

# Statistics and Analysis

Examples of types and methods used

2/15/2013

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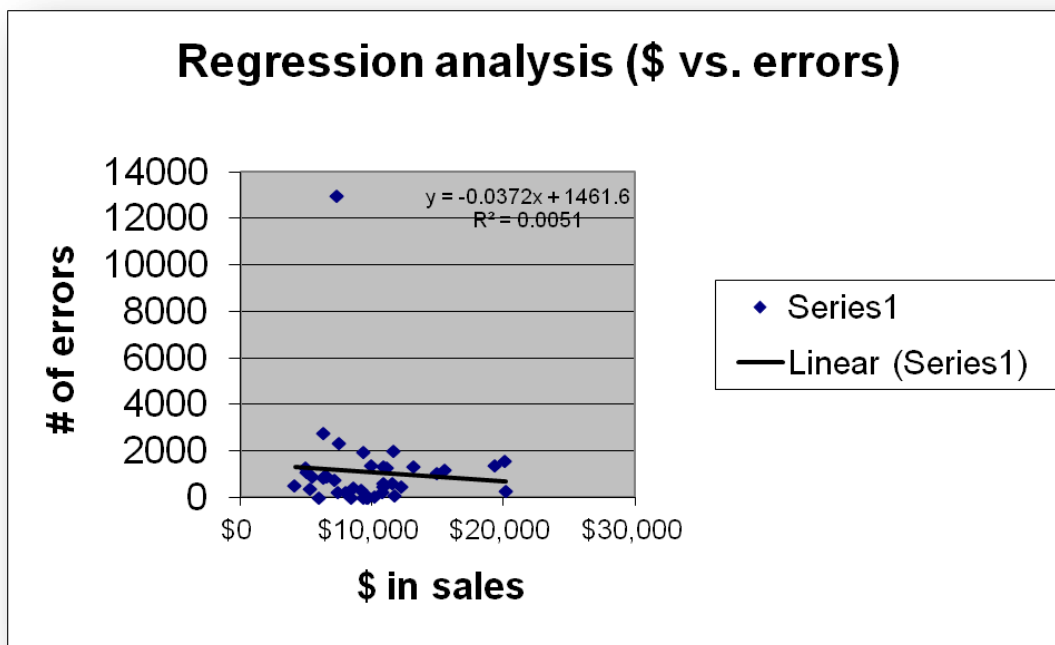
# Sample Statistics and Data Analysis Used

Source: Wikipedia [http://en.wikipedia.org/wiki/Predictive\\_analytics](http://en.wikipedia.org/wiki/Predictive_analytics)

## Regression Analysis

The focus lies on establishing a mathematical equation as a model to represent the interactions between the different variables in consideration.

**Use:** Find/establish root cause of sales variability in Best Buy Dot Com.



## Reporting, dashboards – Direct Marketing

*Predictive analytics can also help to identify the most effective combination of product versions, marketing material, communication channels and timing that should be used to target a given consumer.*

**Use:** Help Job seekers in transition identify best winning ‘marketing’ strategies.

**Use:** Guide executive decisions for Weimin Lu, CEO, Best Buy Dot Com.

Results Tracker – Problem Solver Job Search Strategy										
Activity	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Total
Advocating for others										
Linked IN										
Events										
Direct Mail										
Online Apps										
Relationship Reconnects (target co)										
Help Offers										
<b>Activity Results</b>										
Screening Interviews										
Hiring Manager Interviews										
Job offers										

Weekly Metrics Reporting Sheet							
Instructions: Weekly reporting of performance metrics and team activity for Best Buy Dot Com.							
Activity	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Expert Advisor # Problems							
Change Mgt # Changes							
ABT # Hours worked							
I Pro # Sales							
<b>ACTIVITY RESULTS</b>							
Keynote Performance							
Keynote # Errors							
Keynote Availability							

## Pivot Tables

*Pivot Tables (Crosstabs) allow a variety of data reporting and analysis.*

**Various Uses:** Tracking team performance, reporting on capital expenditures and more.

		INTERNET		L3_IOC	
	CLOSE_DATE	Count of PROBLEM_ID	Grand Total	Count of PROBLEM_ID	Grand Total
1					
2	<b>WHAT IS THE IMPACT OF THE INTERNET OPERATIONS GROUP?</b>				
3					
4	<b>EA Tickets to ISG before turnover</b>			<b>EA Tickets to ISG after turnover</b>	
5	Count of PROBLEM_ID			Count of PROBLEM_ID	
6	CLOSE_DATE				
7	12/22/1999	8	8	2	2
8	12/23/1999	3	3	2	2
9	12/27/1999	8	8	2	2
10	12/28/1999	4	4	3	3
11	12/29/1999	3	3	1	1
12	12/30/1999	2	2	1	1
13	12/31/1999	1	1	2	2
14	1/1/2000	3	3	2	2
15	1/2/2000	5	5	1	1
16	1/3/2000	13	13	3	3
17	1/4/2000	5	5	5	5
18	1/5/2000	6	6	3	3
19	1/6/2000	7	7	2	2
20	1/7/2000	5	5	2	2
21	1/10/2000	4	4	6	6
22	1/11/2000	2	2	1	1
23	1/12/2000	4	4	3	3
24	1/13/2000	1	1	1	1
25	1/14/2000	8	8		
26	1/16/2000	3	3		
27	<b>Grand Total</b>	<b>95</b>	<b>95</b>		

## Financial analysis

### Comparative analysis

Comparative Financial Statement analysis provides information to assess the direction of change in the business. Financial statements are presented as on a particular date for a particular period.

**Use:** Assist Business Owners to compare operational performance and trends.

Comparative Income Statement for the years ended 31st Dec 2008 & 31st Dec 2009

	31st Dec 2008	31st Dec 2009	Increase / (Decrease)	% of increase / (decrease)
Sales	\$7,000	\$9,000	\$2,000	28.57%
Less: Cost of goods sold	\$5,000	\$6,400	\$1,400	28.00%
Gross profit	\$2,000	\$2,600	\$600	30.00%
Less: Operating expenses				
General & administrative expenses	\$200	\$300	\$100	50.00%
Selling & distribution expenses	\$400	\$500	\$100	25.00%
Other operating expenses	\$100	\$150	\$50	50.00%
Operating profit	\$1,300	\$1,650	\$350	26.92%
Less: Interest expenses	\$300	\$400	\$100	33.33%
Net income before taxes	\$1,000	\$1,250	\$250	25.00%
Less: Taxes at 30%	\$300	\$375	\$75	25.00%
<b>Net Income after taxes</b>	<b>\$700</b>	<b>\$875</b>	<b>\$175</b>	<b>25.00%</b>

Comparative Balance Sheets as on 31st Dec 2008 & 31st Dec 2009

	31st Dec 2008	31st Dec 2009	Increase / (Decrease)	% of increase / (decrease)
<b>Current Assets:</b>				
Cash	\$500	\$600	\$100	20.00%
Accounts Receivables	\$2,000	\$3,000	\$1,000	50.00%
Inventory	\$1,500	\$2,500	\$1,000	66.67%
Total Current Assets	\$4,000	\$6,100	\$2,100	52.50%
<b>Fixed Assets:</b>				
Buildings	\$3,000	\$4,000	\$1,000	33.33%
Furnitures & office equipments	\$1,000	\$1,500	\$500	50.00%
Total Fixed Assets	\$4,000	\$5,500	\$1,500	37.50%
<b>Total Assets</b>	<b>\$8,000</b>	<b>\$11,600</b>	<b>\$3,600</b>	<b>45.00%</b>
<b>Liabilities:</b>				
<b>Current Liabilities:</b>				
Accounts Payable	\$1,000	\$1,200	\$200	20.00%
Notes Payable	\$500	\$500	\$0	0.00%
Interest Payable	\$100	\$120	\$20	20.00%
Total Current Liabilities	\$1,600	\$1,820	\$220	13.75%
<b>Shareholder's Equity:</b>				
Common Stock	\$5,000	\$7,500	\$2,500	50.00%
Retained earnings	\$1,400	\$2,280	\$880	62.86%
Total Stockholder's equity	\$6,400	\$9,780	\$3,380	52.81%
<b>Total Liabilities &amp; Stockholder's equity</b>	<b>\$8,000</b>	<b>\$11,600</b>	<b>\$3,600</b>	<b>45.00%</b>

Image source:

[http://www.tutorsonnet.com/homework\\_help/tools\\_of\\_financial\\_analysis/comparative\\_financial\\_statement\\_analysis\\_assignment\\_help\\_online\\_tutoring.htm](http://www.tutorsonnet.com/homework_help/tools_of_financial_analysis/comparative_financial_statement_analysis_assignment_help_online_tutoring.htm)

## Financial Ratios

Financial ratios generally hold no meaning unless they are compared against something else, like past performance, another company/competitor or industry average.

**Use:** Assist Business Owners to compare operational performance and trends.

**LEVERAGE RATIOS** Compare the company's debt load to its net worth.

**Debt Ratio:** A higher number means that the company is more leveraged.

$$\text{Debt Ratio} = \text{Total Liabilities} / \text{Total Assets}$$

**Debt-to-Equity Ratio:** It paints a useful picture of the company's liability position.

$$\text{Debt-to-Equity Ratio} = \text{Total Liabilities} / \text{Shareholder's Equity}$$

**PROFITABILITY RATIOS** show how well the company utilizes its resources to make profits

**Gross Margin:** The gross profit expressed as a percentage of sales.

$$\text{Gross Margin \%} = \text{Gross Income} / \text{Sales} \times 100$$

**Operating Margin:** The operating profit expressed as a percentage of sales.

$$\text{Operating Margin \%} = \text{Operating Income} / \text{Sales} \times 100$$

**Net Margin:** The net income expressed as a percentage of sales.

$$\text{Net Margin \%} = \text{Net Income} / \text{Sales} \times 100$$

**Return on Assets (ROA):** How well the company employs assets to create profits. Higher this return, more efficient is the management.

$$\text{Return on Assets \%} = \text{Net Income} / \text{Total Assets} \times 100$$

**Return on Equity (ROE):** How much the shareholders earned on their investment. A higher percentage is better.

$$\text{Return on Equity \%} = \text{Net Income} / \text{Total Equity} \times 100$$

Source: <http://www.independent-stock-investing.com/Financial-Ratios-2.html>

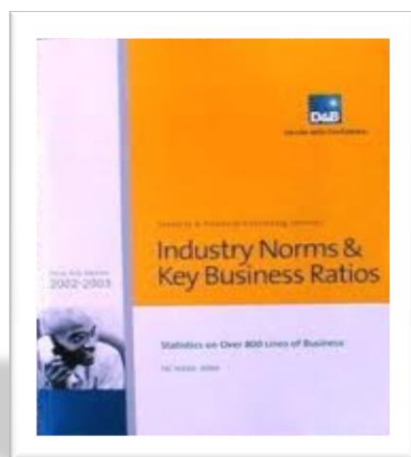


Image source: <http://ilstu.libguides.com/ratios>

## Investment analysis

Compares various investment decisions and determine best fit for a given portfolio such as 401k, Savings and stock investing. May include decisions such as risk / reward and financial analysis (above) Basic strategies are Fundamental (value) analysis and Technical Analysis (charting).

**Use:** Options trading, Stock investing, Portfolio management.

### 30 and 90 Day Moving Average

Used to determine 'channels' and breakouts – establishes bottom (buy) and top (sell) points.

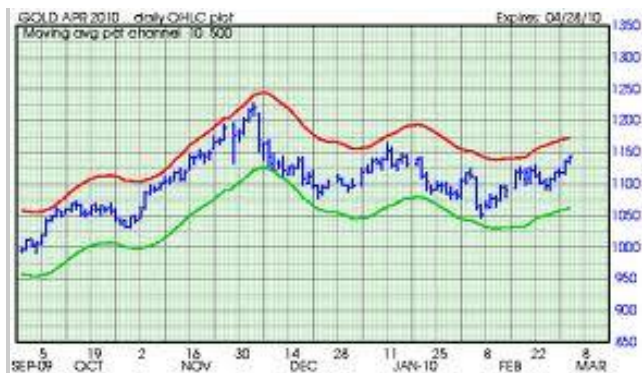


Image source: <http://www.barchart.com/education/studies.php?what=movave>

### Fibonacci Analysis

Fibonacci trading simply involves measuring swing highs and lows and attempting to forecast price reversals and continuations.



Image source: <http://fibonaccigenius.com/>

### Point and Figure Analysis

A Point and Figure chart is a study of pure price movement in that time is not taken into consideration while plotting the price action. Since only price changes are recorded, if no price change occurs then the chart is left untouched. Point & Figure charts use rising columns of X's and descending columns of O's to represent these price movements.

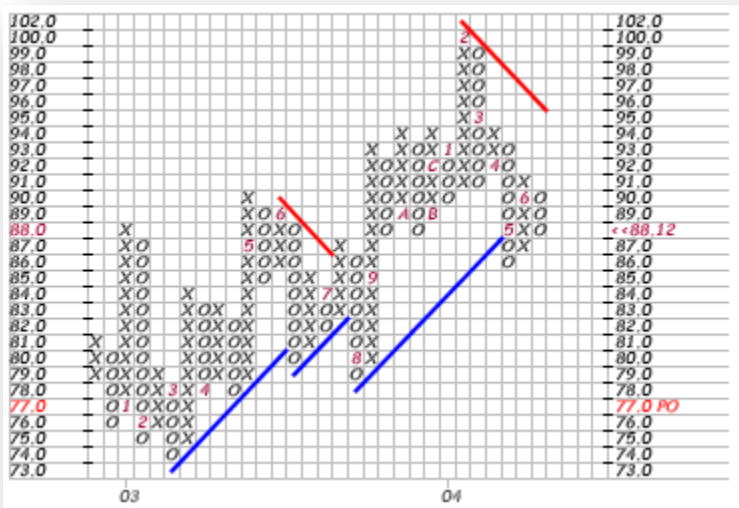


Image source: <http://support.stockcharts.com/entries/21293-Point-Figure-Charting-Workbench-User-Documentation>



## Secondary Mortgage/Note Buying

**Use:** Evaluate and analyze investment return on “Discounted Notes” on the secondary market. Used to analyze the time value of money. Did not include risk analysis.

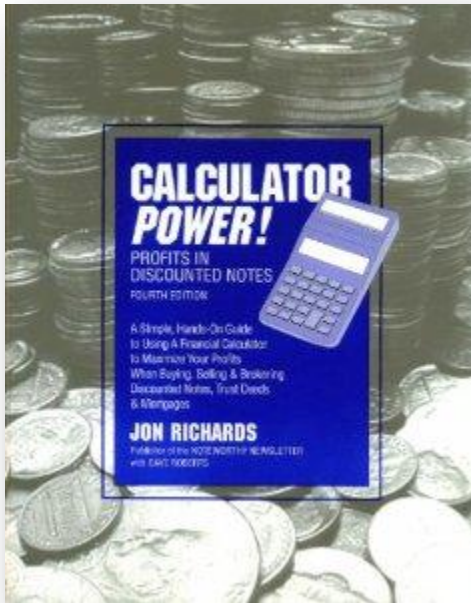


Image Source: <http://www.amazon.com/Calculator-Power-Profits-Discounted-Notes/dp/1885847033>

Variable	“N”	“I/Y”	“PV”	“FV”	“PMT”
Defined	Payments	Annual Interest	Present Value	Future Value	Payment amount
Note	360	9%	\$ 100,000.00		(\$804.62)
Offer	360	12%	\$78,224.07		(\$804.62)