Cost Forecasts

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Best Practices

The main purpose of earned value analysis is to measure continuous project performance and predict the final cost and schedule results. The earned value analysis displays the performance trends on the project. It allows calculations to occur at the project level as well as the detail level and can display different categories of performance (Dow & Taylor, 2008). The key to accomplishing the analysis is to measure the actual effort of work versus the baseline. This will give you a snapshot of current performance and show any possible future trends.

One of the primary best practices is to conduct an earned value analysis. The earned value analysis tool can generate earned value S-curves, which are great for presenting the true performance of your project (Dow & Taylor, 2008). Earned value management (EVM) delivers three distinct values for those who fully understand how to use it: The first and primary benefit is the ability to predict project success or failure early enough in the project to implement successful corrective actions. The second value is permitting simplified reporting. The third benefit is the capability to forecast cash flow requirements (Fostel, 2011).

Earned value reporting can be delivered in various ways. Some of these reports include, cost variance report, cost performance index report, schedule variance report, schedule performance index report, s-curve report, schedule and cost forecasting report. These reports should be used and distributed based on your stakeholder/project communication plan. However, before sending out your reports you should consider the data that is being presented before you. Since you will have the earned value data before anyone else, you should take the time to make any corrective actions that are necessary in order to mitigate the need to report discrepancies. The earlier the corrective action is taken, the less it costs (Fostel, 2011).

In order to master the earned value analysis process you must be able to complete the following steps. First, ensure there is a project schedule created and maintained on the project. Second, ensure you cost load the original project schedule. Third, create a baseline schedule from the original schedule. Fourth, create a list of performance planning questions to help you focus your earned value reporting. Finally, ensure you understand the required earned value calculations and what the data is reporting. Once you have completed these step you can create your earned value analysis tool that will help you with project success. Below is an example of EMV from a Case Study I completed in MGMT 524 Management Science.

Starting Right Case Data

Corporate Bonds	**Return per Year**	**Years**	**Guarantee at year 5**	**1**	**2**	**3**	**4**	**5**
	13%	5	20,000	33,900	38,307	43,287	48,914	55,273
Profit end of Y5	**25,273**							

	Market	
Factors	**Favorable**	**Unfavorable**
Preferred Stock	4	0.5
Common Stock	8	0

Investment	30,000
Inflation	4.50%

	Market	
Investment Options	**Favorable $**	**Unfavorable $**
Corporate Bonds	25,273	20,000
Preferred Stock	90,000	(15,000)
Common Stock	210,000	(30,000)
Do Nothing	0	0

Discussion Questions

1. Since Sue is very conservative and a risk avoider we recommend for her to invest in bonds that will bring a profit of $25,273 based on decision making under uncertainty maximin criteria (Render, 2012, Pg. 73). The Preferred/Common stock option on an unfavorable scenario will bring a loss of $15,000 and $30,000 consecutively for Sue. The minimum profit for the bond is $20,000 so in any case if Sue invests in bonds she will not lose money.

	Market		
Investment Options	**Favorable $**	**Unfavorable $**	**Minimum in a Row $**
Corporate Bonds	25,273	20,000	20,000
Preferred Stock	90,000	(15,000)	(15,000)
Common Stock	210,000	(30,000)	(30,000)
Do Nothing	0	0	0

2. Ray is considering investing and believes there is an 11% chance (probability) of success. We would recommend to Mr. Cahn to invest in bonds, with an EMV of $20,580 based on decision making under risk EMV criteria. (Render, 2012, Pg. 76).

	Market		
Investment Options	**Favorable $**	**Unfavorable $**	**EMV**
Corporate Bonds	25,273	20,000	20,580
Preferred Stock	90,000	(15,000)	(3,450)
Common Stock	210,000	(30,000)	(3,600)
Do Nothing	0	0	0
Probabilities	11%	89%	-0.78

3. Lilia decided to invest so do nothing can be eliminated. She believes there is a good chance of success which would be a compromise between an optimistic and pessimistic decision. So a coefficient of realism needs to be assigned. Since she feels there is a good chance a value of .6 to .9 could be assigned. For this problem we have chosen .8. However, she is very conservative and a risk avoider which makes this a criterion of realism minimization problem. (Render, 2012, Pg. 73, 74). So we recommend the alternate with the lowest weighted average. In this case it would be corporate bonds with the lowest weighted average of $24,218.

I Investment Options	Market Favorable $	 Unfavorable $	Criterion of Realism or Weighted Average (a = .8)$
Corporate Bonds	25,273	20,000	24,218
Preffered Stock	90,000	(15,000)	69,000
Common Stock	210,000	(30,000)	162,000

4. George believes there is an equally likely chance for success, so in this case we will use decision making under uncertainty with equally likely criteria. (Render, 2012, Pg. 74). We recommend common stock since it has the row average with the maximum average payoff of $90,000.

Investment Options	Market Favorable $	 Unfavorable $	Row Average $
Corporate Bonds	25,273	20,000	22,636
Preferred Stock	90,000	(15,000)	37,500
Common Stock	210,000	(30,000)	90,000
Do Nothing	0	0	0

5. Peter Metarko is extremely optimistic about the market for the new baby food. What is your advice for Pete? (Render, (Kindle) 2012, Pg. 111).

The common stock is the best choice when using the optimistic decision approach. The first clue is that Peter is "extremely optimistic", so we would tell him to use the optimistic or maximax approach. If he uses this he would choose the common stock as his $30,000 investment could increase 8 times. Peter would simply choose the decision that has the largest single value of all the options over the next five years. So we would recommend common stock as the best choice when using the optimistic decision approach since it has the highest of all payoffs with $210,000.

Investment Options	Market Favorable $	 Unfavorable $	Maximum in a Row $
Corporate Bonds	25,273	20,000	25,273
Preferred Stock	90,000	(15,000)	90,000
Common Stock	210,000	(30,000)	210,000
Do Nothing	0	0	0

6. Julia Day has been told that developing the legal documents for each fundraising alternative is expensive. Julia would offer alternatives for both risk-adverse and risk-seeking investors. Can Julia delete one of the financial alternatives and still offer investment choices for risk seekers and risk avoiders? (Render, 2012, Pg. 111).

Julia can get rid of the Preferred Stock and offer the Corporate Bonds and the Common Stock. This would be the best choice so that she can offer to attract both high risk and low risk investors.

High risk investors could opt for the common stock and the conservative or low risk investors could choose the safer corporate bonds.

Investment Options	**Favorable Market**	**Unfavorable Market**
Corporate Bonds	**25,273**	**20,000**
Preferred Stock	**90,000**	**(15,000)**
Common Stock	**210,000**	**(30,000)**

References

A guide to the Project Management Body of Knowledge (PMBOK guide), fifth edition (5th ed.). (2013). Newtown Square, PA.: Project Management Institute.

Chris Fostel. (2011). *The Value of Earned Value Management.* Dallas, TX.: PMI Global Congress Proceedings.

William Dow & Bruce Taylor. (2008). *Project Communications Bible.* Indianapolis, IN.: Wiley Publishing, Inc.