

How to Make the Financial Analysis an Easy Task – A Comparative Analysis between the Traditional and the Modern Approach?

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ABSTRACT

This research paper is based upon the comparison of the Traditional Approaches / Methods with the Modern Approach / Methods in a simple manner so the beginners of the Financial Management could understand the relevance of the latest approaches as well . In this paper a sample example had been taken to solve a case of the two projects which are mutually exclusive wherein the best project is to be selected out of the two. The Same had been solved both by the traditional approach as well as by the modern approach so that the comparisons could be easily justified .

Keywords : Traditional , Modern , Online Calculators , Weblinks

I. LITERATURE REVIEW

Description about the Traditional Approaches:

The traditional method of approaching at the Financial Case-Studies suggests the study and the search for the various text books or the study material do requiring a lot of time and proving to be quite expensive.

Description about the Modern Approaches : [Financial Term – Definition – Calculator Type – Web-Link]

Case-Study of <http://www.ultimatecalculators.com>/This link provides the description – formulae – definition -interpretation(to some extent useful for decision making)

1. Loan Calculator- The loan calculator is to evaluate and develop a strategy by testing the effects of his / her repayment options.
2. Loan Application Calculator- This calculator provides his / her financial position as a lender would, assessing his / her ability to service the debt, and the composition of the worth.
3. Mortgage Calculator-This calculator is to evaluate and develop a strategy by testing the effects of his / her repayment options.
4. Mortgage Comparison Calculator-This calculator is to compare two different mortgages and choose the best mortgage that will suite his / her needs.
5. Home Equity Calculator-This calculator is to develop a strategy to build equity .
6. Basement/Secondary Suite Strategy Calculator- This calculator is to develop a strategy to build equity, manage cash flow, and achieve financial success
7. Basement/Secondary Suite Comparison Calculator- This calculator is to compare and analyze a house with a basement suite compared to a house without.
8. Income Property Strategy Calculator-This calculator is to analyze the potential of his / her investment property.
9. Basement/Secondary Suite Strategy Calculator- This calculator is to develop a strategy to build equity, manage cash flow, and achieve financial success .
10. Basement/Secondary Suite Comparison Calculator- This calculator is to compare and analyze a house with a basement suite compared to a house without.
11. USA Income Tax Calculator-This calculator is to determine his / her expected income tax, your marginal tax rate, average tax rate, and disposable income. Include a 401k contribution and this calculator will provide him / her with the expected tax savings, and re-calculate the effects of making the 401k contribution automatically.
12. Canada Income Tax Calculator-This calculator is to determine his / her expected income tax, your marginal tax rate, average tax rate, and disposable income. Include an RRSP

- contribution and this calculator will provide you with your expected tax savings, and re-calculate the effects of making the RRSP contribution automatically.
13. Retirement Income Strategy Calculator-This calculator is to allow him / her to test the effects of your decisions and market conditions to plan your retirement income, for both tax sheltered and regular investment accounts. Test the various effects that inflation, investment return, tax rate, withdrawal amounts, and withdrawal frequencies will have on your final result.
 14. RRSP Savings Strategy Calculator- This calculator is to determine his / her expected future RRSP savings balance. Test the effects of contributing your tax savings into RRSP. Test the various effects that inflation, investment return, tax rate, savings amounts, and savings frequencies will have on his / her final result.
 15. 401k Savings Strategy Calculator-This calculator is to determine his / her expected future 401k savings balance.
 16. Quick Capital Budget-This Annual cash flows can be used to analyze potential investments by companies, known as capital budgeting. Projected cash flows are generated, and then analysis is performed to determine whether a project meets required criteria for approval, and to make a comparison decision between multiple possible projects. This is the purpose of this calculator .
 17. Simple Interest-SI is to determine the future value of a current amount. The simple interest calculator below can be used to determine future value, present value, the period interest rate, and the number of periods. The simple interest calculator is for this purpose .
 18. Compound Interest-CI is to determine the future value of a current amount. The compound interest calculator below can be used to determine future value, present value, the period interest rate, and the number of compounding periods.The compound interest calculator is for this purpose .
 19. Loan-The purpose of this calculator is to calculate the loan payment, the loan balance, the interest rate, and the total number of payments.
 20. Future Value of Loan Balance-Future Value of Loan Balance determines the future value of a loan after payments have been made, at a regular frequency, charged a regular rate of interest, compounded at payment dates. This is the purpose of this calculator .
 21. Future Value of Savings-The purpose of this calculator is to determine the future value of an account where regular savings payments have been deposited, and the balance receives interest compounded on the payment frequency. Future value of savings can also be used to determine the present value of a savings balance, the interest rate, the number of payments, and the amount of the savings payment.
 22. Present Value of an Annuity-The purpose of this calculator is to determine the number of payments, the interest rate, and the amount of the recurring payments.
 23. Future Value of an Annuity – The purpose of this calculator is to determine the number of payments, the interest rate, and the amount of the recurring payments.
 24. Present Value of an Annuity Due-Present Value of an Annuity Due is the present value of a stream of equal payments, where the payment occurs at the beginning of each period.The purpose of this calculator is to calculate the same.
 25. Future Value of an Annuity Due-Future Value of an Annuity Due is the future value of a stream of equal payments, where the payment occurs at the beginning of each period.
 26. Continuous Compounding-Continuous Compounding happens when interest is charged against principle and compounds continuously, that is the interest is continuously added to principle to be charged interest again.This is the purpose of this calculator .
 27. Perpetuity-Perpetuity is a stream of equal payments that does not end.The purpose of this calculator is to calculate the perpetuity .
 28. Effective Annual Rate-This calculator is to determine the actual annual rate that would be paid on a loan or investment if the stated annual rate is affected by compounding.
 29. Period Interest Rate per Payment-Period Interest Rate per Payment is the rate of interest that is charged to every payment when the frequency of payments does not equal the compounding frequency. The purpose of this calculator is to calculate this .
 30. Total Inventory Cost-Total Inventory cost is the total cost associated with ordering and carrying inventory, not including the actual cost of the inventory itself. It is important for companies to understand what factors influence the total cost they pay, so as to be able to minimize it .The purpose of this calculator is to calculate the total inventory cost.
 31. Economic Order Quantity (EOQ)-Economic Order quantity is used to determine the most efficient order size for a company. Ordering inventory cost a company money in several ways, there is a carrying cost for holding inventory, and there is a fixed cost per order. By determining the most efficient order size, a firm can satisfy demand for their product while minimizing the costs associated with ordering

- and carrying inventory. This calculator calculates the EOQ.
32. Cost of Missing Discount-The Cost of missing discount is the equivalent annual interest rate of a discount on early payment to a supplier. Often, suppliers will offer a discount to their customers to encourage prompt payment, rather than waiting until the last day the money is owed. By not taking this offered discount, a company is paying more than required in order to keep the funds until the last day. This discount is equal to an annual interest rate and can be associated with the funds withheld until the final payment day. The purpose of this calculator is for the same .
 33. External Funding Required-External Funding required is used to determine the amount of external funding that a company will need based on the change in balance sheet values from one year to another. As assets increase, equity or liabilities must increase as well. If assets grow from one year to the next, then either current liabilities or retained earnings must grow by the same amount. If not, then external funding is required, and the company will either borrow debt, or sell equity to finance the growth. The purpose of this calculator is to calculate the same.
 34. Yield to Maturity-Yield to maturity is used to determine the annual yield that a bond will pay the holder from the current date until the date of maturity. The yield will include both interest payments paid to the bond holder, as well as any capital gain that may occur. The use of this calculator is for this purpose .
 35. Capital Asset Pricing Model (CAPM)-Capital Asset pricing model (CAPM) is used to determine the current expected return of a specific security. This model assumes that every stock moves in some way relative to the market in general, and that by knowing this relationship, and the required rate of return for the market, and the minimum required risk free rate of return, the required rate of return can be determined for any stock. This is the purpose of this calculator .
 36. Constant Growth (Gordon) Model-Gordon Model is used to determine the current price of a security. The Gordon model assumes that the current price of a security will be affected by the dividends, the growth rate of the dividends, and the required rate of return by shareholders .Constant Growth Model is used to determine the current price of a share relative to its dividend payments, the expected growth rate of these dividends, and the required rate of return by investors in the market. This is the purpose of this calculator .
 37. Share Total Return per Period-Share Total Return per period is used to determine a shares total return, including both dividends and capital gains, over a period of time. This is the purpose of this calculator .
 38. Present Value of a Bond-Present Value of a bond is used to determine the current market price of a bond, that may pay regular interest payments, and is redeemable at some time in the future for a specific price. Present Value of a Bond is the value of a bond equal to the discounted remaining interest payments and the discounted redemption value of the bond certificate. The purpose of this calculator is to calculate the same .
 39. Bond Current Yield-Bond Current yield is used to determine the annualized yield that a bond is paying, by comparing its interest payments to its current market value. Bond Current Yield is the yield a bond pays the bond holder at this moment, with no reference to the outstanding duration of the bond. This is the purpose of this calculator .
 40. Dividend Yield-Dividend Yield is used to determine the current annual yield of a security that pays dividends. The dividend yield is used to calculate the income produced and returned to shareholders and does not include capital gains. Dividend Yield is the rate of return an investor receives as a percentage of the current market price. The purpose of this calculator is to calculate the dividend yield.
 41. Annualized Yield on a Discounted Security-Annualized Yield on a Discounted Security is used to determine the equivalent annual yield on a short term bond, typically a treasury note, that is sold at a discount to its redemption value, with a term of less than one year. Annualized Yield on a Discounted Security is the annual rate of return received by an investor purchasing a discounted security of a term less than one year. This is the purpose of this calculator.
 42. Weighted Average Cost of Capital (WACC)-Weighted Average Cost of Capital (WACC) is the average cost to a company of the funds it has invested in the assets of the company. This is composed of a possible combination of debt, preferred shares, common shares and retained earnings. All components of the cost of capital are determined at the current market rates. This calculator calculates the WACC.
 43. Financial Statement Analysis-Financial Statements are prepared by companies to demonstrate its financial activity to stakeholders. These are prepared at regular intervals, and typically contain at least a balance sheet and an income statement. The balance sheet shows the value of a company accounts at a given point in

time. The income statement shows the financial effects of activities over a given period of time. The purpose of this calculator is to calculate the same and also to provide the

of the sample selected .

5. Comparison for the probable sources / causes of the Errors .

II. PROBLEM STATEMENT / OBJECTIVES OF THE STUDY-

1. To explore on the different methodologies for the solving the problems related to the Financial Matters and to analyse the methods that are available for the effective decision-making .
2. To explore the different methodologies that are available which could speed up the calculations and the computations ?
3. To study the suitability of the Online Calculators and the other substitutes and TO produce a comparative statement concerning the effectiveness of the Decision-Making .

III. RESEARCH METHODOLOGY-

1. Explore the traditional and the modern methods of the computations / calculations of the samples.
2. Compare the Methods / Tools / Formulae used for the traditional as well as for the modern approaches .
3. Selection of the Samples for the comparison .
4. Comparison of the steps involved for the solution

IV. SOLUTION TECHNIQUES / INSTRUMENTS -

1. Finding out the solution for the sample that has been selected both by the traditional approach as well as by the modern approach .
 Traditional Approach / Method : Given Data , To Find , Formule Required , Solution .
 Modern Approach / Method : Usage of the Online Tools and the Techniques .
2. Steps involved in the Traditional Method / Approach & the Modern Method / Approach .
3. Assumptions involved in the Traditional Method / Approach & the Modern Method / Approach .
4. The probable sources / causes of the Errors for both the Traditional Method / Approach & the Modern Method / Approach .

V. CASE STUDY -

Sample Question : A firm XYZ is to make a choice between the two mutually exclusive projects A & B . The cost of the capital is 10 percent . Suggest which method should be taken up using the NPV & IRR method .

Year (S)	Project – A (Rs.)	Project-B (Rs.)
0	50,000	75,000
1	60,000	88,000

Traditional Approach / Method
 I Calculation of the NPV Method

Project	Project – A (Rs.)	Project-B (Rs.)
Present Value of the Cash Inflows	$60000 \times 0.909 = 54,540$	$88000 \times 0.909 = 79,990$
Initial Investment	50,000	75,000
Net Present Value	4,540	4,990

II Calculation of the IRR Method

Project	Project – A (Rs.)	Project-B (Rs.)
Initial Investment	60,000	88,000
Annual Average Cash Inflows	50,000	75,000
Internal Rate of Return	$(60,000 / 50,000) \times 100 = 120\%$	$(88,000 / 75,000) \times 100 = 85\%$

1. The NPV of Project B is greater than the NPV of Project A .
2. The IRR of Project A is greater than the IRR of Project B .

This obviously calls for the REJECTION of the project A and the ACCEPTANCE of the project B .(Projects with the less IRR & NPV less than ZERO should not be ACCEPTED).

Modern Approach / Method

I Net Present Value

<http://www.investopedia.com/calculator/netpresentvalue.aspx>

Present Value = 4,545.45 Present Value of Cash Flows = 54,545.45

Interpretation:

With a discount rate of 10.00% and a span of 1 years, your projected cash flows are worth \$54,545.45 today, which is greater than the initial \$50,000.00 paid. The resulting positive NPV of the above project is \$4,545.45, which indicates that pursuing the above project may be optimal.

Remember that even though a project offers a positive NPV, the projected cash flows are still

estimations. The accuracy of these projected figures depends on the skill and experience of the analyst, and likelihood of these cash flows materializing depends on the financial risk associated with the type of project being pursued.

II Internal Rate of Return

There is no option to calculate the Internal Rate of Return Through this Calculator .

Another Calculator – Both the results could be obtained on the same page with this Calculator .

I Both the NPV and the IRR could be obtained on the same page .

<http://www.datadynamica.com/irr.asp>

Project	Project – A (Rs.)	Project-B (Rs.)
Net Present Value	4545.45	4999.99
Internal Rate of Return	20%	17.33

VI. ANALYSIS (Based only upon the Survey) -

Although some of the online calculators are user friendly which do accept the Input Data and do provide the Instructions , Descriptions , Options and Assumptions as well .

Example : <http://www.ultimatecalculators.com/>

Sub-Example : Loan Calculator

Main Link : <http://www.ultimatecalculators.com/>

For Input Data : http://www.ultimatecalculators.com/loan_calculator.html

For Instruction , Descriptions , Options & Assumptions :

http://www.ultimatecalculators.com/ratio_description/loan_instructions.html

VII. DISCUSSIONS -

The various advantages and the dis-advantages that are explored out with this research are as mentioned below.

The sample was taken and solved for finding out the results both by the traditional method as well as by the modern method and the following observations were taken :

- No much variation in the results that were obtained.
- The results that were observed using the calculator were more easier , faster and accurate to the decimal points .
- More number of steps and tools were required to solve by the traditional method rather than the modern method .
- There are some errors which could occur in the traditional methods , but there could only be the data entry errors for the modern methods .

VIII. CONCLUSIONS -

1. Online Calculators makes the financial calculations faster .
2. These Calculators do also provide the financial concept of the computation .
3. These calculators do provide the users with the valuable information regarding the calculations .
4. These calculators do provide the easy to understand the information needed to increase the understanding of each of the mathematical concepts .
5. These online calculators do also help in taking the important decisions as well .
6. These calculators do also provide with the comfortable in-depth reports to make the important decisions also .
7. Each of the calculators do also provide with the formula as the relationship between the factors that affect the results .
8. Each calculator allows to understand the effects of each of the factors and exactly show how the changes will effect the outcome inorder to make the decisions .
9. These calculators provide the user with the clear understanding of the results for the effective decision making .
10. The users could test the effects of the changes and also optimise their decisions by isolating each of the variables within the formulae.
11. These calculators offer the user with the opportunity to improve their competencies and make a faster financial decision making .

IX. RECOMMENDATIONS -

So this could be concluded that online calculators / computations are at par and quite

suitable for the faster / accurate / ready to use calculation purposes .

X. FUTURE WORK -

I. Preparation of an Online-Questionnaire – An online questionnaire could be conducted and could be put up for an anonymous Online-Survey as the software for example - e-surveyspro.com provides the options of a weblink which could be either launched anonymously or directly to the recipients and then Comparing the traditional and the modern approaches.

II. For the purpose of high end data analysis , the descriptive statistics method could be employed after collecting the data through the above mentioned softwares .

To test the hypotheses regarding the qualitative data , the non-parametric test ,one -way CHI-SQUARE TEST and the parametric test SINGULAR T-TEST could be employed .

To compare the score averages, the FRIEDMAN TEST was used.

The chi-square test focusses on the testing the presence / absence of the direct relationship between the considered values.

The hypotheses could be considered as mentioned below:

H0:There is no direct relationship between the Independent Variable and the Dependent Variable .

H1:There is a direct relationship between the Independent Variable and the Dependent Variable .

In the Friedman's Test , when the significance level is less than the 0.05 (Test Level) , the null Hypotheses is rejected at this level .

III. Theoretical formulae could be developed into the fom of the mathematical terms to convert the same into the Online Calculators so that the proper results for the effective decision making could be obtained . The following could be one of the procedures for the construction of the Online Calculators .

IV. Online Tools that could be used are as mentioned below :

1.www.e-surveyspro.com

2.www.business-analysis-made-easy.com/NPV-Calculator.htm

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