

# Indian Investment Trends: Analysis and Portfolio optimization using excel

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**ABSTRACT-** Any type of investor's fundamental strategy is to manage and reduce risk while maximising earnings i.e., return. To manage risk, investors must have to diversify their investment portfolio. [1] Now decision regarding diversification need knowledge of different investment options and that too depends on how much weightage given to which portfolio. The proper evaluation of the performance of various investment options and their comparison with other investment options aids retail investors in making investment selections. In this research analysis we are mainly going to focus on understanding trends of investment in India, selection, and evaluation of mutual fund also equity evaluation by using sharpes ratio in excel. thereby showing that investment diversification by fund managers can reduce risk.

**KEY WORDS-** Mutual Fund, Investment, Portfolio evaluation, diversification

## I. INTRODUCTION

Recently, it has become clear that investment is now the foundation of any country trying to expand its economy; as a result, it is essential for the public to make wise investments and open their borders to foreign investors. [2] Investment, at its core, implies that return and risk are present on both sides of the transaction, not just that current funds are being invested for return. [2] And this differs depending on the investors preferences on how they want to save money now for the future. Sound capital formation is essential to a country's ability to produce.

The two key macroeconomic factors that have a significant impact on economic growth are a healthy savings rate and effective capital mobilisation. Another important element in the dynamic stability of the capital market is a nation's propensity for saving and investing. [3] In India, the previous ten years have seen an increase in per capita income. Savings and investment in the

nation increased along with PCI, which is a good sign.

Also, mutual fund investment market is growing exponentially in India because of high returns and can be started with as little as 500 Rs. There are up to 44 fund houses registered with the AMFI (Association of Mutual Funds in India), and these fund houses collectively provide more than 2,500 mutual fund programmes. [4] Investors frequently find it a little challenging to select the ideal plan for them due to the huge variety of funds available. To make this process simpler, here we have included the top 10 mutual fund companies in India as well as the 10 most popular mutual fund categories, including hybrid, debt, and equity funds.

Today's environment requires investments; generating money only from your principal source of income is not sufficient. People work hard to acquire money, but it might not be enough to live comfortably and accomplish future aspirations. You must also make your money work hard for you if you want to realise your dreams. The main justification for investing is a "missed opportunity exists when money is sitting in a bank account or locker." To maximise your earnings, you should make wise financial investments and hence we did portfolio optimization using excel and sharpes ratio is used to better understand how portfolio can be designed using this simple tools.

Investment in India is now seen more as a need than as a way of life for business people [1]. This analysis goal is to investigate how people invest their money today. The study's main goals are to comprehend people's saving and gauge their risk tolerance, and determine if they prioritise liquidity over long-term growth or high returns.

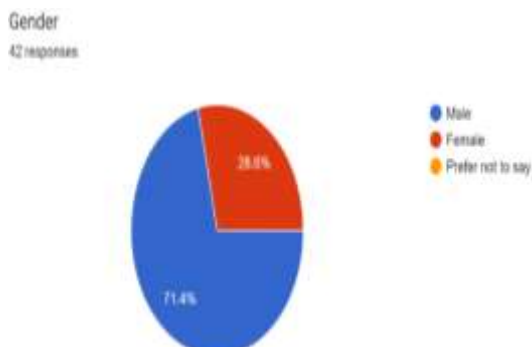
An organised survey with focused and limited questions covering queries on the savings and speculative behaviour among investor to better understand the trends. Most of the responders are somehow investing their money.

And lastly, we tried to analyse global financial market for and how covid and Ukraine war is manipulating investors investment decisions.

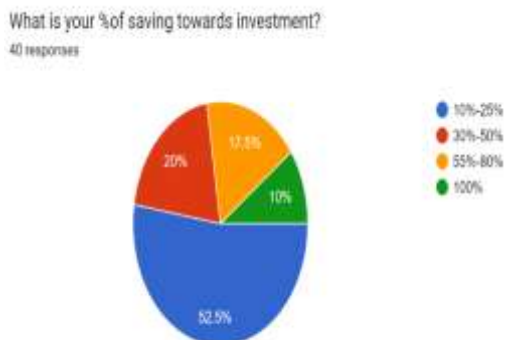
## II. RESEARCH ANALYSIS

The quantitative data was organised based on the configurations of individual reactions.

1. responders' gender- The distribution of young people by gender is shown in the table below. Male respondents make up 71.4 percent of the sample, while female respondents make up 28.6 percent.



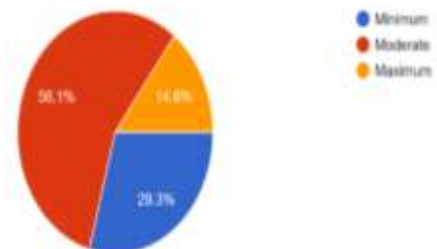
2. Income and investment- Survey data shows that 10 percent people wants to invest 100% of their total income and most of the people from this are having 2<sup>nd</sup> income as a prominent. 17.5% people wants to save up to 55%-80% who are having settled life with maximum risk-taking capacity. 20% people wants to save between 30% to 50%. And significantly, 52.5% people want to invest 10%-25% of their total income.



3. Anticipation of risk- According to the statistics below, 29.3% of respondents are conservative and wants minimum risk, and 56.1 respondents with moderate-risk investments here most of the investor are aware about risk and return, while only 14.6% are aware of high-risk investments. This indicates that respondents

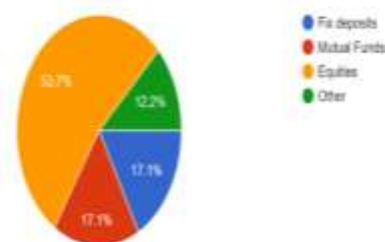
are aware of a variety of investment possibilities.

What is your anticipation of risk?  
41 responses



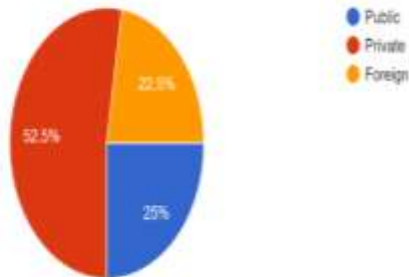
4. Preferred investment option –when respondents being asked as most popular investment instrument of themselves priority was given to equities, followed by mutual fund and bank savings / FD. The majority of the data sharing was made up of these three. While in other people also preferred to invest their money in Post office savings which is a verysmaller percentage, maybe because it offers lower returns than others. A smaller proportion for commodities and debentures may indicate that fewer people are aware of them.

What is your preferred investment vehicle?  
41 responses



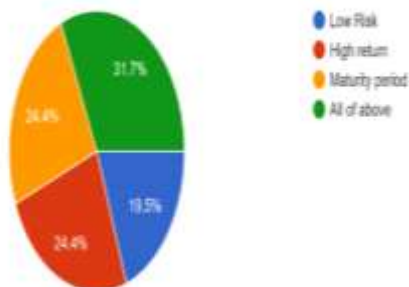
5. Sector preference- 25% investor wants to invest or already invested in public sector because of low risk while significantly, 52.5% investor wants to go with private sector because of moderate to high return. Also, few people are interested in foreignsector too because of high return.

What is your preferred investment sector?  
 40 responses



6. Variables Influencing Investment Decisions- When asked what factors influence their investment decisions, people usually want low risk, high return, and maturity period but 24.4 percent of respondents say return is the most crucial one. Return is followed by risk 24.4% and maturity period 24.4% in importance. This demonstrates that people are more interested in growth and will invest more in growth-oriented investment strategies in the future.

Which factor do you consider before investing?  
 41 responses



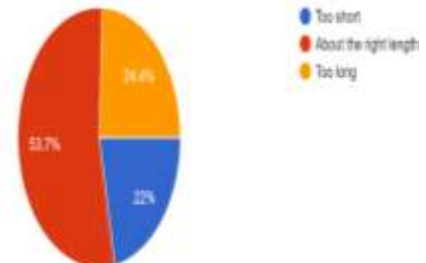
7. Savings towards investment- When asked about how much percentage of savings they generally invest annually, 52.5% of respondents approximately invest around 10-25%, followed by 20% of respondents in 30-50%. 4 people even answered 100% of their income goes in saving and the reason given is they are having other source of income too.

How much percentage of savings, you invested annually?  
 40 responses



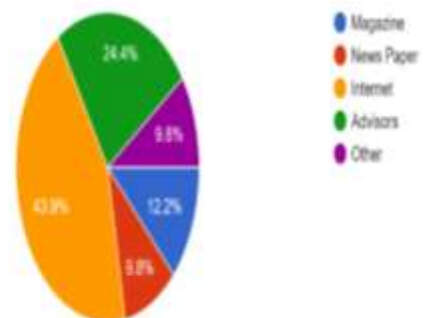
8. Preferred time frame- When questioned about the time frame they prefer before making investments, 53.7% investor choose to keep their investment for right length i.e., they are willing to use this fund to meet their short term financial goals or may want use this fund for any emergency. 24.4 percent of the respondents chose longer than a year, followed by 6 months to one year with 22 percent, which goes against the idea that young investors typically select for short-term gains.

What is your preferable period of investment?  
 41 responses



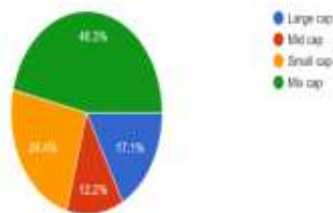
9. Source of information- According to the respondents, the internet is the most dependable source of investment information, followed by advisors and magazine.

What is your source of investment advice?  
 41 responses

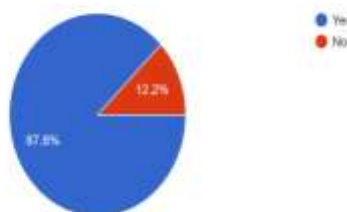


10. Preferred Mutual fund- When asked about preferred mutual fund 46.3% people interested in mix cap fund followed by small cap which is 24.4%.

Which mutual fund according to your financial goal do you prefer to invest in?  
 41 responses



Are you planning to save?  
 41 responses



Out of total respondent 87.5% people wants to save or planning to save. People are willing to know about the various options available for making investments. Previously investors had very less knowledge about the options available for investment.

We discovered through the research done for this study that the majority of individuals are willing to invest in private businesses sectors. People in households tend to pick investments with low risk and medium return because of their risk appetite is not that great. Increasing the number of investments in mutual funds people don't need to set aside time for manipulation their funds i.e., experts taking care of their invested fund and also, they have a medium interest rate and moderate risk. Because the majority of individuals lack financial advisors, they just distribute money for investments. The investment amount typically ranges from 10 to 25% of their income. The primary motivation for investing is return, and most people put their money in bank accounts because they receive principal, risk, and return security. Every time they can get a bigger return for a less investment, they take it. Most people have a fair awareness of high, medium, and low risk investing possibilities, according to our research, whereas before relatively few people were aware of

these options. Indeed, there has been a rise in financial literacy, and investors are becoming more informed and careful.

### III. OPTIMIZATION OF PORTFOLIO

After knowing investors mindset, it is very crucial for any investor to select best performing equities or mutual funds according to their need.

TABLE 1

	A	B	C	D	E	F
1			Monthly Prices			
2	Date	Sun Phar	L&T	ICICI	TATA M	Adani
3	01-08-2017	481.15	1136.30	298.05	376.55	127.05
4	01-09-2017	503.25	1142.05	276.60	401.50	152.80
5	01-10-2017	552.90	1222.30	300.10	428.40	208.00
6	01-11-2017	539.95	1216.55	307.55	404.15	183.70
7	01-12-2017	571.15	1258.25	314.00	431.85	224.15
8	01-01-2018	579.90	1416.50	352.95	399.50	208.90
9	01-02-2018	535.35	1318.15	313.25	369.90	203.00
10	01-03-2018	495.10	1310.90	278.35	326.85	193.70
11	01-04-2018	528.40	1400.90	284.20	340.40	168.60
12	01-05-2018	480.35	1370.40	285.80	282.50	136.05
13	01-06-2018	564.00	1275.10	275.40	269.30	156.15
14	01-07-2018	568.50	1302.30	304.25	264.10	169.85
15	01-08-2018	652.85	1369.55	342.60	267.50	228.90
16	01-09-2018	623.25	1272.10	305.55	223.70	160.40
17	01-10-2018	580.25	1297.50	355.00	179.10	166.45
18	01-11-2018	492.60	1432.50	355.15	171.95	225.10
19	01-12-2018	430.50	1437.55	360.15	172.70	198.40
20	01-01-2019	423.45	1314.30	364.45	181.20	213.40
21	01-02-2019	445.15	1292.95	350.15	177.45	203.85
22	01-03-2019	478.85	1385.30	400.50	174.25	217.40
23	01-04-2019	457.65	1348.55	407.50	214.30	219.05
24	01-05-2019	409.85	1557.55	423.70	172.60	235.90
25	01-06-2019	400.95	1553.20	437.10	162.55	224.15
26	01-07-2019	426.75	1387.30	424.60	135.60	207.35
27	01-08-2019	450.40	1328.25	409.65	116.70	234.15
28	01-09-2019	389.45	1474.25	433.70	117.45	228.60
29	01-10-2019	433.40	1473.05	463.05	177.70	274.10
30	01-11-2019	449.85	1330.55	512.60	161.50	310.15
31	01-12-2019	432.55	1298.20	538.90	185.15	331.40
32	01-01-2020	434.30	1369.30	525.65	176.60	332.10
33	01-02-2020	372.90	1187.55	497.25	128.95	251.90
34	01-03-2020	352.30	808.50	323.75	71.05	189.05
35	01-04-2020	464.45	897.55	380.15	93.25	206.85
36	01-05-2020	474.25	932.25	331.95	87.00	173.90
37	01-06-2020	472.95	943.65	351.45	98.25	260.20
38	01-07-2020	531.70	913.45	346.80	104.65	235.85
39	01-08-2020	520.25	944.95	394.60	143.20	253.30
40	01-09-2020	500.45	901.60	354.75	133.30	241.80
41	01-10-2020	465.75	929.50	392.60	132.65	290.15
42	01-11-2020	511.65	1122.40	473.35	180.35	376.30
43	01-12-2020	592.35	1287.60	535.05	183.85	437.50
44	01-01-2021	586.20	1334.70	537.00	262.70	460.15
45	01-02-2021	594.60	1442.50	597.75	322.95	750.00
46	01-03-2021	597.80	1418.90	582.10	301.80	908.40
47	01-04-2021	654.45	1340.45	600.50	293.85	1049.90
48	01-05-2021	668.30	1467.70	662.75	318.75	1473.60
49	01-06-2021	675.45	1500.55	630.90	339.60	1059.45
50	01-07-2021	773.95	1601.45	682.50	293.95	893.45
51	01-08-2021	794.05	1672.20	719.05	287.30	1580.60
52	01-09-2021	818.25	1702.95	700.85	333.35	1558.50
53	01-10-2021	795.00	1766.65	802.05	483.70	1767.40
54	01-11-2021	753.60	1764.75	714.35	458.60	1799.50
55	01-12-2021	845.70	1895.90	740.15	482.40	1740.85
56	01-01-2022	834.50	1909.20	788.80	517.75	1970.90
57	01-02-2022	843.90	1816.75	742.70	454.05	2134.40
58	01-03-2022	914.75	1767.65	730.30	433.75	2368.15
59	01-04-2022	928.65	1694.35	743.30	437.60	2789.50
60	01-05-2022	860.60	1654.50	752.85	443.55	2055.00
61	01-06-2022	830.60	1558.25	707.20	411.80	2473.65
62	01-07-2022	967.70	1627.45	765.70	441.65	2645.90

Also giving right weightage to right equity will decide the performance of portfolio. Hence optimization of portfolio needs to be done. Here we have chosen five best stocks namely Sun pharma, L&T, ICICI, Tata Motors, Adani transmission for the demonstration of portfolio optimization. We have used advance excel to calculate risk and return. Sharpe's ratio is being for calculation. Historical data from 1/08/2017 to 1/07/2022 is being considered to evaluate performance of that particular stocks. By analysing historical data we get clear idea about performance of firm in past 5 years to exactly evaluate risk and return.

You won't always be able to forecast how much money you'll make—or whether you'll make any at all—because investing involves risks, as was already discussed. After all, there are market forces at work that can affect the performance of any asset. These forces range from economic causes to political pressures to market sentiment and even business actions. However, it doesn't follow that you shouldn't calculate the numbers.

Calculating the returns on individual assets can be time-consuming, particularly if your money is dispersed over several different investment vehicles managed by different companies and organisations.

The risk tolerance and time horizon of the investor affect the portfolio's return on investment. For instance, a retiree might choose to invest in more reliable assets like bonds. As opposed to a retiree, a person in their 30s may choose to invest in more stocks because they have a longer time horizon to make up for weak markets and a higher risk tolerance.

The performance of an equity portfolio should be compared to that of the S&P 500 index, and that of a bond portfolio should be compared to the performance of the bond market.

Return is being calculated from Table no. 1 by using formula  $((\text{This month price} / \text{previous month price}) - 1) * 100$  i.e., in excel we have used this formula  $=(B4/B3)-1) * 100$ .

TABLE 2

I	J	K	L	M
Sun Pha	L&T	Returns ICICI	TATA Mo	Adani
100	0.506	-7.1968	6.6259	20.268
9.8659	7.0268	8.496	6.6999	36.126
-2.3422	-0.4704	2.4825	-5.6606	-11.683
5.7783	3.4277	2.0972	6.8539	22.02
1.532	12.577	12.404	-7.491	-6.8035
-7.6824	-6.9432	-11.248	-7.4093	-2.8243
-7.5184	-0.55	-11.141	-11.638	-4.5813
6.7259	6.8655	2.1017	4.1456	-12.958
-9.0935	-2.1772	0.563	-17.009	-19.306
17.414	-6.9542	-3.6389	-4.6726	14.774
0.7979	2.1332	10.476	-1.9309	8.7736
14.837	5.1639	12.605	-1.274	34.766
-4.534	-7.1155	-10.814	-16.374	-29.926
-6.8993	1.9967	16.184	-19.937	3.7718
-15.106	10.405	0.0423	-3.9922	35.236
-12.607	0.3525	1.4079	0.4362	-11.861
-1.6376	-8.5736	1.194	4.9218	7.5605
5.1246	-1.6244	-3.9237	-2.0695	-4.4752
7.5705	7.1426	14.38	-1.8033	6.647
-4.4273	-2.6529	1.7478	22.984	0.759
-10.445	15.498	3.9755	-19.459	7.6923
-2.1715	-0.2793	3.1626	-5.8227	-4.9809
6.4347	-10.681	-2.8598	-16.58	7.495
5.5419	-4.2565	-3.521	-13.938	12.925
-13.532	10.992	5.8709	0.6427	-2.3703
11.285	-0.0814	6.7673	51.298	19.904
3.7956	-9.6738	10.701	-9.1165	13.152
-3.8457	-2.4313	5.1307	14.644	6.8515
0.4046	5.4768	-2.4587	-4.6179	0.2112
-14.138	-13.273	-5.4028	-26.982	-24.149
-5.5243	-31.919	-34.892	-44.901	-24.95
31.834	11.014	17.421	31.246	9.4155
2.11	3.8661	-12.679	-6.7024	-15.929
-0.2741	1.2229	5.8744	12.931	49.626
12.422	-3.2003	-1.3231	6.514	-9.3582
-2.1535	3.4485	13.783	36.837	7.3988
-3.8059	-4.5875	-10.099	-6.9134	-4.5401
-6.9338	3.0945	10.669	-0.4876	19.996
9.8551	20.753	20.568	35.959	29.692
15.772	14.718	13.035	1.9407	16.264
-1.0382	3.658	0.3645	42.888	5.1771
1.433	8.0767	11.313	22.935	62.99
0.5382	-1.636	-2.6182	-6.549	21.12
9.4764	-5.5289	3.161	-2.6342	15.577
2.1163	9.4931	10.366	8.4737	40.356
1.0699	2.2382	-4.8057	6.5412	-28.105
14.583	6.7242	8.1788	-13.442	-15.669
2.5971	4.4179	5.3553	-2.2623	76.91
3.0477	1.8389	-2.5311	16.029	-1.3982
-2.8414	3.7406	14.44	45.103	13.404
-5.2076	-0.1075	-10.934	-5.1892	1.8162
12.221	7.4316	3.6117	5.1897	-3.2592
-1.3243	0.7015	6.573	7.3279	13.215
1.1264	-4.8423	-5.8443	-12.303	8.2957
8.3955	-2.7026	-1.6696	-4.4709	10.952
1.5195	-4.1468	1.7801	0.8876	17.792
-7.3278	-2.3519	1.2848	1.3597	-26.331
-3.4859	-5.8175	-6.0636	-7.1582	20.372
3.2627	8.2913	6.858	7.2244	2.9208

After this we have calculated Average Monthly return by Average function in excel and Monthly variance by variance function of excel. Now annual variance is nothing = (Monthly variance\*12)

TABLE 3

P	Q	R	S	T	U
Statistics					
	Sun Phar	L&T	ICICI	TATA Mo	Adani
Average Monthly return	1.34214	1.01212	2.04677	1.70185	7.14869
Monthly variance	75.6531	65.3967	87.8063	305.518	444.126
Annual Return	16.1057	12.1454	24.5613	20.4222	85.7842
Annual Variance	907.838	784.76	1053.68	3666.21	5319.51
Std Dev	30.1303	28.0136	32.4604	60.5492	73.0035

After this Excess return is being calculated by this formula (Monthly return – average monthly return).

**TABLE 4**

Y	Z	AA	AB	AC
Excess return				
Sun Pha	L&T	ICICI	TATA Mo	Adani
3.251	-0.5061	-9.2435	4.9241	13.119
8.5237	6.0147	6.4492	4.998	28.977
-3.6843	-1.4825	0.4357	-7.3624	-18.831
4.4362	2.4156	0.0505	5.152	14.871
0.1899	11.565	10.358	-9.1929	-13.952
-9.0245	-7.9553	-13.295	-9.1111	-9.973
-8.8606	-1.5621	-13.188	-13.34	-11.73
5.3838	5.8534	0.0549	2.4438	-20.107
-10.436	-3.1893	-1.4838	-18.711	-26.455
16.072	-7.9663	-5.6857	-6.3744	7.6253
-0.5443	1.1211	8.4289	-3.6328	1.6249
13.495	4.1518	10.558	-0.4145	27.617
-5.8761	-8.1276	-12.861	-18.076	-37.074
-8.2415	0.9846	14.137	-21.639	-3.3769
-16.448	9.3925	-2.0045	-5.694	28.087
-13.949	-0.6596	-0.6389	-1.2657	-19.01
-2.9798	-9.5857	-0.8528	3.22	0.4118
3.7824	-2.6366	-5.9705	-3.7714	-11.624
6.2283	6.1305	12.333	-3.5052	-0.5016
-5.7694	-3.665	-0.299	21.282	-6.3897
-11.787	14.486	1.9287	-21.161	0.5436
-3.5137	-1.2914	1.1158	-7.5246	-12.13
5.0926	-11.693	-4.9065	-18.281	-14.644
4.1997	-5.2686	-5.5677	-15.64	5.7763
-14.875	9.9798	3.8241	-1.0592	-9.519
9.943	-1.0935	4.7206	49.597	12.755
2.4534	-10.686	8.654	-10.818	6.0034
-5.1879	-3.4435	3.0839	12.942	-0.2972
-0.9376	4.4647	-4.5055	-6.3197	-6.9375
-15.48	-14.285	-7.4496	-28.684	-31.298
-6.8664	-32.931	-36.939	-46.603	-32.099
30.492	10.002	15.374	29.544	2.2668
0.7679	2.854	-14.726	-8.4043	-23.078
-1.6163	0.2107	3.8276	11.229	42.478
11.08	-4.2125	-3.3699	4.8122	-16.507
-3.4956	2.4363	11.736	35.135	0.2501
-5.148	-5.5997	-12.146	-8.6153	-11.689
-8.2759	2.0824	8.6227	-2.1895	12.847
8.5129	19.741	18.521	34.257	22.543
14.43	13.706	10.988	0.2388	9.1149
-2.3804	2.6458	-1.6823	41.186	-1.9715
0.0908	7.0646	9.2661	21.233	55.842
-0.804	-2.6482	-4.6649	-8.2509	13.971
8.1343	-6.5411	1.1142	-4.336	8.4282
0.7741	8.481	8.3196	6.7719	33.208
-0.2723	1.2261	-6.8525	4.8393	-35.253
13.241	5.7121	6.132	-15.144	-22.817
1.2549	3.4058	3.3085	-3.9641	69.761
1.7055	0.8268	-4.5779	14.327	-8.5469
-4.1836	2.7285	12.393	43.401	6.2552
-6.5497	-1.1197	-12.981	-6.891	-5.3325
10.879	6.4195	1.5649	3.4879	-10.408
-2.6665	-0.3106	4.5262	5.6261	6.0661
-0.2157	-5.8545	-7.8911	-14.005	1.147
7.0534	-3.7147	-3.7164	-6.1727	3.8029
0.1774	-5.1589	-0.2667	-0.8142	10.644
-8.67	-3.3641	-0.762	-0.3422	-33.48
-4.8281	-6.8296	-8.1104	-8.86	13.224
1.9206	7.2792	4.8113	5.5225	-4.2279
-1.3421	-1.0121	-2.0468	-1.7018	-7.1487

from now and on whenever we multiply matrix we hold down control shift in our keyboard and then press enter if you do not do this excel will give you error message now note that the excess return matrix has 59 rows and 5 columns or 59 by 5 matrix using Mmult and transpose function we will multiply transpose of excess return and excess return matrix to do so select the entire range which is 5x5 area formula will look like this =MMULT(TRANSPOSE(Y3:AC62),Y3:AC62)\*1/58. the diagonal elements of the variance covariance matrix are the variances now to check if your calculation is right check the yellow

highlighted numbers are equal to the annual variance.

**TABLE 5**

AE	AF	AG	AH	AI	AJ
Variance-Covariance Matrix					
Sun Pha	L&T	ICICI	TATA Mo	Adani	
Sun Pha	908.21	191.11	317.102	559.883	493.055
L&T	191.11	784.972	637.432	773.291	721.701
ICICI	317.102	637.432	1054.54	1042.35	1039.95
TATA Mo	559.883	773.291	1042.35	3666.81	1567.4
Adani	493.055	721.701	1039.95	1567.4	5340.08

Now its time to do the optimization of portfolio for this we have to consider today's risk free rate based on 10-year treasury yield is 7.4%. we now assume that we are going to invest equal amount of money for each of the five stocks that means weight of each stock is 20% the sum should be one.

**TABLE 6**

	Equally weighted portfolio
Sun Pha	0.2
L&T	0.2
ICICI	0.2
TATA Mo	0.2
Adani	0.2
Sum	1

Expected return 31.80375801  
Risk 32.52147273  
Sharpe's ratio 0.975655631

Here we have calculated expected return using matrix formula i.e.,  $M \cdot w$  where M is the matrix of annual returns and w is the weight matrix from column to row. Then holding down the control and shift press enter.

=MMULT(TRANSPOSE(AF22:AF26),AF13:AF17)

calculate risk or standard deviation using matrix formula again

=SQRT(MMULT(MMULT(TRANSPOSE(AF22:AF26),AF3:AJ7),AF22:AF26))

now calculate sharp ratio as ((expected return - risk-free rate)/risk) so in an equally weighted portfolio our sharpes ratio is 0.97 is it the optimal portfolio where you have maximized the return and minimize the risk maybe or maybe not to find our optimal portfolio, we'll try to maximize the sharp ratio using a solver. In solver set objective

as our sharp ratio and select max function now select changing variable cells add the constraints our sum should always be one because you cannot invest more money than you have now make sure that the non-negative option is checked what it means is that we are not allowing any short sale finally press solve and click ok to keep the results.

**TABLE 7**

	Optimally weighted portfolio
Sun Phar	0.26
L&T	0.00
ICICI	0.25
TATA Mo	0.00
Adani	0.49
Sum	1.00
Expected return	52.09
Risk	42.57
Sharpe ratio	1.22

You see that your sharp ratio is way better than that of the equally weighted portfolio similarly, the return is better as well but the solver recommends you invest only Adani, ICICI and sun pharma stock however, we can add one or more restrictions in the solver if we like solver to give positive weight to all the stocks we can try different combinations and see what the results are in conclusion if we agree with the result in order to optimize our portfolio we only invest 49% in Adani, 25% in ICICI and 24% in Sun pharma for the rest of the stocks we do not invest in this way we can easily optimize our portfolio with any manual error.

**IV. MUTUAL FUND ANALYSIS**

**a. Introduction about mutual funds**

A mutual fund is a type of investment vehicle that collects money from numerous participants and invests it in a variety of asset types, including gold, foreign securities, debt, and equity [2]. In India, mutual funds are getting more and more popular because of all the advantages they offer. Mutual funds have a strong track record of generating returns that are superior to those of traditional investment products. With as little as Rs. 500, investors can use mutual funds to build diversified investment portfolios.

The expert management of funds is yet another quality that attracts investors to mutual

funds. A fund manager, a professional with extensive experience in the financial field, is responsible for managing a mutual fund. This gives investors reassurance that their money is in trustworthy hands. The fact that mutual funds are governed by the capital markets regulators SEBI (Securities and Exchange Board of India) and AMFI (Association of Mutual Funds in India) is another factor that increases investors' confidence in them.

In India, the mutual fund market is expanding at an exponential rate. As of February 28, 2019, the Indian mutual fund sector had an average asset under management (AAUM) of Rs. 23.16 trillion [2]. On February 28, 2009, the industry's AUM was Rs. 5.09 trillion, meaning that during the previous ten years, it had grown by more than four and a half times [2].

There are up to 44 fund houses registered with the AMFI (Association of Mutual Funds in India), and these fund houses collectively provide more than 2,500 mutual fund programmes. Investors frequently find it a little challenging to select the ideal plan for them due to the huge variety of funds available. To make this process simpler, I have included the top 10 mutual fund companies in India as well as the ten most popular mutual fund categories, including hybrid, debt, and equity funds.

**b. How to wisely select the mutual fund**

A long-lasting structure needs a clever plan, a solid foundation, and a straightforward mix of mutual funds that suit your requirements.

- A portfolio with a variety of mutual fund in it will be more balanced.
- The type of funds you select will depend on your risk tolerance.
- Maintaining a long-term perspective is always a wise move.

Prior to choosing their investments, clients must be fully aware of the level of risk they are willing to assume. Their risk tolerance determines how much variance (also known as volatility ups and downs) or market risk they can tolerate.

Once you have determined your level of risk tolerance, now decide based on your asset allocation, or the combination of financial assets stocks, bonds, and cash that comprise your portfolio. The optimal asset allocation will take into account your level of risk tolerance, which might be aggressive (high tolerance for risk), moderate (medium tolerance for risk), or conservative (low-risk tolerance). If your risk tolerance is higher, your portfolio will contain more stocks relative to bonds and cash; on the other hand, if your risk tolerance is

lower, you will have less stocks relative to bonds and cash.

For people new to equity mutual funds, aggressive hybrid schemes also known as former balanced schemes or equity-oriented hybrid schemes are the best option. These programmes invest in a combination of loan and equity (65-80%). They are seen as being significantly less volatile than pure equities schemes because of their hybrid portfolio. The greatest investment vehicle for extremely cautious stock investors seeking to build long-term wealth without a lot of volatility is aggressive hybrid schemes.

With an intention to diversify our holdings we tend to invest in different mutual funds schemes. But mutual fund schemes might invest in same stock so there is mutual fund overlap or stock overlap.

a. **Mutual fund portfolio overlap-** It happens when you invest in two or more different mutual fund schemes but these schemes finally end up in investing in same stock. For e.g., here we are considering Axis bluechip fund and canara roboeco blue chip equity fund both are large cap fund. After comparing it side by side we have following results. 70.7% stocks are common with axis blue chip fund and canara roboeco blue chip fund. Total 26 stocks are common in both stocks. So by using this we can easily diversify our portfolio and to choose correct one can take important decision while investing in mutual fund.

Fig. 1 [5]

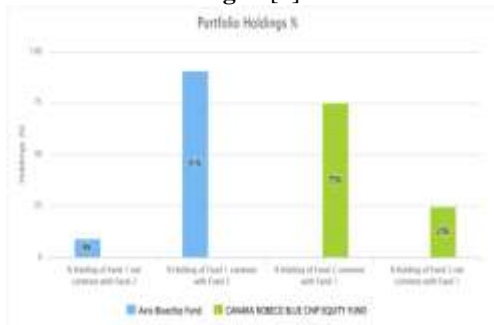


TABLE 8 [4]

Particulars	This Scheme	Category
No. of Stocks	54	47.54
Top 5 Stock Weight	35.16%	30.29%
Top 10 Stock Weight	48.57%	47.8%
Top 3 Sector Weight	45.92%	38.88%

Fig. 2 [5]



I have chosen 10 schemes from five different equity mutual fund categories – aggressive hybrid, large cap, mid cap, small cap and flexi cap schemes which I believe should be enough for regular mutual fund investors.

1. DSP tax saver Fund
2. Franklin India feeder franklin US opportunity fund
3. Nippon India value Fund
4. Canara roboeco emerging equity fund
5. ICICI prudential liquid fund
6. HDFC floating rate debt wholesale plan
7. Aditya birla sun life saving fund
8. Parag parikh flexi cap fund
9. HDFC overnight fund
10. Aditya birla sun life money manager fund

Side by side we have provided analysis of these mutual fund schemes which gives actual idea about which company have how much weightage in this scheme. Here I am demonstrating only for our first mutual fund which is DSP tax saver Fund. We can directly get this information on official sites of mutual fund India official site.



TABLE 9 [4]

Particulars	This Scheme	Category
Average mcap (Cr)	108944.59	142455.46
Holdings in large cap stocks	57.92% (20)	51.47%
Holdings in mid cap stocks	17.44% (15)	13.18%
Holdings in small cap stocks	8.49% (11)	17.73%

TABLE 10 [4]

Period Invested for	₹10000 Invested on	Latest Value	Absolute Returns	Annualised Returns	Category Avg	Rank within Category
1 Week	07-Jul-22	9971.50	-0.29%	-	-0.56%	18/58
1 Month	14-Jun-22	10351.80	3.52%	-	2.95%	15/58
3 Month	13-Apr-22	9193.10	-8.07%	-	-8.54%	26/58
6 Month	14-Jan-22	8873.90	-11.26%	-	-12.71%	20/58
YTD	31-Dec-21	9366.30	-6.34%	-	-8.74%	15/58
1 Year	14-Jul-21	9914.60	-0.85%	-0.85%	0.36%	39/58
2 Year	14-Jul-20	16419.90	64.20%	28.14%	29.55%	26/58
3 Year	12-Jul-19	15607.00	56.07%	15.95%	15.54%	20/56
5 Year	14-Jul-17	17179.90	71.80%	11.42%	9.73%	11/46
10 Year	13-Jul-12	46961.40	369.61%	16.71%	14.15%	4/28
Since Inception	18-Jan-07	75187.00	651.57%	13.90%	12.91%	20/56

TOP 10 STOCKS HOLDING IN PORTFOLIO (as on 30th Jun, 2022)

Stock Invested in	Sector	Value(Mn)	% of Total Holdings	1M Change	1Y Highest Holding	1Y Lowest Holding	Quantity	1M Change in Qty
ICICI Bank Ltd.	Banks	8708.8	9.58%	-0.18%	10.26% (Oct 2021)	8.53% (Jan 2021)	1.23 Cr	0.00
HDFC Bank Ltd.	Banks	7445.8	8.19%	0.12%	8.19% (Jan 2022)	5.92% (Jan 2021)	55.24 L	0.00
Infosys Ltd.	Computers - software	6701.7	7.37%	0.12%	8.49% (Mar 2022)	5.76% (Oct 2021)	45.84 L	0.00
State Bank Of India	Banks	4918.9	5.41%	0.21%	5.41% (Jan 2022)	3.21% (Nov 2021)	1.06 Cr	0.00
Axis Bank Ltd.	Banks	4190.7	4.61%	-1.22%	6.67% (Mar 2022)	4.03% (Jul 2021)	65.81 L	-0.15 Cr
SBI Life Insurance Co Ltd.	Insurance	2716.6	2.99%	-0.11%	3.1% (Mar 2022)	1.46% (Jul 2021)	25.12 L	0.00
National Thermal Power Corporation Ltd.	Power	2441	2.68%	0.12%	2.77% (Apr 2022)	1.57% (Aug 2021)	1.71 Cr	14.69 L
Bharti Airtel Ltd.	Telecom - services	2412.8	2.65%	0.05%	3.62% (Jul 2021)	2.57% (Feb 2022)	35.23 L	0.00
Sun Pharmaceutical Industries Ltd.	Pharmaceuticals	2359.1	2.59%	0.02%	2.64% (Apr 2022)	1.26% (Aug 2021)	28.40 L	0.00
HCL Technologies Limited	Computers - software	2271.7	2.50%	-0.06%	3.58% (Dec 2021)	1.56% (Jul 2021)	23.34 L	0.00

From the above information we can easily evaluate number of questions like Number of stocks in mutual fund, how much is allotted to top 3, Top 5 stocks and What is weightage for top 3 sector. Also, we will get clear idea about how much holdings in large cap, mid cap or in small cap at one place. We can evaluate performance for week or for a month or for a year

V. CONCLUSION

Here we have successfully demonstrated that how investment trends and investors mindset affect investment decisions. One of the important aspects of this research was to optimize the portfolio and help investor to find out right schemes for him I called this process as KYS i.e.,

Know yourself. Investor's financial goal decide about how to invest and where to invest. One right decision help investor to achieve their desired goals.

It has been discovered that if an investor doesn't understand the mutual fund investing elements from various time perspectives, they may choose to invest during the wrong time period, which will prevent them from taking advantage of the potential to earn a return. When a shareholder/saver lacks access to adequate knowledge, data, an investment environment, services, and risk acceptance intensity, the need for mutual funds becomes even more pressing. This research is essential to assist investors who prefer to put

money into mutual funds rather than individual securities like equity shares and debentures.

### REFERENCES

- [1]. K. C. D. R. S. Manisha Tyagi, "Investment Pattern of Youth in India," in International journal of scientific reserch in engineering and management, Mysore, 2021.
- [2]. Paisabazaar, Paisabazaar, [Online]. Available: <https://www.paisabazaar.com/mutual-funds/mutual-funds-in-india/#:~:text=There%20are%20as%20many%20as,than%202%2C500%20mutual%20fund%20schemes..> [Accessed 1 08 2022].
- [3]. S. G. Badrinath, "Thus conditional mutual fund out performance exist?," Mnagerial Finance, pp. 1160-1183, 2012.
- [4]. mutual fund india, mutual fund india, [Online]. Available: [mutualfundindia.com](http://mutualfundindia.com). [Accessed 25 7 2022].
- [5]. Advisorkhoj, Advisorkhoj, 2020. [Online]. Available: [www.advisorkhoj.com](http://www.advisorkhoj.com). [Accessed 2022].
- [6]. A. deepak, "Measuring performancr of indian mutual funds," Finance india, 2011.
- [7]. P. P. K. a. P. K. Mahesh, "Comparative study on Performance evaluation of Mutual Fund Schemes of Indian Companies," Reserchers world, Journal of Art, Science & commerce, pp. 47-59, 2012.
- [8]. G. Sanjay, "A study on performance evaluation of selected indian mutual funds," International journal of innovation, creativity and management, pp. 1-10, 2011.
- [9]. yahoofinance, yahoofinance, [Online]. Available: [finance.yahoo.com](http://finance.yahoo.com). [Accessed 25 7 2022].

### ANNEXURE Questionnaire

Email\*

Valid email

Gender

Male
Female
Prefer not to say

Are you planning to save?

Yes
No

How much percentage of savings, you invested annually?

10%-25%
30%-50%
55%-80%
100%

Do you have any investment plans?

Yes
No

what is your preferable period of investment?

Too short
About the right le

Too long

What is your anticipation of risk?

Minimum

Moderate

Maximum

What is your preferred investment vehicle?

Fix deposits

Mutual Funds

Equities

Other

What is your primary goal of investment?

Education

House

Retirement

other

What is your preferred investment sector?

Public

Private

Foreign

Which factor do you consider before investing?

Low Risk

High return

Maturity period

All of above

Do you invest in the stock market?

Yes

No

Are you interested in mutual funds?

Yes

No

Which mutual fund according to your financial goal do you prefer to invest in?

Large cap

Mid cap

Small cap

Mix cap

What is your preferred option of investment?

Mutual Funds

Stocks

Both

Apart from equity (Stocks and equity mutual funds) where do you invest your money?

Debt mutual fund
Fix deposits
Real estate
Gold
Mix of above

How often do you monitor your investment?

Daily
Monthly
Occasionally

What is your source of investment advice?

Magazine
New s Paper
Internet
Advisors
Other

While selecting the source of your investment advice which factors do you consider the most?

Brand Image
Customized advic
Subscription Cos

[9][4]If the EMI option is available while making purchasing decision, would you consider it?

Yes
No

According to you What more can be added to the payment gateway?

Cash on delivery
Equity
other
Pay Pal

What are your preferred modes of payment?

UPI
Banking cards
Internet banking
Prepaid Payment