

Taking the Mystery Out of **ROI Calculations**



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Since EAPs compete against other benefit programs and corporate investments for capital, it is important that ROI calculations utilize standard financial terminology and measures as competing investments. This article will focus on how to apply standard measures of financial return to EAP investments and address how to calculate break even Per Employee Per Month (PEPM), utilization, and effectiveness rates.

The underlying logic behind any EAP ROI calculation is to answer the following question: Assuming only a subset of employees utilize the EAP, and considering the program's effectiveness in reducing costs, the cost of forsaking other investments, and program turnover, **is the savings sufficient to offset the cost of the EAP?**

Other Takeaways

Before addressing this crucial question, it is important to point out a number of important, additional takeaways that EA professionals should glean from this article:

- Generally speaking, the ROI of EAP investments is excellent compared to alternative prevention programs and corporate capital investments;
- The reason is that EAPs reduce a variety of expenses, including presenteeism, absenteeism, turnover, work-related accidents, disability, and medical costs; and
- Of all expenses, reductions in presenteeism and absenteeism are the primary drivers of ROI.

EAP ROI Calculators

It is possible to calculate EAP ROI using pencil, paper, and a standard financial calculator. However, a database of occupational productivity losses, along with a validated instrument to measure reductions in absenteeism and presenteeism, are also vital inputs. The good news is that both items are available – although a commercial EAP ROI calculator will make your life a lot easier! Calculators like these will allow you to

determine break even Per Employee Per Year (PEPY), utilization, and effectiveness rates.

How to Calculate Savings from an EAP

Back to the important question noted earlier in italics: How to calculate savings from an EAP? Where do you start? The first step is to decide which expenses are affected by an EAP, how these expenses are measured, and how to calculate savings.

As mentioned, typical expenses impacted by an EAP include presenteeism, absenteeism, turnover, work accidents, disability, and medical expenses (for self-insured companies) or insurance premiums. These costs should be calculated both before (pre) and after (post) implementation of the EAP in order to calculate savings.

IRR and NPV

The next step is to apply an Internal Rate of Return (IRR) and Net Present Value (NPV) formula, which is available in Excel® or any financial calculator. **What is an Internal Rate of Return and Net Present Value?**

The internal rate of return (IRR) is a rate of return used in capital budgeting to measure and compare the profitability of investments. It compares the attractiveness of various preventive care programs against each other or preventive care programs against non-health care programs (expansion of a factory). The IRR is expressed as a percent.

The net present value (NPV) is the sum of the present values (value in today's dollar) of the cost savings minus the investment in the EAP investment over a period of time. Time value of money means that time has an impact on the value of cash flows (a dollar today buys more today than tomorrow because of inflation). The NPV is expressed in dollars. Think of this number as what the CFO can expect as an inflow to the checking account if everything goes according to plan.

Be prepared to provide three variables as input:

1. Expense savings;
2. Discount rate (i.e. the opportunity cost of capital, which is usually the risk-free interest rate of U.S. Treasury bills); and
3. Value of the investment in an EAP (which is the PEPY rate times the number of employees covered).

Sound simple enough? No? Then let's slow things down and proceed step by step, starting with savings.

Savings

Employees with emotional, legal, financial, and other problems are distracted, which affects their ability to focus on work. Such issues also generate absenteeism associated with visits to psychologists, social workers, financial advisors and attorneys for advice. According to the *Attridge Study, the prevalence rate of issues in the U.S. population is 25%. These include common mental health disorders but also problems that are "sub-clinical" in nature. The study reports that employees with work-related issues have a presenteeism rate of 12.3% and absenteeism of 1.5 days for an episode lasting 90 days.

(* The calculations and formulas used in this article utilize well-researched default data, which were obtained from a study written by Attridge, et al, 2015.)

Utilizing a database of daily productivity contributions by occupation, industry, and region, it is possible to calculate productivity losses associated with both presenteeism and absenteeism. How?

- Multiply the daily productivity loss of employees times the number of employees with problems (an estimated 25% of the population);
- Take this number times the 90 days for each episode; and then
- Times the respective presenteeism and absenteeism rates.

This generates the total productivity loss without an EAP.

Productivity Losses

How do you determine the reduction in productivity losses from an EAP? For this calculation, we can utilize any validated instrument that measures the improvement in concentration (presenteeism) and reduction in visits to providers (absenteeism). Chestnut Global Partners' Workplace Outcome Suite (WOS) is an excellent example of a validated questionnaire that is administered pre- and post-EAP. Again, using data in the Attridge study (based on a major WOS study), the use of EAPs resulted in a 39.7% reduction in presenteeism, and a 44.3% reduction in absenteeism.

In order to determine the reduction in presenteeism and absenteeism costs, follow these four steps:

1. Multiply the number of employees with problems by the utilization rate.
2. Recalculate the pre-EAP productivity loss for absenteeism and presenteeism for just those individuals who utilized the EAP.
3. Reduce the absenteeism and presenteeism costs calculated in step 2 by the 39.7% and 44.3% figures, respectively.
4. Subtract the value obtained in step 3 from the total presenteeism and absenteeism cost – not the value attained in step 2 but the value acquired when calculating total pre-EAP productivity losses.

Turnover Costs

Now we turn our attention to calculating the savings in turnover costs. Some employees with problems will quit their job, which generates turnover costs, such as recruiting, relocation, and retraining. These amounts may be negligible, or large, depending on the occupation and industry. Again, returning to the Attridge study, the average turnover due to EAP related issues is 10% and the reduction of turnover expenses from EAPs is also 10%. Thus, multiplying the number of employees with issues (25% of the population) by 10% will result in the number of employees who will "turnover" (i.e. leave their job).

Next, multiply this number by the cost of the average retraining, relocation, and recruitment expense and then add the results. This will generate pre-EAP turnover cost. To calculate the reduction, simply follow the four steps used to calculate the productivity loss savings calculations (above) for each type of turnover cost but using the 10% reduction rate from the Attridge study.

Accidents

Now on to savings in accidents. Employees who are distracted (or even worse, those with substance abuse issues) are more likely to have accidents. As in the case of turnover-related costs, this cost can be small (a bandage) or cause major damage (e.g. at a construction site). According to the Attridge study, employees with problems have an accident rate of 10% and the average reduction in accidents from an EAP is also 10% (10% seems to be the magical number for EAP effectiveness).

Therefore, multiplying the number of employees with issues (25% of the population) by 10%, and then multiplying this value by the cost of a typical accident will generate the pre-EAP accident cost. To calculate the reduction, again follow the four steps used to calculate the productivity loss savings calculations (above) but using the reduction rate from the Attridge study.

Disability

Another calculation involves savings in payments to employees who go on disability. Some employees with more severe issues, such as major depression, might go on disability. This might be a very small percentage of employees, and will vary by employer. Generally, a disability plan calls for the employer to pay for the first two weeks of salary, but the amount could vary depending on the plan. Let's say the average monthly compensation is \$5,000, so the employer will disburse \$2,500 without the employee performing any work while he or she is away.

Let's assume that only 1% of employees who go on disability have more severe types of issues, and that the EAP will

prevent 10% of these employees from going on disability. Thus, multiplying the number of employees with issues (25% of the population) by 1%, and then multiplying this value by \$2,500 will generate the pre-EAP disability cost. To calculate the reduction, again follow the four steps used to calculate the productivity loss savings calculations (above) but using the 10% reduction rate.

Medical Savings

By now you are getting the hang of this, right? Still, let's move onto medical savings (for self-insured employers) or the expected reduction in a health insurance premium. According to the Attridge study, the average medical cost associated with co-morbidities for treatment of more severe forms of issues (e.g. depression) is \$3,000. An EAP reduces this expense by (you guessed it, 10%). Thus, multiplying the number of employees with issues (25% of the population) by 10%, and then multiplying this value by the \$3,000 cost will generate the pre-EAP medical cost.

To calculate the reduction, again follow the four steps used to calculate the productivity loss savings calculations listed previously, but using the reduction rate from the Attridge study. In order to calculate the estimated reduction in premiums for non-self-insured employers, divide the year-by-year premium increase by the number of employees. This gives you the increase per employee.

Next, estimate the percent of this increase due to medical treatment of the more severe forms of issues. Say the percent is 1%. This is the value that should be used in lieu of the \$3,000 medical cost. Next, repeat the medical cost savings calculations, using the 10% reduction figure due to an EAP, to obtain the reduction in premiums (don't expect a large number).

Program Turnover

Finally, we have to consider program turnover (not job turnover). Basically this includes the percent of employees who utilize the EAP but do not follow through, meaning there is no proof that their issue was resolved. This percent varies depending on the type of employee population or quality of the EAP. How does program turnover affect the ROI? Basically we have to “penalize” the ROI a bit given that the employer paid for a benefit it did not entirely receive. The effect of turnover will be incorporated in the ROI calculation later.

Total Savings Calculation

Next, add the savings in productivity losses (absenteeism and presenteeism) to the other savings (turnover, accidents, disability, and medical/insurance premiums) to obtain the total savings. You now have one of the required variables for the Internal Rate of Return (IRR) and Net Present Value (NPV) calculations.

Calculation of Total Investment

Just multiply the Per Employee Per Year (PEPY) times the number of employees covered in the EAP. You now have the second variable needed for the IRR and NPV calculations.

IRR and NPV Calculation

You are now ready to plug in your numbers in the IRR and NPV formulas. As mentioned earlier, you can use Excel®, but a financial calculator will also work. If you’re using Excel®, just place the investment with a minus sign in one field. Place the total savings in the field below it. Now access the IRR formula in Excel® and follow the instructions, and it will calculate the IRR.

For the NPV formula, again place the investment with a minus sign in one field. Place the total savings in the field below it. NPV also asks for the discount rate. Simply use the U.S. Treasury bill interest rates (adjusted for 90 days). To do this divide the yearly rate, say 3%, by 360 days, and multiply by 90 and follow the instructions, and it will calculate the NPV.

Finally, remember we have to “penalize” the IRR and NPV because of program turnover. If the turnover rate is say, 5%, then multiply the IRR and NPV by 95% and we are done!

What to Expect

Unless you have a very high PEPY or an extremely low utilization rate, you will obtain a very pleasant surprise.

After running hundreds of calculations using a recently released EAP ROI Calculator that does all of these calculations for you, it is rare to see an EAP that does not deliver nice returns.

You will also find that reduction of presenteeism will be the largest savings contributor and almost justifies the EAP investment by itself!

Calculating Break Even Rates

Now the bad news: Unless you are using one of the EAP ROI Calculators on the market, the process of calculating break-even PEPM rates and break-even Utilization rates will be quite tedious and essentially trial and error. For instance, if you want to calculate the break even PEPM, leave the utilization and effectiveness rates of all other savings as is, and keep increasing the PEPM until the NPV equals zero, and the IRR equals the cost of capital/discount rate. (Why not zero? If you think about it, your financial folks could have invested the EAP payment in safe U.S. Treasury bills, so you have to at least break even with that return. Make sense?).

Summary

Hopefully, this article takes the mystery out of the calculations used in commercial calculators. Although there are a variety of EAP ROI Calculators on the market, be sure to verify that they include a productivity loss database (i.e. not just use salaries) and that they consider at least most of the savings discussed in this article.

References

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