



CORRELATION STUDY BETWEEN SENSEX AND NIFTY” AT INDIA INFOLINE LTD

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Abstract

The present project work has happened ventured to study on Correlation Study 'tween sensex and marvelous in India infoline Ltd Company. The patterns used to resolve factual prices and create finance resolutions come two very broad types: Fundamental Analysis and mechanics reasoning. In this place we have captured mechanics reasoning. Technical Analysis includes resolving the traits of a association so that estimate allure worth. Stock exchange and buyable without a prescription can take an entirely various approach; it doesn't care individual moment about the "profit" of a association or a merchandise. The main objective of the study to skill best we can resolve the stocks by utilizing mechanics study finishes. The project study captured the help of subordinate dossier by utilizing websites, manual books, papers etc. India Infoline Limited (IIL), organized in 18th October of the old age 1995 as Probity Research & Services Private Limited at Mumbai. The India Infoline group, composing the group which shares business interest, India Infoline Limited and allure exclusively-possessed something added, and contributions grazing from Equity research, Equities and products business, Commodities business, Portfolio Management Services, Mutual Funds, Life Insurance, Fixed deposits and additional limited harvests means to loan fruit and Investment investment. The overall project has likely an plan about by what method financier concede possibility take hints to better their property utilizing equating study 'tween sensex and marvelous

Keywords: Sensex, Nifty 50, Correlation Analysis, Stock Market, Equity Market, Market Index, Investment Analysis, India Infoline Ltd.

I. INTRODUCTION

Correlation is a mathematical measure that signifies the range at which point two or more variables change together. A certain equivalence signifies the magnitude at which point those variables increase or decrease in parallel; a negative equivalence signifies the range at which point individual changeable increases as the additional decreases. When the vacillation of individual changing dependably thinks a complementary vacillation in another changeable, skilled's frequently a leaning to contemplate that way that the change in individual causes the change in the added. However, equating does not indicate origin. There concede possibility be, for instance, an obscure determinant that influences two together variables likewise.

Here's individual model: A number of studies report a helpful equivalence middle from two points the amount of video youngsters watch and the probability that they will enhance bullies. Media inclusion frequently quotes aforementioned studies to imply that vigilant plenty station causes kids to enhance bullies. Types of Correlations: Correlations do a beneficial purpose in enumerations, cause they can specify the networks 'tween variables, in addition to interpreting the substance of their connection. For example, by utilizing two variables--felony and content of city field--an spectator can draw a equating middle from two points corruptions and by what method colonized an field is. From skilled, he take care of suppose that when communities increase so does the misdeed rate. Correlations can either make known



clearly or officially or negative, and various results believe the type of equivalence acted.

Research Objectives

The following are labeled as goals of the Project study.

To discover the connection 'tween sensex and Nifty Stock Indexes

To learn the point and route of the friendship middle from two points sensex and Nifty Stock Indexes

To accomplish significant ends on the friendship 'tween sensex and Nifty Stock Indexes

Research Methodology:

The research methods is a orderly habit to resolve the question and it is an main component of the study. Without research concede possibility not within financial means get basic facts and figures from the agents.

RESEARCH DESIGN:

A Research design is a type of vulgar print inclined on differing types of vulgar prints vacant for the group, calculation and reasoning of dossier. A research design entails cultivating ultimate enough plan of accumulation the wanted news. The design of a research study is established the purpose of the study. A research design is the requirements of systems and processes for taking the facts wanted. Research Design refers to "foundation or believe a study that guides the accumulation and reasoning of dossier". Sampling: An Integral component of a research design is the examining plan .particularly, it addresses three questions. Whom to survey (the sample whole) How many to survey (the sample intensity) How to select bureaucracy (the sipping processes)

Data and Sources :

The principles of main indications in the way that SENSEX & NIFTY of Indian stock markets are of Secondary in type; not generally inevitable. The reason for selecting duplicate they are main subscriber to the era to era business at the exchanges. Further the reason for selecting duplicate stock indications is they indicate the era to epoch business in the stock exchanges. To suggest these dossier are vacant for public use and these dossier maybe achieve by one at period. Month intelligent dossier is composed for this project. Sources for above noticed dossier are supplied hereunder. The profit of bigger index SENSEX is downloaded from the official site of Bombay Stock Exchange The profit of main index NIFTY is downloaded from the official site of National Stock Exchange of India Limited

II. REVIEW OF LITERATURE

Numerical Information Field Theory", is a flexible bibliotheca planned to allow the incident of signal deduction algorithms that use however the fundamental geographical gridiron and allure judgment.

Its thinking mainly about physical things foundation is inscribed in Python, even though it accesses book repositories composed in Cython, C++, and C for adeptness. Nifty Fifty was an casual term used to concern 50 favorite big-cap stocks on the New York Stock Exchange in the 1960s and 1970s that were widely respected as stable buy and hold development stocks. NIFTY wealth National Index for Fifty. The Nifty is an sign of all the bigger guests of the NSE. NIFTY resides of 50 guests from 24 various subdivisions India Index Services and Products Ltd. (IISL) possess NIFTY. IISL is a joint venture of NSE and CRISIL. CRISIL is a helpful of Standard and Poor (S&P). And so NIFTY is otherwise known as S&P CNX NIFTY...

III. DATA ANALYSIS & INTERPRETATION.



TABLE 3.1 SENSEX OF 1-Aug-25 TO 30-Aug-25

DATE	SENSEX		RETURNS	RET AVG	Ret-Ret Avg
	Close	Open			
30-Aug-25	18,619.72	18,424.72	1.0583607	0.2831205	1.341481264
29-Aug-25	18,401.04	18,073.66	1.8113653	0.2831205	2.094485769
28-Aug-25	17,996.15	17,851.44	0.8106349	0.2831205	1.093755384
27-Aug-25	17,968.08	18,460.72	-2.668585	0.2831205	-2.38546447
26-Aug-25	18,558.13	18,602.56	-0.238838	0.2831205	0.044282405
23-Aug-25	18,519.44	18,386.53	0.7228661	0.2831205	1.005986642
22-Aug-25	18,312.94	17,896.84	2.3249915	0.2831205	2.608111951
21-Aug-25	17,905.91	18,545.44	-3.448449	0.2831205	-3.16532828
20-Aug-25	18,246.04	18,142.83	0.5688749	0.2831205	0.851995367
19-Aug-25	18,307.52	18,587.38	-1.505645	0.2831205	-1.22252473
16-Aug-25	18,598.18	19,297.11	-3.621941	0.2831205	-3.33882082
14-Aug-25	19,367.59	19,299.42	0.3532231	0.2831205	0.63634355
13-Aug-25	19,229.84	18,895.26	1.7707086	0.2831205	2.053829133

Ret - Ret Avg(n)	Ret - Ret Avg(s)	nifty * sensx	N(Ret-Ret Avg) ²	S(Ret-Ret Avg) ²
1.436074953	1.341481264	1.926467643	2.062311271	1.799571982
1.986856922	2.094485769	4.161443548	3.947600428	4.386870637
1.231059888	1.093755384	1.346478381	1.515508448	1.19630084
-2.31637514	-2.38546447	5.525630596	5.363593789	5.690440738
-0.17035906	0.044282405	-0.007543909	0.029022209	0.001960931
1.038129208	1.005986642	1.044344116	1.077712253	1.012009124
2.624523537	2.608111951	6.845051203	6.888123796	6.802247949
-3.24656528	-3.16532828	10.27644489	10.54018612	10.01930312
1.142668069	0.851995367	0.973547901	1.305690316	0.725896105
-1.26007546	-1.22252473	1.540473412	1.587790165	1.494566715
-3.21730521	-3.33882082	10.74200562	10.35105281	11.14772447
0.716708222	0.63634355	0.456072654	0.513670675	0.404933114
2.014721041	2.053829133	4.137892769	4.059100873	4.218214108
0.34771408	0.537314651	0.18683187	0.120905081	0.288707034
1.255115253	0.829159789	1.040691098	1.575314298	0.687505956
-0.29816278	-0.21611905	0.064438657	0.088901043	0.046707444
-1.91903676	-1.77709772	3.410315851	3.682702086	3.158076306
0.298844594	0.305020525	0.091153735	0.089308091	0.093037521
-1.0087217	-0.93097983	0.939099557	1.017519468	0.866723444
-0.6030213	-0.36543229	0.220363455	0.363634688	0.133540759

$$COV(x, y) = \frac{\sum_{i=1}^n (x_i - \bar{x})(y_i - \bar{y})}{n-1}$$

$$= 54.92/20-1$$

$$\sigma = \sqrt{\frac{1}{N-1} \sum_{i=1}^N (x_i - \bar{x})^2}$$

$$= 54.92/19$$

$$= 2.89$$

$$\sigma_n = \sqrt{(1/20-1) (56.182)}$$

$$= \sqrt{1/19(56.182)}$$

$$= \sqrt{2.96}$$

$$\sigma_n = 1.72$$

$$\sigma_s = \sqrt{(1/20-1) (54.17)}$$

$$= \sqrt{1/19(54.17)}$$

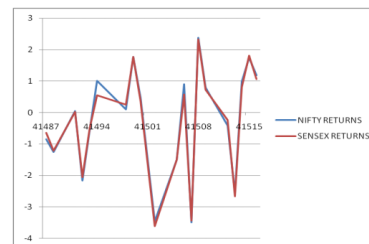
$$= \sqrt{2.85}$$

$$\sigma_s = 1.69$$

$$Correlation = \rho = \frac{cov(X, Y)}{\sigma_X \sigma_Y}$$

$$Correlation_{n,s} = 2.89/1.72*1.69$$

GRAPH.3.1:



INTERPRETATION:

1. On 22ndAug, 2025 maximal return worth of Nifty is 2.3784735 and hostile return that is, on 21stAug, 2025 is -3.492615.2. On 22ndAug, 2025 chief return worth of Sensex is 3249915 and hostile return that is, on 16th Aug, 2025 is -3.621941.
2. 3249915 and hostile return that is, on 16th Aug, 2025 is -3.621941.
3. From the same table in the Month of August Sensex returns are shortest when distinguished to Nifty returns.



TABLE 3.2 NIFTY OF 1-Jul-25 TO 31-Jul-25

DATE	NIFTY		RETURNS	Ret Avg	Ret - Ret Avg
	Close	Open			
31-Jul-25	5742	5738.35	0.0636071	-0.09692	0.1605236
30-Jul-25	5755.05	5836.05	-1.387925	-0.09692	-1.29100505
29-Jul-25	5831.65	5869.95	-0.652476	-0.09692	-0.55555575
26-Jul-25	5886.2	5937.95	-0.871513	-0.09692	-0.7745929
25-Jul-25	5907.5	5970.4	-1.053531	-0.09692	-0.95661075
24-Jul-25	5990.5	6032.2	-0.69129	-0.09692	-0.59437008
23-Jul-25	6077.8	6064.3	0.2226143	-0.09692	0.31953432
22-Jul-25	6031.8	6009.75	0.3669038	-0.09692	0.46382378
19-Jul-25	6029.2	6057.2	-0.46226	-0.09692	-0.36533979
18-Jul-25	6038.05	5984.7	0.8914398	-0.09692	0.98835984
17-Jul-25	5973.3	5972.25	0.0175813	-0.09692	0.11450131
16-Jul-25	5955.25	5930.8	0.4122547	-0.09692	0.50917467
15-Jul-25	6030.8	5991.2	0.6609694	-0.09692	0.75788942
12-Jul-25	6009	6000.5	0.1416549	-0.09692	0.23857486
11-Jul-25	5935.1	5894.5	0.6887777	-0.09692	0.78569767
10-Jul-25	5816.7	5869.9	-0.906319	-0.09692	-0.80939868
9-Jul-25	5859	5834.6	0.4181949	-0.09692	0.51511491
8-Jul-25	5811.55	5833.15	-0.370297	-0.09692	-0.27337735
5-Jul-25	5867.9	5889.95	-0.374367	-0.09692	-0.27744651
4-Jul-25	5836.95	5794.75	0.7282454	-0.09692	0.82516539

DATE	SENSEX		RETURNS	Ret Avg	Ret-Ret Avg
	Close	Open			
31-Jul-25	19,345.70	19,304.07	0.22	-0.08628	0.30
30-Jul-25	19,348.34	19,577.75	-1.17	-0.08628	-1.09
29-Jul-25	19,593.28	19,714.42	-0.61	-0.08628	-0.53
26-Jul-25	19,748.19	19,892.47	-0.73	-0.08628	-0.64
25-Jul-25	19,804.76	20,062.00	-1.28	-0.08628	-1.20
24-Jul-25	20,090.68	20,200.20	-0.54	-0.08628	-0.46
23-Jul-25	20,302.13	20,249.98	0.26	-0.08628	0.34
22-Jul-25	20,159.12	20,096.71	0.31	-0.08628	0.40
19-Jul-25	20,149.85	20,213.45	-0.31	-0.08628	-0.23
18-Jul-25	20,128.41	19,999.51	0.64	-0.08628	0.73
17-Jul-25	19,948.73	19,928.95	0.10	-0.08628	0.19
16-Jul-25	19,851.23	19,788.09	0.32	-0.08628	0.41
15-Jul-25	20,034.48	19,926.10	0.54	-0.08628	0.63
12-Jul-25	19,958.47	19,898.69	0.30	-0.08628	0.39
11-Jul-25	19,676.06	19,468.46	1.07	-0.08628	1.15
10-Jul-25	19,294.12	19,482.66	-0.97	-0.08628	-0.88
9-Jul-25	19,439.48	19,399.37	0.21	-0.08628	0.29
8-Jul-25	19,324.77	19,418.98	-0.49	-0.08628	-0.40
5-Jul-25	19,495.82	19,568.79	-0.37	-0.08628	-0.29

Ret - Ret Avg(n)	Ret-Ret Avg(s)	NIFTY* sensex	N(Ret-Ret Avg) ²	S(Ret-Ret Avg) ²
0.1605236	0.3	0.04815708	0.025767826	0.09
-1.29100505	-1.09	1.407195505	1.666694039	1.1881
-0.55555575	-0.53	0.294444548	0.308642191	0.2809
-0.7745929	-0.64	0.495739456	0.599994161	0.4096
-0.95661075	-1.2	1.1479329	0.915104127	1.44
-0.59437008	-0.46	0.273410237	0.353275792	0.2116
0.31953432	0.34	0.108641669	0.102102182	0.1156
0.46382378	0.4	0.185529512	0.215132499	0.16
-0.36533979	-0.23	0.084028152	0.133473162	0.0529
0.98835984	0.73	0.721502683	0.976855173	0.5329
0.11450131	0.19	0.021755249	0.01311055	0.0361
0.50917467	0.41	0.208761615	0.259258845	0.1681
0.75788942	0.63	0.477470335	0.574396373	0.3969
0.23857486	0.39	0.093044195	0.056917964	0.1521
0.78569767	1.15	0.903552321	0.617320829	1.3225
-0.80939868	-0.88	0.712270838	0.655126223	0.7744
0.51511491	0.29	0.149383324	0.265343371	0.0841
-0.27337735	-0.4	0.10935094	0.074735175	0.16
-0.27744651	-0.29	0.080459488	0.076976566	0.0841
0.82516539	0.89	0.734397197	0.680897921	0.7921
-0.60938339	-0.79	0.481412878	0.371348116	0.6241

$$\text{Covariance} = 10.428/23-1$$

$$= 10.428/22$$

$$\text{Covariance} = 0.474$$

$$\sigma_n = \sqrt{\left(\frac{1}{(23-1)}\right)(10.54)}$$

$$= \sqrt{(1/22)(10.54)}$$

$$= \sqrt{0.479}$$

$$\sigma_n = 0.692$$

$$\sigma_s = \sqrt{\left(\frac{1}{(23-1)}\right)(10.869)}$$

$$= \sqrt{(1/22)(10.869)}$$

$$= \sqrt{0.494}$$

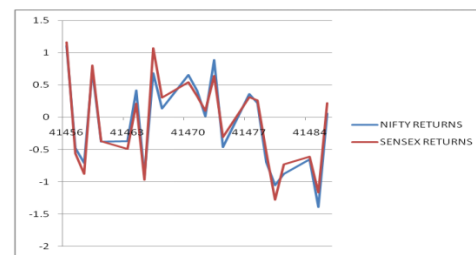
$$\sigma_s = 0.703$$

$$\text{Correlation}_{n,s} = 0.474/0.692 * 0.703$$

$$= 0.474/0.486$$

$$= 0.975$$

GRAPH:3.2:



INTERPRETATION:

1. On 1ST July, 2025 capital return worth of Nifty is 1.1098541 and hostile return that is, on 30th July, 2025 is -1.387925.
2. On 1st July, 2025 chief return profit of Sensex is 1.16 and hostile return that is, on 25th July, 2025 is -1.28.

From duplicate table in the Month of July Nifty returns are shortest when distinguished to Sensex returns.

IV. FINDINGS

On 22ndAug, 2025 chief return profit of Nifty is 2.3784735 and hostile return that is, on 21stAug, 2025 is -3.492615.

On 22ndAug, 2025 capital return advantage of Sensex is 2.3249915 and hostile return that is, on 16th Aug, 2025 is -3.621941.

From duplicate table in the Month of August Sensex returns are shortest when distinguished to Nifty returns.



On 1ST July, 2025 best return advantage of Nifty is 1.1098541 and rude return that is, on 30th July, 2025 is -1.387925.

On 1st July, 2025 capital return profit of Sensex is 1.16 and rude return that is, on 25th July, 2025 is -1.28.

From the same table in the Month of July Nifty returns are shortest when distinguished to Sensex returns.

On 28th June, 2025 topmost return worth of Nifty is 1.612314114 and hostile return that is, on 20th June, 2025 is -1.707463309.

On 28th June, 2025 capital return advantage of Sensex is 1.58501622 and rude return that is, on 20th June, 2025 is -1.834948503.

From duplicate table in the Month of June Sensex returns are shortest when distinguished to Nifty returns.

On 15th May, 2025 maximal return profit of Nifty is 2.124990654 and hostile return that is, on 13th May, 2025 is -1.930897642.

On 15th May, 2025 best return worth of Sensex is 2.095041059 and rude return that is, on 31st May, 2025 is -2

V. CONCLUSION

Here equating resources connection transport betwixt two or more variables. In this study we captured two variables BSE SENSEX and NASDAQ. In the temporal length of event or entity's existence of April the equating middle from two points BSE SENSEX and NASDAQ is 0.49. so skilled endures slight definite connection send as well dossier points are form as non uninterrupted building and tilts upwards towards right.

Remaining all the months skilled endures reduced equivalence, and in the months of july and grant permission skilled lies negative equating ie -0.17 and -0.69, so skilled lives powerful negative connection and so forth dossier points tilts earthward towards right.

There is an overall helpful in addition to negative equivalence of returns betwixt the BSE sensex and NASDAQ stock market, cause at a distance (12) period dossier calm (10) months have helpful equating and (2) months have negative equating on returns.

It shows that when BSE is growing NASDAQ is deteriorating and sin-versa cause fiscal organizations are the main financiers in BSE sensex. If we visualize the closing of two together BSE and NASDAQ it's in this manner.

BSE begun accompanying a closing of 13940.14 and NASDAQ begun accompanying a closing of 2422.41. By observing the closing of two together the stock markets we can suggest that increase and shift of finances is more in BSE when distinguished to NASDAQ.

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