

# [Ameritrade: case study](https://assignbuster.com/ameritrade-case-study/)

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A historical approach was adopted using returns of the average market proxy from 84′-97′. The average annual return (15. 71 was calculated using the assumed risk free rate and M market return, the market risk premium was assumed to be 9.

37%. Asset betas Newer calculated using linear regression models plotting monthly market returns against individual assets returns. ACH has a short trading period (PIP in 1997), thus, available data does not satisfy requirements.

To calculate beta, comparable calculated average betas for both discount brokerages and Internet industries, resulting in a project beta of 2. 045. Using CAMP and the above inputs, the cost of UAPITA was calculated to be 25.

5%. This Figure reflects the risks associated with the discount brokerage industry due to low margins and revenues dependent on market performance. It is recommended ACH only implement the proposed investments if the project adds value I. E. Is positive-NAP using a cost of capital of 25. 5%.

Factors on Proposed Project To evaluate the proposed advertising and technology investments, several factors need to be considered. ACH should only undertake projects positive Net Present Value’s (NAP). To calculate the NAP, an appropriate discount rate, or cost of capital must be established. Therefore, the focus of this report is to identify the risks associated and hence identify a realistic cost of capital. CAMP Model The Capital Asset Pricing Model (CAMP) will be used to calculate the cost of capital.

This method has the following inputs, (1) the risk-free rate, (2) the market risk premium and (3) an appropriate asset beta.

Solving for CAMP will allow for NAP calculations, aiding the CEO, Joe Rickets in his final decision regarding the best course of action for ACH. Implementation of Risk Free Rate ( ) and Expected Market Return An appropriate risk-free rate is required to calculate the market risk premium. The project is substantially large ($mm) and is assumed to be a relatively long-term project. Burner et al (1998) illustrates that the “ vast majority of large firms..

. [use] the Yields to long-term (10 to arrear) bonds to figurer) are assumed to have AAA determine . ” U S. Overspent securities ratings thus are essentially risk-free. Due to the ever-changing discount brokerage and Internet industries, a long horizon would prove ineffective as a technology sourced projects quickly prove obsolete.

Therefore the assumption is made that a 10- [ear project lifestyle is appropriate, from Figure 1, the is 6. 34%. Moreover, to establish a market risk premium an appropriate market index must be identified. As such, the value-weighted (W”) aggregate stock market for the NYSE, AMES and NASDAQ was chosen. Given the data in Figure 2 the annulled yearly market return (15. 1 %) can be calculated by annulling the average monthly return for our chosen index.

The index was utilized as it takes into consideration the market capitalization of the listed companies while also 2 better reflecting the risks associated with the discount brokerage and Internet Industries through a higher annulled return. Thus, the annulled market return pulled with the allows the market risk premium (0. 1571 – 0. 0634= 0. 0937 or 9. 37%) to be found.

Steps for Computing the Asset Beta The final input necessary to compute the cost of capital, using CAMP, is an asset or project specific beta.

Asset betas normally are calculated using linear regression. However this technique requires large amounts of information. ACH has a short trading period (PIP in 1997), thus available data does not satisfy requirements (Figurer). To ascertain a beta measurement for Sac’s proposed investments, comparable were used to calculated average.

Comparable Comparable firms were chosen from the discount brokerage industry, such as Charles Schwab Corp. (Figurer. ) The brokerage revenues of these firms are similar to that of ACH, with a large proportion of their revenues coming from transaction commissions and clearing fees.

Comparable firms from the Internet industry such as Netscape are also considered as this would factor in risks that are specific to Sacs projected investment in technology. The use of these firms however creates issues. Firstly, like ACH these firms are fairly new and thus information is limited.

Secondly, the debt to equity structure and revenues of these firms differs greatly to most discount brokerage firms. This will result in a beta that is extremely project specific as it does not take into account other factors that affect ACH such as the risks and operational characteristics.

Therefore greater weight was given to the discount brokerage comparable as a source of beta estimates. It is noted that E\*Trade is not used as their historical data is limited and does not meet the investment horizon (Figurer. ) Computing Asset Betas (Figurer) The first step in calculating the beta for the chosen comparable was to use the monthly stock price information to calculate the % excess returns for a period of 5 Hears (1992-1996).

Again index was used as the source of monthly market return data points. To calculate the excess returns of each stock, (End price – starting price + livened)/starting price, was used.

This data was plotted against the monthly market index returns using the excel function " SLOPE” which enabled the betas to be calculated. The historical data varied slightly for each comparable, therefore 5-year Investment horizons of 1992 to 1996 and 1992 to the most recent historical data available was found using the same methodologies for each comparable (Figurer) noting the betas found are fully levered. The next step involved finding the unleavened eat using the debt/equity ratios (Figurer), a 35% tax assumption, the Yamaha equation and data from Figure 8 , the unleavened beta for each comparable were calculated, shown Figure 10.

Leaving us with(J = 2. 045). Analysis and Summary Cost of Capital Using the CAMP, the project’s cost of capital is found to be 25. 5%. This Figure represents the required return by shareholders given the amount of risk associated with the planned investments. This high figure can be attributed to the risk associated with the discount brokerage industry low margins and revenues dependent on market performance.

ACH will require growth forecasts to establish Nether the proposed $mm investment will add value through calculating the NAP. The CAMP method is highly robust, practical and easy to implement.

Stock Return Data for the aggregate stock market, from 31 January 1984 to 29 August 1997, showing the average return over time annelids. Market Risk Premium = E(Arm RFC Figure 3. Market risk premium equation, where E(Arm ) = 15.

71% and RFC= 6. 34% Figure 4. There is not enough historical data for Amerada to use it to compute its asset beta Figure 5. Data for comparable firms Figure 6. Data for E\*Trade Figure Computation to levered betas tort the firms by taking the stock returns tort each company and obtaining the excess returns, then using the SLOPE function on excel to compute a Figure for the 5 year horizon and a 5 year most recent.

Figure 8. The Yamaha Equation used to compute the levered beta, where OLL is the levered beta, T is the tax rate of 35%, DIE is the debt-to-equity ratio and DIG is the unleavened beta Figure 9. The debt-to-equity ratios, computed through algebra. Figure 10. The unleavened betas computed using the Yamaha Equation.

= RFC+ [E(Rent)- RFC] Figure 11. The average of the unleavened and levered betas, focusing on theft capital. comparable beta. Figure 12. The CAMP equation used to compute the cost unleavened 9