment of the administrative or logistical aspects of the course, the timeliness and usefulness of the course content, satisfaction with elements of the course design, satisfaction with the instructor, the perceived impact of the course skills, and the overall level of satisfaction of the participant.

20. A second set of questions are intended to capture the effect of the training on job performance, and are to be administered to training participants (and/or their supervisors) some months following the intervention. These indicators include measures of the extent to which the course skills are used by the participant, the extent to which their confidence was affected, barriers and enablers of the transfer of knowledge to the job, and overall measures of impact for both performance on the course objectives and overall job performance.

**Added Incentives for Firms to Use These Indicators**

21. Through the ASTD “Benchmarking Service,” each company which sends its data to ASTD will receive--free of charge--from ASTD a customised Benchmarking Report which compares their training investments (and training outcomes as well, if they participate in Part II of the survey) with (1) averages for organisations in the same industry; (2) overall averages; and (3) a measure of a “leading” benchmark—the average of the top 10 percent of all participants in the distribution for a given question.
22. ASTD provides this report to participants for two reasons. First, the customised report creates an incentive for firms to use these indicators and to report their data to a central clearinghouse, enabling the data to be processed and for general information to be made available to all interested organisations through publicly-available reports which are produced each year by ASTD. We have found that many companies choose to participate in order to receive this report, as it contains data that are not available anywhere else. Second, this report is designed to enable each firm to make maximum internal use of the data internally—as well as, in some cases, externally. The report thus represents one direct effort to address the lack of information in the training field—by providing a variety of standardised comparisons for any participating organisation.
INTERNAL USE OF THE INDICATORS

23. It is clear that there is a market for at least the internal use of comparative data resulting from these indicators. Over 70 firms in the Benchmarking Forum pay thousands of dollars per year for membership, with the capacity to receive firm-specific training data one of the primary benefits of membership. In addition, over 500 firms in 1997 and over 1,200 in 1998 (including over 400 from outside the United States) chose to use the training investment indicators contained in the Measurement Kit and to submit their data to ASTD for benchmarking. Over 100 firms also used and submitted data from the training outcomes indicators, with many others reporting that they intended to begin using those indicators later in the year.

24. Although no systematic evaluation of the robustness or reliability of these measures has yet been performed, available evidence suggests that the indicators can be reliably used internally by firms. They were designed with the direct input of organisations focused on measuring training, and significant efforts have been made to ensure that clear definitions are included for all elements that make them generally applicable across all types of organisations and all countries. Participating firms report little trouble in applying the definitions to their specific situations. Further, many participants that have used the indicators for at least two years report that they have made shifts in their internal data systems to bring them into greater alignment with the indicator categories included in the Measurement Kit.

25. Much of our information on the use of the resulting data by Measurement Kit participants comes from an informal set of telephone interviews with organisations that used the ASTD indicators in both 1997 and 1998. Because they chose to use the ASTD indicators in two consecutive years, the organisations represented in the interviews were, we believe, more likely to have made significant use of the indicators than the average firm.

26. A large percentage of respondents report that their primary use of the data internally has been in the budgeting and planning process, particularly to justify training budgets or practices—largely through a comparison with what “other organisations” are doing. A large number also report using the data to adjust a variety of their own practices to bring them more into alignment with the practices of their competitors and overall averages. There was little evidence that the firm-level training data were being linked in any way with firm performance, although it is possible that such use may develop after firms have a number of years of internal data that they can use for comparison purposes.

27. Although we have no direct evidence on the use of training outcomes data, we expect that many of the participants who used those indicators used the resulting data comparisons for purposes of continuous improvement—identifying which courses and practices are working well and receiving positive evaluations and which are not, and making adjustments based on this information.
EXTERNAL USE OF THE INDICATORS

28. To date, there has been minimal use of the firm-specific indicators for external purposes. Most surveyed firms reported that their primary use of the resulting data was internal in nature. Only a small percentage of the firms reported any external use (specifically, they reported using the data for recruiting new employees or in union negotiations as an indicator of the firm’s commitment to developing its workforce).

29. Indeed, the possibility of external use of the data comes up most frequently in a negative way—in the form of concern over the confidentiality of the data. ASTD guarantees all participants in the Measurement Kit complete confidentiality (and Benchmarking Forum members share firm-specific data only with other members). Despite this guarantee, a number of organisations have inquired to ensure their confidentiality. This experience underscores the current status of the indicators: it seems that most firms view them almost exclusively as measures to be used internally, and they frequently consider external issues only to the extent that they are concerned about ensuring that the data are not used in that way.

30. There is little recognition among participants of any advantages to the possible external reporting of the data. It is possible that this is a function of the responsibility level of many of those who use the ASTD indicators: the majority are likely front-line training staff or training managers. It is likely that a recognition of possible advantage of public reporting would have to come from someone at a higher level within an organisation. ASTD recognises the need to increase awareness of the existence of these measures among individuals in positions of authority within firms, and has sent information on the Measurement Kit to a large sample of Chief Financial Officers. There is not yet any evidence of the effectiveness of this effort.

31. It is also clear that a number of obstacles exist before these indicators could reliably be used for external reporting. Most importantly, a mechanism for the verification of the data would have to come into existence. Currently, there is no such data validation—it is assumed that firms using the data internally have little incentive to provide misleading data. If external uses became apparent, however, it would not be sufficient to rely on the presumed veracity of self-reported data; some form of auditing would have to develop.

32. Although few firms have used their own firm-level data publicly, ASTD has used the data on an aggregate level for a variety of public purposes. The data represents the primary source for ASTD’s annual comprehensive look at the state of the training industry. In addition, ASTD has used the data to analyse the relationship between a firm’s training investments and its financial outcomes. Due to the relatively small number of companies for which both comprehensive training data and comprehensive financial information (from public sources) were available, the analysis to date has necessarily been rather preliminary in nature. Results from both 1997 and 1998 consistently demonstrate that those companies that invest more heavily in training (as measured by expenditures per employee, expenditures as a percentage of payroll, percentage of employees receiving training, and other measures) also tend to perform better on financial outcome variables such as sales, profit margins, return on equity, and valuation ratios.
CONCLUSIONS

33. To date, ASTD’s effort to establish a base of indicators of training investment and training outcomes provides evidence that a demand for such indicators exists, that the standard indicators can be applied accurately across a wide variety of organisations, and that organisations use such indicators for a variety of internal purposes. Although there is little current evidence of either an apparent external demand for such indicators or an inclination on the part of organisations to use such indicators for external reporting purposes, we believe it is likely that such use will occur at some point. Since there is evidence in the ASTD research that there exists a correlation between training investments and firm performance, rational external actors—including shareholders and financial analysts—would be expected increasingly to demand such measures if evidence on this point remains consistent and the financial community becomes aware of this evidence.

34. Because incentives already exist for firms to use these indicators (because they can better invest in human capital with comparative information on those investments and their effects) and for actors in the financial markets to use data from the indicators (based on the preliminary findings that there is some relationship between training and performance), it is probably not necessary for public policy to encourage the use of such measures—internally by firms and, especially, externally by the financial markets and others. Nevertheless, it is clear that any public policies that served to encourage such use would make it far easier for these measures to gain acceptance—particularly externally, where there is little evidence that a reporting structure including these indicators is welcome alongside more traditional financial measures.

35. For this reason, among others, this set of human capital investment indicators currently remains primarily a device for internal use by firms—albeit one with some intriguing possibilities in the external world.