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## Editorial

### Editorial

This second issue of the 14th volume consists of four research papers. As a continuous practice, we strictly adhere to double-blind peer review before we finalize the papers for publication.

Prof Bhaskar Sailesh and Prof Vishnu Jingade, in their paper entitled, **Backpacker Tourism -A Tool for Sustainable Development** carried out a study on Backpacker tourism. This study examine if there is a link between Backpacking and Sustainable tourism and tries to understand how backpacking can aid in the sustainable development of destinations. The study is based on secondary literatures. An evaluation of how Backpacking tourism can assist in Socio-cultural, Environmental and Economic aspects destination development which are also considered as the three pillars of Sustainability. Finally, the paper concludes by offering an insight of the future trends of backpacking tourism and its relevance for Sustainable Development.

**Dr Saravana Kumar V and Dr Kalpana Venugopal** in their paper entitled, **Effect of Stress on job satisfaction mediated by job commitment among public sector bank employees**, carried out a study to develop a model framework and assess the direct effect of stress on job satisfaction mediated by job commitment among employees working in select public sector banks. The objectives framed for the present study on the basis of the identification of the relevant statistical techniques like, Percentage analysis and Structural Equation Model. It is found that although, there is some degree of stress existing among employees working in the public sector banks it does not affect the commitment and job satisfaction of the employees.

**Mr. Bhaskar Sailesh and Mr. Vishnu Jingade** in their paper entitled, **Knowledge and Sensitivity of Youths Travelers towards Environment-Friendly Tourism**, study approaches from the perspective of environmental knowledge and probes tourists' behavior to facilitate sustainable tourism development, and constructs a sustainable tourism development model by integrating Environmental Knowledge, Environmental sensitiveness and Environmentally Responsible Behavior. The study hypothesis that higher levels of tourists' Environmental Knowledge lead to Environmental sensitiveness which triggers Environmentally Responsible Behavior. Data for the was collected

through survey questionnaires. A total of 310 questionnaires were distributed of which 285 were valid. Correlation was used for analysis. The results indicated that when tourists are highly sensitive to the attraction, they are more likely to exhibit Environmentally Responsible Behavior. This study pioneers the integration of all three constructs in a sustainable tourism behavior model for tourists travelling to coastal destinations.

**K. Geetha, S.Venkata Ramana Reddy, B. Sarojamma, and P.V. Ramana Murthy** in their paper entitled, **Regression Models for Wind Speed data**, carried out a study on Wind speed and its a vital role for rainfall and all other atmospheric conditions. Statistical models like, air fitted three regression models, i.e, Log Regression model, Trigonometric Regression model, Multiple regression model by taking dependent variable wind speed and maximum temperature, minimum temperature, time and visibility as independent variables. For choosing the best model among these three, we are using Root Mean Square Error (RMSE) criteria. The best fitted model for data is Log Regression Model when compared with Multiple regression and Trigonometric Regression.

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# RISK RETURN ANALYSIS OF MUTUAL FUNDS

## - A COMPARATIVE STUDY OF SELECT MUTUAL FUNDS

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### Key Words:

Average Returns,  
Debt Funds,  
Equity Funds,  
Risk-return,  
Standard Deviation.

### Abstract :

*In this paper, an attempt has been made to study the performance of selected debt and equity schemes of mutual funds based on various measures. A total of 10 mutual fund companies and 2 schemes offered by various mutual funds have been studied. The analysis has been made on the basis of mean return and standard deviation; the plan of analysis includes paired t- test. The key findings of the study include the average returns and standard deviation. The study concludes that there is a significant difference between annual returns as well as between average annual returns on debt fund and equity fund. The study also concludes that the standard deviation on debt funds is not significantly different from the return on equity funds.*

### Introduction

Indian Investors are risk averse and thus they like to take a position in safe securities giving them decent returns. There are lots of investment alternatives available to them. But consistent with past experience, mutual fund Industry has the safest image. Mutual funds are financial intermediaries, which collect the savings of investors and are alleged to invest them during a well-diversified portfolio of securities, such as, market instruments, corporate and government bonds and equity shares of companies. Now each day this industry has become the main player of the economic system. Therefore, it becomes important to research the mutual fund performance at continuous basis. The common investors are facing the problem in choosing the suitable product among the multiple institutions offering variety of products and multiple options attached with each product. Though mutual funds are good investment avenues for small savers who have low risk bearing capacity, the selection of appropriate mutual fund and scheme is a tedious task especially for person having non-financial background. Hence, the practitioners relating to mutual fund are supposed to fill and serve the requirement for healthy progress of the mutual fund industry.

### Review of Literature

Leković M. (2017) "Mutual Funds Portfolio Performance Evaluation Models": The early portfolio performance evaluation models included

the comparison of the calculated portfolio returns of a particular mutual fund with the portfolio returns of other mutual funds, or the rate of return of a chosen benchmark.

P Bhuvaneswari (2015): The results of this study found that the performances of majority of the sample Equity Schemes were significantly related to their market movements during the study period. However, some of the schemes are not significantly related to market movements.

Kavita arora (2008): The results of Sharpe ratios of mutual fund schemes revealed that Sharpe ratios of 52% of schemes were better than the Sharpe ratios of their benchmark indices. It was also found that 42% of growth schemes, 40% of tax planning schemes, 75% of income schemes and 91% of balanced schemes, had performed better than their respective indices in terms of Sharpe ratio.

P. Sathisha, K. Sakthi Srinivasan ( 2014) : The performance of selected funds is evaluated by using statistical tools like average rate of return of funds, standard deviation, beta, correlation, regression analysis and risk adjusted techniques are used by using Sharpe ratio, Treynor ratio and Jensen ratio. Overall ICICI Prudential Mid cap fund, HDFC Capital builder fund, UTI opportunities fund, UTI equity fund growth and SBI blue chip fund are best performing funds in the sampled schemes.

Prof KP Sivakumar, Dr S Rajamohan, Prof DM Sezhiyan, Prof S Narsimhulu (2009): The information related to the resources mobilized for mutual funds by various participants has been collected and in terms of performance UTI contributes in a big way. The study concludes that the quantum funds mobilized by public sector with and without UTI are significantly different.

Himanshu Puri (2000): The study aims at analyzing the performance of open-ended balanced mutual funds schemes. This study takes those mutual funds which are having a minimum of 10 years of operation i.e. their date of set up is before 1st September 2000 and funds whose schemes are not transferred to any other fund.

Madhumita Chakraborty, P K Jain and Vinay Kallianpur (2007): This study attempts to evaluate the performance of mutual funds on the basis of rate of return as well as risk-adjusted methods. Studies can be made on comparative performances between public sector funds and a private sector fund, open-ended funds and close ended funds, bull phases and bear phases etc.

Boikanyo Kenneth Malefo, Heng-Hsing Hsieh, Kathleen Hodnett (2012): The risk-adjusted performance measures employed by this study include the Sharpe ratio, M squared, Treynor measure and Jensen's alpha. The study results indicate that the choice of performance measures does not lead to inconsistent performance rankings.

Mark Grinblatt and Sheridan Titman (1974): The data consist of monthly cash-distribution-adjusted returns and investment goals for 279 funds that existed from December 31, 1974, to December 31, 1984. Three performance measures compared in this study: the Jensen Measure, the Positive Period Weighting Measure, and the Treynor-Mazuy Measure of Total Performance. The negative performance is either due to the funds systematically picking stocks that do poorly, or to the benchmarks being inefficient.

Joyjit Dhar and Kumarjit Mandal (2012): This study is an attempt to evaluate the investment management of Indian mutual funds in terms of the timing abilities of fund managers during May 31, 2000 to March 31, 2012. Seven important economic variables for conditioning the alphas and betas. Among these, market dividend yield (DP), short-term treasury bill yield (TB) and aggregate price-earnings ratio(PE)

are used as important public information variables as they are widely accepted in various studies as relevant factors in explaining future expected market return.

### Objectives

- To compare the annual returns on select debt and equity schemes
- To compare average annual returns select debt and equity schemes
- To compare the risk of select debt and equity schemes

### Data and Methodology

Toward fulfilling the objectives of the study ten AMC's were selected. One debt fund and one equity fund of each of the AMC's were selected based on availability of NAV data for the study period. The ten AMC's include Axis Mutual Fund, ICICI Prudential Mutual Fund, SBI Mutual Fund, UTI Mutual Fund, Aditya Birla Sun Life Mutual Fund, Kotak Mahindra Mutual Fund, LIC Mutual Fund, Franklin Templeton Mutual Fund, TATA Mutual Fund and L&T Mutual Fund. NAVs of the selected funds were obtained from AMFI (Association of Mutual Funds of India)

The study period is 10 years from 2010 to 2019. Over these ten years for each of the fund's annual returns, average annual returns and standard deviations of annual returns were computed. Paired t test was applied to test if the average annual returns and standard deviations of annual returns of debt and equity funds were significantly different.

a.Axis MF:

AXIS MUTUAL FUND		
	DEBT FUND	EQUITY FUND
N=9	ANNUAL RETURN (XN - XN-1/ XN-1)*100	ANNUAL RETURN (YN - YN-1/ YN-1)*100
1	5.4700%	6.0570%
2	9.1753%	-5.7110%
3	10.1334%	5.4800%
4	7.4393%	11.0300%
5	9.9184%	27.7500%
6	8.1077%	-12.1460%
7	8.8979%	7.1680%
8	6.2029%	7.7130%
9	7.4013%	5.0697%

Source: Authors' computations from amfi prices data

**H<sub>0</sub>:** The annual return on debt fund of Axis MF is significantly different from the return on equity fund of Axis MF  $R_d \neq R_e$

**H<sub>1</sub>:** The annual return on debt fund of Axis MF is not significantly different from the return on equity fund of Axis MF.  $R_d = R_e$

t-Test: Paired Two Sample for Means (AXIS MF)		
	DEBT FUND	EQUITY FUND
Mean	0.080829111	0.058234111
Variance	0.000258403	0.012124316
Observations	9	9
Pearson Correlation	0.145423033	
Hypothesized Mean Difference	0	
df	8	
t Stat	<b>0.62223425</b>	
P(T<=t) one-tail	0.275556409	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.551112818	
t Critical two-tail	<b>2.306004135</b>	

### Interpretation:

Since the t test value (0.6222) is less than t critical value (2.3060), accept null hypothesis implying the annual return on debt fund of Axis MF is significantly different from the return on equity fund of Axis MF

b. ICICI MF:

ICICI Prudential Mutual Fund		
	DEBT FUND	EQUITY FUND
N=9	ANNUAL RETURN (XN - XN-1/ XN-1)*100	ANNUAL RETURN (YN - YN-1/ YN-1)*100
1	6.7429%	13.7323%
2	9.5912%	-3.4055%
3	9.5525%	2.2435%
4	9.6550%	12.4764%
5	9.3157%	23.6343%
6	8.7876%	-14.0667%
7	8.7756%	13.3788%
8	7.1576%	-0.3701%
9	7.7708%	-0.7431%

**H<sub>0</sub>:** The annual return on debt fund of ICICI Prudential MF is significantly different from the return on equity fund of ICICI Prudential MF  $R_d \neq R_e$

**H<sub>1</sub>:** The annual return on debt fund of ICICI Prudential MF is not significantly different from the return on equity fund of ICICI Prudential MF.  $R_d = R_e$

t-Test: Paired Two Sample for Means (ICICI Prudential MF)		
	DEBT FUND	EQUITY FUND
Mean	0.085943222	0.052088778
Variance	0.00012247	0.013160116
Observations	9	9
Pearson Correlation	0.04394718	
Hypothesized Mean Difference	0	
df	8	
t Stat	<b>0.884967949</b>	
P(T<=t) one-tail	0.200994339	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.401988678	
t Critical two-tail	<b>2.306004135</b>	

**Interpretation:**

Since the t test value (0.8849) is less than t critical value (2.3060), accept null hypothesis implying the annual return on debt fund of ICICI Prudential MF is significantly different from the return on equity fund of ICICI Prudential MF.

c. SBI MF:

SBI Mutual Fund		
	DEBT FUND	EQUITY FUND
N=9	ANNUAL RETURN (XN - XN-1/ XN-1)*100	ANNUAL RETURN (YN - YN-1/ YN-1)*100
1	1.1281%	-0.9594%
2	3.0261%	-7.0044%
3	1.4704%	-3.3725%
4	0.3056%	17.7094%
5	0.8658%	54.6971%
6	1.6864%	-11.8549%
7	1.0853%	13.1181%
8	0.4426%	-5.0793%
9	2.9063%	5.129%

**H<sub>0</sub>:** The annual return on debt fund of SBI MF is significantly different from the return on equity fund of SBI MF  $R_d \neq R_e$

**H<sub>1</sub>:** The annual return on debt fund of SBI MF is not significantly different from the return on equity fund of SBI MF.  $R_d = R_e$

t-Test: Paired Two Sample for Means (SBI MF)		
	DEBT FUND	EQUITY FUND
Mean	0.014351798	0.069314767
Variance	9.45205E-05	0.041238429
Observations	9	9
Pearson Correlation	-0.361512476	
Hypothesized Mean Difference	0	
df	8	
t Stat	<b>-0.797389406</b>	
P(T<=t) one-tail	0.224121456	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.448242911	
t Critical two-tail	<b>2.306004135</b>	

**Interpretation:**

Since the t test value (0.7973) is less than t critical value (2.3060), accept null hypothesis implying the annual return on debt fund of SBI MF is significantly different from the return on equity fund of SBI MF.

d. UTI MF:

UTI Mutual Fund		
	DEBT FUND	EQUITY FUND
N=9	ANNUAL RETURN (XN - XN-1/ XN-1)*100	ANNUAL RETURN (YN - YN-1/ YN- 1)*100
1	4.2312%	14.8707%
2	8.0813%	-7.0044%
3	8.4451%	-3.3725%
4	8.4743%	17.7094%
5	8.8528%	54.6971%
6	7.1270%	-11.8549%
7	8.5447%	13.1181%
8	5.5414%	-5.0793%
9	5.8299%	5.129%

**H<sub>0</sub>:** The annual return on debt fund of UTI MF is significantly different from the return on equity fund of UTI MF  $R_d \neq R_e$

**H<sub>1</sub>:** The annual return on debt fund of UTI MF is not significantly different from the return on equity fund of UTI MF.  $R_d = R_e$

t-Test: Paired Two Sample for Means ( UTI MF)		
	DEBT FUND	EQUITY FUND
Mean	0.072364119	0.086903816
Variance	0.000274069	0.040899954
Observations	9	9
Pearson Correlation	0.281893104	
Hypothesized Mean Difference	0	
df	8	
t Stat	<b>-0.220067179</b>	
P(T<=t) one-tail	0.415665342	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.831330685	
t Critical two-tail	<b>2.306004135</b>	

**Interpretation:**

Since the t test value (0.2200) is less than t critical value (2.3060), accept null hypothesis implying the annual return on debt fund of UTI MF is significantly different from the return on equity fund of UTI MF.

e. Aditya Birla Sun Life MF:

Aditya Birla Sun Life Mutual Fund		
	DEBT FUND	EQUITY FUND
N=9	ANNUAL RETURN (XN - XN-1/ XN-1)*100	ANNUAL RETURN (YN - YN-1/ YN- 1)*100
1	1.9407%	6.9849%
2	4.1409%	-7.0044%
3	10.3072%	-3.3725%
4	9.9043%	17.7094%
5	11.2965%	54.6971%
6	8.4020%	-11.8549%
7	2.3143%	13.1181%
8	-0.6502%	-5.0793%
9	-0.2537%	5.129%

**H<sub>0</sub>:** The annual return on debt fund of Aditya Birla Sun Life MF is significantly different from the return on equity fund of Aditya Birla Sun Life MF  $R_d \neq R_e$

**H<sub>1</sub>:** The annual return on debt fund of Aditya Birla Sun Life MF is not significantly different from the return on equity fund of Aditya Birla Sun Life MF.  $R_d = R_e$

t-Test: Paired Two Sample for Means (Aditya Birla Sun Life MF)		
	DEBT FUND	EQUITY FUND
Mean	0.052668919	0.078141725
Variance	0.002245431	0.040372484
Observations	9	9
Pearson Correlation	0.400978338	
Hypothesized Mean Difference	0	
df	8	
t Stat	<b>-0.408576889</b>	
P(T<=t) one-tail	0.346784119	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.693568237	
t Critical two-tail	<b>2.306004135</b>	

**Interpretation:**

Since the t test value (0.4085) is less than t critical value (2.3060), accept null hypothesis implying the annual return on debt fund of Aditya Birla Sun Life MF is significantly different from the return on equity fund of Aditya Birla Sun Life MF.

f. Kotak Mahindra MF:

Kotak Mahindra Mutual Fund		
	DEBT FUND	EQUITY FUND
N=9	ANNUAL RETURN (XN - XN-1/ XN-1)*100	ANNUAL RETURN (YN - YN-1/ YN- 1)*100
1	5.0837%	-1.1849%
2	10.0899%	-7.0044%
3	3.8538%	-3.3725%
4	-0.0632%	17.7094%
5	16.2626%	54.6971%
6	5.3047%	-11.8549%
7	10.0951%	13.1181%
8	2.9811%	-5.0793%
9	6.9408%	5.129%

$H_0$ : The annual return on debt fund of Kotak Mahindra MF is significantly different from the return on equity fund of Kotak Mahindra MF  $R_d \neq R_e$

$H_1$ : The annual return on debt fund of Kotak Mahindra MF is not significantly different from the return on equity fund of Kotak Mahindra MF.  $R_d = R_e$

t-Test: Paired Two Sample for Means (Kotak Mahindra MF)		
	DEBT FUND	EQUITY FUND
Mean	0.067276146	0.069064197
Variance	0.002334294	0.041283481
Observations	9	9
Pearson Correlation	0.599146594	
Hypothesized Mean Difference	0	
df	8	
t Stat	<b>-0.03005494</b>	
P(T<=t) one-tail	0.488379752	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.976759505	
t Critical two-tail	<b>2.306004135</b>	

#### Interpretation:

Since the t test value (0.0300) is less than t critical value (2.3060), accept null hypothesis implying the annual return on debt fund of Kotak Mahindra MF is significantly different from the return on equity fund of Kotak Mahindra MF.



g. LIC MF:

LIC mutual fund		
	DEBT FUND	EQUITY FUND
N=9	ANNUAL RETURN (XN - XN-1/ XN-1)*100	ANNUAL RETURN (YN - YN-1/ YN-1)*100
1	3.4382%	9.2581%
2	2.3907%	-7.0044%
3	-9.1894%	-3.3725%
4	1.0790%	17.7094%
5	4.3377%	54.6971%
6	-4.5974%	-11.8549%
7	2.2947%	13.1181%
8	-3.7739%	-5.0793%
9	6.1295%	5.129%

**H<sub>0</sub>:** The annual return on debt fund of LIC MF is significantly different from the return on equity fund of LIC MF  
 $R_d \neq R_e$

**H<sub>1</sub>:** The annual return on debt fund of LIC MF is not significantly different from the return on equity fund of LIC MF.  
 $R_d = R_e$

t-Test: Paired Two Sample for Means ( LIC MF)		
	DEBT FUND	EQUITY FUND
Mean	0.002343417	0.080667586
Variance	0.002496012	0.040382772
Observations	9	9
Pearson Correlation	0.523724786	
Hypothesized Mean Difference	0	
df	8	
t Stat	<b>-1.306155108</b>	
P(T<=t) one-tail	0.113900794	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.227801587	
t Critical two-tail	<b>2.306004135</b>	

**Interpretation:**

Since the t test value (1.3061) is less than t critical value (2.3060), accept null hypothesis implying the annual return on debt fund of LIC MF is significantly different from the return on equity fund of LIC MF.

## h. Franklin Templeton MF:

Franklin Templeton Mutual Fund		
	DEBT FUND	EQUITY FUND
N=9	ANNUAL RETURN $(X_N - X_{N-1} / X_{N-1}) * 100$	ANNUAL RETURN $(Y_N - Y_{N-1} / Y_{N-1}) * 100$
1	0.9041%	-1.3654%
2	-3.2575%	-7.0044%
3	5.3774%	-3.3725%
4	0.1978%	17.7094%
5	3.0010%	54.6971%
6	-2.2135%	-11.8549%
7	2.7480%	13.1181%
8	0.3098%	-5.0793%
9	-0.2844%	5.129%

**H<sub>0</sub>:** The annual return on debt fund of Franklin Templeton MF is significantly different from the return on equity fund of Franklin Templeton MF  $R_d \neq R_e$

**H<sub>1</sub>:** The annual return on debt fund of Franklin Templeton MF is not significantly different from the return on equity fund of Franklin Templeton MF.  $R_d = R_e$

t-Test: Paired Two Sample for Means (Franklin Templeton MF)		
	DEBT FUND	EQUITY FUND
Mean	0.007536427	0.068863693
Variance	0.000711328	0.041320346
Observations	9	9
Pearson Correlation	0.423423285	
Hypothesized Mean Difference	0	
df	8	
t Stat	<b>-0.950832287</b>	
P(T<=t) one-tail	0.184763709	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.369527417	
t Critical two-tail	<b>2.306004135</b>	

**Interpretation:**

Since the t test value (0.9508) is less than t critical value (2.3060), accept null hypothesis implying the annual return on debt fund of Franklin Templeton MF is significantly different from the return on equity fund of Franklin Templeton MF.

i. TATA MF:

TATA mutual fund		
	DEBT FUND	EQUITY FUND
N=9	ANNUAL RETURN $(X_N - X_{N-1} / X_{N-1}) * 100$	ANNUAL RETURN $(Y_N - Y_{N-1} / Y_{N-1}) * 100$
1	1.1346%	0.5317%
2	2.2586%	-7.0044%
3	3.5907%	-3.3725%
4	2.3591%	17.7094%
5	4.1849%	54.6971%
6	2.6306%	-11.8549%
7	4.8914%	13.1181%
8	2.2696%	-5.0793%
9	-0.4395%	5.129%

$H_0$ : The annual return on debt fund of TATA MF is significantly different from the return on equity fund of TATA MF  $R_d \neq R_e$

$H_1$ : The annual return on debt fund of TATA MF is not significantly different from the return on equity fund of TATA MF.  $R_d = R_e$

t-Test: Paired Two Sample for Means (TATA MF)		
	DEBT FUND	EQUITY FUND
Mean	0.025422311	0.07097154
Variance	0.000254806	0.040968981
Observations	9	9
Pearson Correlation	0.387533787	
Hypothesized Mean Difference	0	
df	8	
t Stat	<b>-0.694443667</b>	
P(T<=t) one-tail	0.253533215	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.50706643	
t Critical two-tail	<b>2.306004135</b>	

**Interpretation:**

Since the t test value (0.6944) is less than t critical value (2.3060), accept null hypothesis implying the annual return on debt fund of TATA MF is significantly different from the return on equity fund of TATA MF.

j. L&T MF:

L&T Mutual Fund		
	DEBT FUND	EQUITY FUND
N=9	ANNUAL RETURN $(X_N - X_{N-1} / X_{N-1}) * 100$	ANNUAL RETURN $(Y_N - Y_{N-1} / Y_{N-1}) * 100$
1	6.5532%	5.0698%
2	9.8050%	-7.0044%
3	9.5928%	-3.3725%
4	9.4405%	17.7094%
5	8.9611%	54.6971%
6	8.4243%	-11.8549%
7	8.0338%	13.1181%
8	6.8900%	-5.0793%
9	7.6548%	5.129%

**H<sub>0</sub>:** The annual return on debt fund of L&T MF is significantly different from the return on equity fund of L&T MF  $R_d \neq R_e$

**H<sub>1</sub>:** The annual return on debt fund of L&T MF is not significantly different from the return on equity fund of L&T MF.  $R_d = R_e$

t-Test: Paired Two Sample for Means (L&T MF)		
	DEBT FUND	EQUITY FUND
Mean	0.083728256	0.076013853
Variance	0.000139603	0.04045294
Observations	9	9
Pearson Correlation	0.139405261	
Hypothesized Mean Difference	0	
df	8	
t Stat	<b>0.115817478</b>	
P(T<=t) one-tail	0.455325825	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.91065165	
t Critical two-tail	<b>2.306004135</b>	

**Interpretation:**

Since the t test value (0.1158) is less than t critical value (2.3060), accept null hypothesis implying the annual return on debt fund of L&T MF is significantly different from the return on equity fund of L&T MF.

## 2. AVERAGE ANNUAL RETURNS

Company	Debt fund	Equity fund
AXIS Mutual Fund	8.0829%	5.8234%
ICICI Prudential Mutual Fund	8.5943%	5.2089%
SBI Mutual Fund	1.4352%	6.9315%
UTI Mutual Fund	7.2364%	8.6904%
Aditya Birla Sun Life Mutual Fund	5.2669%	7.8142%
Kotak Mahindra Mutual Fund	6.7276%	6.9064%
LIC mutual fund	0.2343%	8.0668%
Franklin Templeton Mutual Fund	0.7536%	6.8864%
TATA mutual fund	2.5422%	7.0972%
L&T Mutual Fund	8.3728%	7.6014%

$H_0$ : The average annual return on debt funds is significantly different from the return on equity funds  $R_d \neq R_e$

$H_1$ : The average annual return on debt funds is not significantly different from the return on equity funds.  $R_d = R_e$

t-Test: Paired Two Sample for Means		
	DEBT FUND	EQUITY FUND
Mean	0.0492462	0.0710266
Variance	0.001125466	0.000106033
Observations	10	10
Pearson Correlation	-0.280459563	
Hypothesized Mean Difference	0	
df	9	
t Stat	<b>-1.824388998</b>	
P(T<=t) one-tail	0.050697366	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.101394732	
t Critical two-tail	<b>2.262157163</b>	

### Interpretation:

Since the t test value (1.8243) is less than t critical value (2.2621), accept null hypothesis implying that the average annual return on debt funds is significantly different from the return on equity funds.

### 3. Standard Deviations

Company	SD of Debt funds	SD of Equity funds
AXIS Mutual Fund	0.0161	0.1101
ICICI Prudential Mutual Fund	0.01107	0.11472
SBI Mutual Fund	0.00972	0.20307
UTI Mutual Fund	0.01656	0.20224
Aditya Birla Sun Life Mutual Fund	0.04739	0.20093
Kotak Mahindra Mutual Fund	0.04831	0.20318
LIC mutual fund	0.04996	0.20095
Franklin Templeton Mutual Fund	0.02667	0.20327
TATA mutual fund	0.01596	0.20241
L&T Mutual Fund	0.01182	0.20113

$H_0$ : The average annual Standard Deviations on debt funds is significantly different from the return on equity funds  $SD_d \neq SD_e$

$H_1$ : The average annual return on debt funds is not significantly different from the return on equity funds.  $SD_d = SD_e$

t-Test: Paired Two Sample for Means		
	DEBT FUND	EQUITY FUND
Mean	0.025356	0.1842
Variance	0.000278066	0.001433599
Observations	10	10
Pearson Correlation	0.363568715	
Hypothesized Mean Difference	0	
df	9	
t Stat	<b>-14.19286832</b>	
P(T<=t) one-tail	9.11021E-08	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	1.82204E-07	
t Critical two-tail	<b>2.262157163</b>	

#### Interpretation:

Since the t test value (14.1928) is more than the t critical value (2.2621), reject null hypothesis implying the standard deviation on debt funds is not significantly different from the return on equity funds.

#### Conclusion

Indian Mutual Funds have emerged as strong financial intermediaries and they play a significant role in bringing stability into the financial system and efficiency in resource allocation. The present article encompasses an analysis of the performance of selected sample Mutual Fund Schemes. The sample comprises of equity and debt schemes. The use of a systematic performance evaluation technique helps the investors to take wise decisions

so that they are able to achieve their investment objectives. In order to better meet the different requirements of investors and achieve competitive advantage, numerous types and subtypes of mutual funds have developed over time. These funds compete with each other by lowering their fees, introducing tax incentives, producing quality reporting, offering investments in specific types of property and the like. Each of these aspects of competition is important, yet, when choosing a

suitable mutual fund, investors consider investment performance to be the most significant feature.

Mutual funds are subjected to the market risks and may deviate at any time investor should consider the trend in the market and decide the investment, it's advisable to go for investing in portfolio to reduce risk and maintain the returns thoroughly. So, in this field where we have a multitude of mutual fund companies available with fanciful and attractive schemes it becomes baffling for common masses to choose the best of out of these. So it's important that the common masses are made aware of these schemes without forgery and manipulations by the agents and institutions involved in mutual funds such that the illiterate and financially backward citizens, which forms the majority in India, can get a good access to these schemes and make the most out of it.

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# The Impact Of Attitude, Behaviour And Emotional Intelligence on Performance

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## Key Words:

Emotional  
Intelligence,  
Job Performance,  
Organizational  
Commitment,  
Work Performance.

## Abstract :

An attitude is a psychological response to a person, an object, to a situation, to society and to life itself that generally influence our behaviour and actions. Attitudes are positive or negative. Whereas, behaviour is the way in which one acts or conducts oneself, especially towards others. Emotional intelligence (EI), emotional leadership (EL), emotional quotient (EQ) and emotional intelligence quotient (EIQ), is the capability of individuals to recognize their own emotions and those of others, discern between different feelings and label them appropriately, use emotional information to guide thinking and behaviour, and manage and/or adjust emotions to adapt to environments or achieve one's goal(s). Over the years industries and employers have understood the importance of these three concepts in the performance of an employee. Though these are psychological concepts, but EI gained its popularity in the 1995 book "Emotional Intelligence" written by Daniel Goleman.

Performance of employees in an organisation is very much affected by various workplace factors. To complete the assignment within the defined time frame, performance is one of the key skills necessitated. There are various aspects that have an impact on the work performance of employees.

The main purpose of this paper is to study the impact of attitude, behaviour and emotional intelligence on performance. If the employees know their own attitude, behaviour and emotion and are able to manage them effectively, they can work more efficiently and be more productive to the organization. Employees will also recognize and appreciate other colleagues.

## Introduction

Attitudes are associated with feelings and beliefs about people. Attitude is a response to a person's specific action towards the object or any of the events which take place in different circumstances. It changes depending upon the situation, action, place and person. It affects behaviour positively or negatively. It affects perception, and in turn, behaviour. Emotions have an effect, which can influence all of one's behaviour at each stage of life. For a long time, it is seen that within the studies concerning intelligence, emotions have not been taken into consideration. However, the impact of emotions upon intelligence and behaviour is begun to be discussed with emerge of the term emotional intelligence.

Emotions have a substantial impact upon the intelligence of an individual and organization work culture has been very much affected by the same. The concept of Emotional Intelligence (EI) has gained popularity yet remained an ignorant topic. As cited by Kafetsios and Zampetakis (2008), EI plays a

significant role in the emerging perspective of 'affective revolution' in social and organizational psychology.

Emotional intelligence is the "something" in each of us that is a bit intangible. It affects how we manage behaviour, navigate social complexities, and make personal decisions that achieve positive results. EQ principles provide a new way to understand and assess people's behaviours, management styles, attitudes, interpersonal skills and potential.

Emotional intelligence is an important consideration in human resource planning, job profiling, recruitment, interviewing and selection, management development, customer relations, customer service and many more. EI has been found to be an important predictor of various enviable organizational outcomes, such as job performance, job satisfaction, organizational citizenship behaviour, and organizational commitment.





Organizational commitment (OC) is considered to be an important determinant of organizational effectiveness. It has been shown by studies that organizational commitment has the potential to predict a variety of organizational outcomes, such as increased job performance, reduced turnover and withdrawal cognitions, lower absenteeism, and increased organizational citizenship behaviour (Sinha and Jain, 2004; Meyer and Allen, 1997; Mathieu and Zajac, 1990). Moreover, committed employees who are highly motivated to contribute their time and energy to the pursuit of organizational goals are increasingly acknowledged as the primary asset available to an organization (Pfeffer, 1998).

Human performance is defined as a result of the actions set to achieve a goal based on a specific standard. This may include actions or behaviour of all nonobservable mental processing (e.g., problem-solving, decision-making, program planning, reasoning) (Bailey and Robert, 2003).

Many organizations are looking for performance improvement and the desire to carry out economic activities with maximum efficiency; they should enhance their employees' performance in the first step. Performance is a function of knowledge, skills, capabilities and motivations. Emotional intelligence is an important capability in today's organization with changing behaviours and motivations.

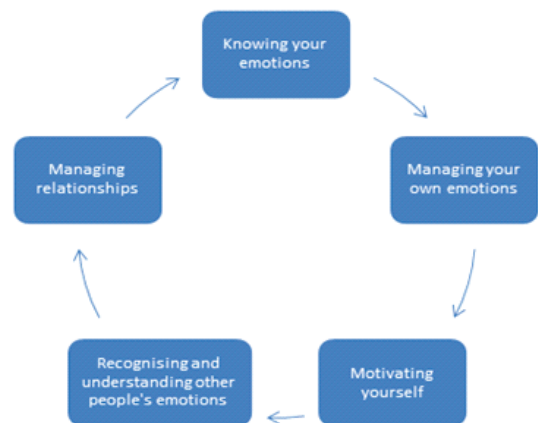
### Goleman's Five Domains of EQ

Goleman (1995) has defined emotional intelligence as “the abilities such as being able to motivate oneself and persist in the face of frustrations; to control impulse and delay gratification; to regulate one's moods and keep distress from swamping the ability to think, and to emphasize and to hope.” In 1998, Goleman refined the definition of emotional intelligence to “the capacity for organizing our own feelings and those of others, for motivating ourselves, and for managing emotion well in ourselves and in our relationships” (Goleman, 1998). He applied EI as a concept in the workplace

setting.

Goleman (1995, 1998); Salovey and Mayer (1990), defined EI as ability to recognise one's emotions and regulate them accordingly. Many researchers have tried to find the nature of the relationship that exists between EI and work performance. Lam and Kirby (2002); Semadar, et al., (2006) revealed that employee's performance can be best predicted by EI as it can project their productivity by understanding and managing their emotions in a preferred manner accordingly. According to researchers, EI empowers an individual to motivate oneself, boost persistence level, control impulses, regulate one's moods and thus, manage one's ability to think, to empathise and to hope. Further, Kierstead (1999); Bhalla and Nauriyal (2004), suggested that an emotionally intelligent person is proficient in two key areas namely, “personal competence” – the ability of one to manage self; and “social competence” – the ability of one to manage relationships.

EI is the ability to recognize your emotions, understand what they are telling to you, and realize how your emotions affect people around you. It is the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in oneself and others. Goleman had stated the following five domains of EI:



### Effects of Emotional Intelligence on Employee Performance

Organizations are the best settings that require interpersonal interaction. Most of these interactions are related to the performance of job duties, for example, serving customers, receiving instructions and reporting to supervisors, or cooperating and coordinating with colleagues etc., Employees with high levels of EI are those who can make use of the predecessor- and response-focused emotional regulation effectively, and master their interactions with others in a more effective manner.

Emotional intelligence is a set of competencies where personal competence and social competence plays a vital role in directing and controlling one's feelings towards work and efficiency at work. These competencies are the major factors and his ability to control and manage his moods and impulses on the job. To understand one's emotions and feelings as they occur, and tuning one's self to the changed situation, requires the emotional competency, emotional maturity and emotional sensitivity that is demanded on the job.

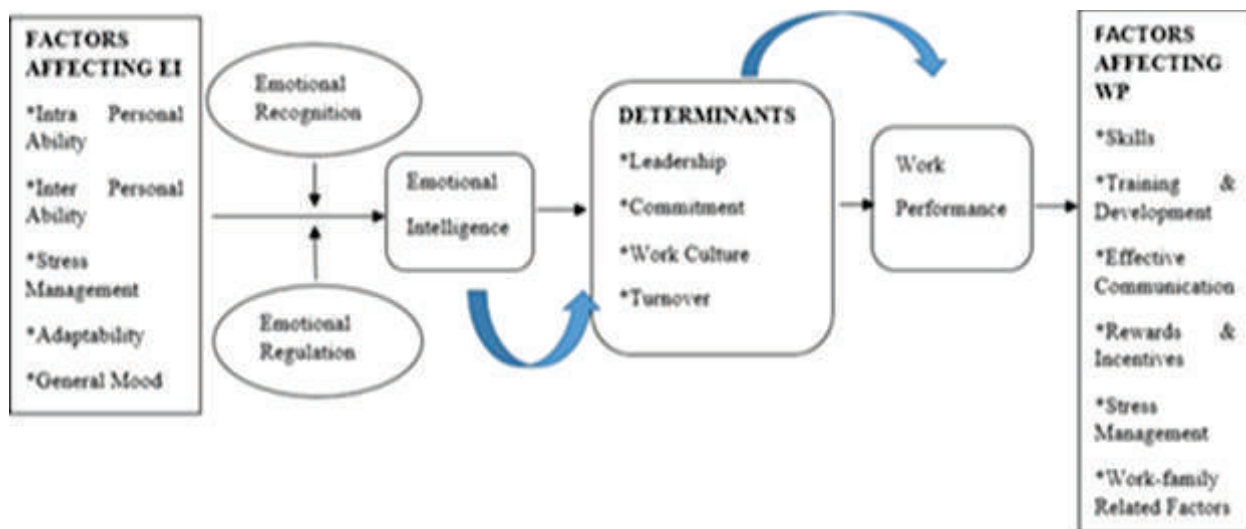
In a work situation, the performance of the employees depends on working with a group of people with different ideas, suggestions, and opinions. Effective use of emotional intelligence gives better team harmony. Leaders, in particular, need high emotional intelligence because they represent the organization to the customers, they interact with the highest number of people within and outside the organization and they set the tone for employee morale. Leaders with high emotional intelligence are able to understand their employee's needs and provide them with constructive feedback.

### Theoretical Framework on the Impact of Emotional intelligence on work performance

Many studies have been conducted to study the relationship between EI and Work Performance (WP) on the job. In the present epoch, Emotionally Intelligent employees master their interactions with customers), management and colleagues by effectively using antecedent and response focused emotions. Ashforth and Humphrey (1995) opined that an emotionally intelligent employee is considered as an emotionally competent, mature and sensitive person because he manages, directs. This explains the role of EI in enhancing work

performance. EI augments leadership qualities and work commitment amongst employees so as to reduce employee's turnover and enrich work culture. Goleman et al., (2002); Bradberry and Greaves (2009) described that leaders exhibiting higher EI have potential to direct, reveal and influence the overall EI of their followers and thus, positively impact organizational performance. EI is considered as a key motivator for enhancing leadership qualities like adaptability, foresightedness, emotional stability and clear vision in the workforce making them capable of understanding emotions and regulating them accordingly. Also, according to Abraham (1999), EI helps in recognising the emotions of others, thus, nurturing leaders with virtues of empathy, supportiveness, understanding and receptiveness towards the team.

EI acts as a transforming agent that regulates and guides emotions of the team, helps in managing conflicts to promote flexibility, acceptance to change and consequently a better work culture. It was concluded that workforce with high Emotional Quotient (EQ) consider themselves part and parcel of the organization, resulting in an increased sense of fidelity and organizational commitment. It was revealed that emotionally intelligent people in an organization are considered to be more adaptive, diversified, unswerving and devoted because of their ability to control impulses, anxiety, burnout, well-being and emotions in adverse circumstances. This leads to reduced employee turnover and increased work performance. Thus, an emotionally competent employee accepts all complex tasks and is always eager to learn something new resulting in enhanced work performance and personal development.



### **Factors Contributing to Emotional Intelligence to Enhance Work Performance**

There are various factors that have contributed to EI and thereby, enhanced the WP of employees in the service sector. These factors includes following -:

Self-awareness – the ability to understand one's emotions, feelings, strengths, weaknesses and goals and their impact on others and decision making.

Self-regulation – involves monitoring or redirecting one's unruly emotions and adjusting to adverse circumstances.

Empathy - considering the feelings of others in decision making.

Motivation – stimulating actions for the sake of achievement of the goal.

Social awareness- the ability to apprehend other's emotions and guide them effectively.

Self-actualization- the ability to recognise one's perspective capacities.

Flexibility - the ability to transform one's emotions and behaviour to modifying situations.

Impulse Control - the ability to resist or slow down an impulse.

Optimism- the positive ability to look at the brighter side of life.

Conflict management: competency to handle, negotiate and resolve difficult situations tactfully.

Team capabilities: competency to create synergy in the team to ensure cooperation, spirit de corps and achieving organizational performance.

### **Attitude toward Works, Job Satisfaction, and Employee's Job Performance**

Attitude is termed as a hypothetical construct that represents an individual's like or dislike for any behaviour (Mowday, Porter, and Steers 1982 in Ahmad et al, 2010). Allport (1935) defined an attitude as a mental or neural state of readiness, organized through experience, exerting a directive or dynamic influence on the individual's response to all objects and situations to which it is related. A simpler definition of attitude is a mindset or a tendency to act in a particular way due to both an individual's experience and temperament. How people behave at work often depends on how it feels about being there. Therefore, making sense of how people behave depends on understanding their work attitudes.

Attitude towards works are the feelings we have toward different aspects of the work environment (Carpenter et al, 2009). According to him, there are some elements which influence the attitude towards works, namely personality, person-environment fit, job characteristics, psychological contract, organizational justice, work relationship, and stress.

Arguments that support attitude towards works cause performance usually refer to the functions of attitudes as guidelines and facilitators of behaviour (see the research that conducted by Fishbein and Ajzen in the year 1974; Eagly and Chaiken in the year 1993; or Judge et al in the year 2001); or refer to the functions of attitudes as the energizing and facilitative effects of positive affect (as one component of satisfaction) at the workplace (see the research that conducted by Staw et al in the year 1994); or refer to the functions of attitudes as the motivational effects of the personal importance or identification with the job or organization (e.g., as a component or consequence of commitment; see the research that conducted by Meyer, Becker, and Vandenberghe in the year 2004) (Riketta, 2008).

“Happy employees are productive employees.”  
 “Happy employees are not productive employees.”  
 We hear these conflicting statements made by HR professionals and managers in organizations. There is confusion and debate among practitioners on the topic of employee attitudes and job satisfaction—even at a time when employees are increasingly important for organizational success and competitiveness.

### **Causes of Employee Attitudes**

#### **• Dispositional Influences**

Several innovative studies have shown the influences of a person's disposition on job satisfaction. One of the first studies in this area (Staw & Ross, 1985) demonstrated that a person's job satisfaction scores have stability over time, even when he or she changes jobs or companies. In a related study, childhood temperament was found to be statistically related to adult job satisfaction up to 40 years later (Staw, Bell, & Clausen, 1986). Evidence even indicates that the job satisfaction of identical twins reared apart is statistically similar (see Arvey, Bouchard, Segal, & Abraham, 1989).

Despite its contributions to our understanding of the causes of job satisfaction, one of the limitations in this literature is that it is not yet informative as to how exactly dispositions affect job satisfaction (Erez,

1994). Therefore, researchers have begun to explore the psychological processes that underlie dispositional causes of job satisfaction. For example, Weiss and Cropanzano (1996) suggest that disposition may influence the experience of emotionally significant events at work, which in turn influences job satisfaction. Similarly, Brief (1998) and Motowidlo (1996) have developed theoretical models in an attempt to better understand the relationship between dispositions and job satisfaction.

These various research findings indicate that there is, in fact, a relationship between disposition or personality and job satisfaction. Even though organizations cannot directly impact employee personality, the use of sound selection methods and a good match between employees and jobs will ensure people are selected and placed into jobs most appropriate for them, which, in turn, will help enhance their job satisfaction.

#### • Cultural Influences

In terms of other influences on employee attitudes, there is also a small, but growing body of research on the influences of culture or country on employee attitudes and job satisfaction. The continued globalization of organizations poses new challenges for HR practitioners, and the available research on cross-cultural organizational and human resources issues can help them better understand and guide practice (Erez, 1994; House, 1995; Triandis, 1994).

The most cited cross-cultural work on employee attitudes is that of Hofstede (1980, 1985). He conducted research on employee attitude data in 67 countries and found that the data grouped into four major dimensions and that countries systematically varied along these dimensions. The four cross-cultural dimensions are (1) individualism-collectivism; (2) uncertainty avoidance versus risk-taking; (3) power distance, or the extent to which power is unequally distributed; and (4) masculinity/femininity, more recently called achievement orientation.

The four dimensions have been a useful framework for understanding cross-cultural differences in employee attitudes, as well as recognizing the importance of cultural causes of employee attitudes. More recent analyses have shown that country/culture is as strong a predictor of employee attitudes as the type of job a person has (Saari, 2000; Saari & Erez, 2002; Saari & Schneider, 2001).

#### • Work Situation Influences

As discussed earlier, the work situation also matters in terms of job satisfaction and organization impact. Contrary to some commonly held practitioner beliefs, the most notable situational influence on job satisfaction is the nature of the work itself—often called “intrinsic job characteristics.” Research studies across many years, organizations, and types of jobs show that when employees are asked to evaluate different facets of their job such as supervision, pay, promotion opportunities, coworkers, and so forth, the nature of the work itself generally emerges as the most important job facet (Judge & Church, 2000; Jurgensen, 1978). This is not to say that well-designed compensation programs or effective supervision are unimportant; rather, it is that much can be done to influence job satisfaction by ensuring work is as interesting and challenging as possible. Unfortunately, some managers think employees are most desirous of pay to the exclusion of other job attributes such as interesting work.

#### Conclusion

With various literature reviews, it can be said that attitude has a positive effect on the workplace and job performance. Though there might be several reasons for forming someone's attitude, but when employees work together in an organization, attitude and behaviour directly affect the work performance and organizational commitment. Attitude can be changed from negative to positive, with a positive influence of peers and colleagues.

EI also has a positive impact on work performance. EI is considered to be an influential personality trait for working effectivity, enhancing job satisfaction and attaining organizational commitment. With improved commitment, the turnover intention gets reduced significantly. Also, high EI results in team building by an emotionally efficient leader, thus, refining work culture to successfully enhance work performance. It is also suggested that higher is the level of EI, higher will be job satisfaction, organizational commitment, job performance, and reduced turnover intention.

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# Green Marketing and Solar Energy Users: Customer Perception and Satisfaction

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## Key Words:

*Green product,  
Solar energy users,  
Solar home system.*

## Abstract

*This article considers the relationship between solar energy users and customer satisfaction. It explores the role of green marketing for using solar home system. The reviewed papers are from 1996 to 2018. Most of the data are primary and have been collected through questionnaires and interviews by the researchers. We have reviewed 35 papers for this study. The results show that innovation, emotional, social and functional value have a positive influence on customer satisfaction; and awareness about environment and environmental issues influence on customer perception. so, they prefer products that are green.*

## Introduction

Today, the use of renewable energy sources is essential because non-renewable energy sources such as oil and gas are limited and use of these sources has caused environmental problems such as climate change, air pollution and environmental degradation.

Our world survival is threatened with dependence on fossil fuels, especially oil and gas. Air pollution, environmental degradation and climate change are the result of this dependence. Therefore, it is very important to provide energy from renewable sources. Renewable energy sources are clean and cause the least harm to the environment. Moreover, these resources are infinite and can be used for many years and later generation. Renewable energy, often referred to as clean energy, comes from natural sources or processes that are constantly replenished. Renewable energy is energy produced from sources that do not deplete or can be replenished within a human's life time.

Non-conventional sources of energy are renewable energy and these sources never run out or get depleted during the whole time that the earth exist. These energies are unlimited and guarantee a constant supply of energy on earth. Non-conventional sources of energy are solar, wind, biomass tidal, etc which are pollution free and environment friendly and produce clean energy without any wastage.

Green Marketing considers all attempts to consume, produce, distribute, upgrade, package and modify products in a sensitive and environment friendly manner.

All effects for consumption show that all elements play a significant role in green marketing. Green marketing is not limited only to governmental and non-governmental organizations and not to consumer activities. Rather, manufacturers, wholesalers, retailers and service companies each have opportunities to participate in green marketing. Green marketing also identifies the need to consider the production, distribution and modification of products as integrated marketing components. The goal of green marketing is to limit all environmental impacts associated with consumption. Finally, green marketing should take into account the promotional efforts taken to obtain consumer support for environment friendly products.

## Theatrical Framework

Explained that consumers in Tamil Nadu are satisfied with solar home system and believe there is only installation cost of the solar and no other cost during the life time of the system (Mohanasundari and Devi 2018).

Represents some important factors that have influence on consumers to go towards solar energy. Factors are as follows: An active energy market, Security of supply, energy prices, environment and climate situations (Lavrijssen 2014).

Evaluated that renewable energy in small scale household has an important role in perceived ease of use, perceived behavioral control, knowledge and awareness, cost reduction and relative profit (**Alam et al 2014**).

Demonstrate that households are satisfied with solar home systems because of equipment quality, energy savings, low dependence on kerosene, increase in the duration of study at night and improvement in standard of living (**Komatsu et al 2013**).

Represent the most important benefits of solar home system; i. It increases standard of living for a long-term. ii. It reduces the risk of using kerosene. iii. It is energy efficient. iv. It increases study time. v. It provides better indoor air quality (**Rahman and Ahmad 2013**).

Explained that there is less direct evidence on the capitalization for residential solar home market. Some household are proud that they are producing green energy by using solar home systems (**Hoque and Das 2013**).

Found that most of users prefer to keep solar home systems although they have electricity grid. Solar home system is good in performance and very useful tool for solving pollution problems (**Bond et al (2012)**).

Claims that installing of solar home systems enable household to have clean environment, high quality and reliable energy services. Solar home system improves education, recreation and communication in rural areas. It also increases standard of living in rural Bangladesh (**Buragohain 2012**).

Show that SHS programs are successful in Bangladesh because the executors have the ability to control the cost of solar home system, ensure the quality of solar panels and also, they have loan recovery rates. In addition, they intend to achieve household with low income that are ready to pay by micro-credit loan. (**Urmee and Harries 2011**).

Explained that integrated solar home system has the following benefits: i. Installation process is easy. ii. There is a considerable reduction in the cost of the system. iii. There is increase in efficiency by means of low cell-temperature operation. iv. There is increase in reliability by means of pre-manufactured and pre-tested units. v. Standard AC output 6. Discretionary use of hot water as a by-product (**Kamalapur and Udaykumar 2011**).

Found that users prefer solar home lighting systems to solar lanterns because of: i. better light quality ii. the house will be lighted up completely iii. possibility to study at night (**Urmee and Harries 2009**).

Suggested that installing solar home system is a good opportunity for household to make possible the income-generating activities. The income-generating activities may lead to positive attitudes for solar home systems (**Breyer et al 2009**).

Found that factors such as professional service, systematic and efficient technology and balanced supply chain might increase customer value. Moreover, sharing of certain and enough information help the customers to know better about renewable energy and this may increase demand for renewable energy systems (**Tapaninen et al 2009**).

Claim that consumers of solar home systems are satisfied with using of solar and they want to recommend the solar energy systems to other potential customers in spite of increase in price and decrease in subsidy. In Bangladesh, users of solar home systems are satisfied with technical performance, adequate financing infrastructure and after sale services (**Aziz et al 2009**).

The results indicate that household prefer solar lighting to grid system, because supplying power from grid is not reliable. Solar lighting causes reduction in kerosene usage and electricity cost also decreases. Banks play an important role in the viability of solar home systems. Banks act as an intermediary among consumers and solar system firms for ensuring good quality services and maintenance processes (**Anisuzzaman and Urmee 2006**).

Found that people have accepted solar energy in rural area. The PV-ESCOs project shows that people are willing to use solar energy compare to kerosene and dry cells that they were using before. But providing credit because of very high interest rate is not possible (**Ellegård et al 2004**).

Indicate that solar energy systems as a renewable energy reduces cost of electricity, emission of CO<sub>2</sub> and dependency on fossil fuels (**Morante and Zilles 2001**).

### Customer Perception

The results show that customers perception of green



practices have a positive influence on green image of a restaurant that also positively influences on customers attitudes towards a restaurant. Also, recycling wastes and using energy-efficient lighting are the key green practices that are very important factors to the formation of customers perception of green restaurant (**Jeong et al 2014**).

examine a framework identifying the gaps between customers' expectations and their perceptions in green products. The results show that, there is a gap between customer's expectation and their perception. Also, customer's expectation is more important than customer's perception (**Tseng and Hung 2013**).

examine the consumers' perceptions and preferences towards green marketing practices and products. The finding of the study indicates that green values, awareness about green products and practices of companies towards green marketing have an important effect on consumer motivation to buy green products. Consumers prefer to buy green products compare to other products when these green products are available (**Bhatia and Jain 2013**).

The results indicate that consumers are more willing to buy green products with higher price than no green-products. Awareness about environment and environmental issues influence consumer behaviour, so they prefer products that are green (**Borin et al 2013**).

focus on the relationship among green perceived quality, green perceived risk, green satisfaction and green trust. The finding suggests that green perceived quality positively influence green satisfaction and green trust while green perceived risk has a negative influence on green satisfaction and green trust. It is useful to increase green perceived quality and decrease green perceived risk because they have an important role for enhancing green satisfaction and green trust (**Chen and Chang 2013**).

The finding of the study shows that consumer's environmental concern has influence on purchase intention. Also, the benefits of environmental utilization show an important influence on participants purchase intention (**Hartmann and Apaolaza-Ibañez 2012**).

The results show that customers' green attitudes have a significant relationship with their expressed intentions to visit a green hotel, to speak about hotel,

to spread a word-of-mouth and also, they are willing to pay for it. Eco-friendly intention does not differ among age, education and household income. Also, customers' intentions were influenced by their previous experiences (**Han et al 2011**).

considers how the ecological aspects of consumption integrate into the link between perceived value and consumer loyalty intentions. The results show that the most important factor for green consumers is ecological value. Value creation is very important. Sufficient functional, economic, emotional and social values are the most effective elements for successive customer retention (**Koller 2011**).

The finding reveals that consumers are willing to invest in green shares. Econometric analysis shows that the level of education and income, environmental awareness and profits are the main factors for consumer to invest in green shares (**Getzner and Grabner-Kräuter 2004**).

### Customer Satisfaction

reveal Customer Satisfaction in green field. It also considers the moderating roles of firm motives in influencing consumers' reaction to green initiatives. The result indicates that perceived warmth, perceived competence and engaging in CSR has an important effect on consumer satisfaction. Green initiatives with successful service situation (warmth and competence) also increase customer satisfaction (**Gao and Mattila 2014**).

The results of this conceptual model show that green innovation, emotional, social and functional value has a positive influence on customer satisfaction. Also, customer satisfaction brings customer loyalty and decreases price consciousness (**Hur et al 2013**). The finding of the study indicates that green attributes influence on customer satisfaction and it also moderated by the performance of core attribute. The result shows that it is possible to achieve a high level of customer satisfaction with optimal amount of resources (**Slevitch et al 2013**).

Studies that solar energy has a great impact for development of rural area in India. The use of kerosene has reduced in all income groups because of solar home lighting systems. It is also very beneficial for women and children; they can do their activities at night. Due to availability of lighting system during night, crime rate also has been declining (**Iemsomboon 2011**).

The results show that customer satisfaction and

attributes about service quality has a significant impact on revisit intention. Management in green hotel should try to increase customer satisfaction and intention, so this will affect the customer to revisit the green hotel (**Han and Kim 2010**).

The result shows that consumers are willing to choose hotels that have green practices and are environment friendly but they are not willing to pay extra for these green practices (**Manaktola and Jauhari 2007**).

Confirm the standard of living is improved because of solar services. Solar system has a major impact on lifestyle of Zambian people. The major impacts of solar systems are: reading and writing for longer period of time at night, watching TV or video and listening to music is improved (**Djain et al 2002**). found that customers can acquire solar panels on

credit. There is customer satisfaction on the performance of SHS. Solar Home System has improved lighting, day time execution and saving on energy bills (**Nieuwenhou et al 2001**).

The results show that attitudes are the most important factor for purchasing behaviour. So, organizations that want to capture the market for existing green products should develop their activities towards environmental protection (**Schlegelmilch et al 1996**).

#### **Data and Methodology**

Most of the reviewed papers are from 1996 to 2018. Majority of the data are primary and have been collected through questionnaire and interview by the researchers. Out of 36 papers have been reviewed for this study. We have used inductive method for review the papers and concluding the results.

#### **Source of the Study**

<b>Year</b>	<b>Authors</b>	<b>Keyword</b>	<b>Journal</b>
2018	Mohanasund ari and Devi	Solar, Solar energy, Solar products and Energy conservation, Consumer awareness and preferences	International Journal of Engineering and Management
2014	Lavrijssen	energy consumers, behavioural economics	Journal of Competition Law and
2014	Alam et al	Small-scale renewable energy Usage	Renewable Energy
2014	Gao and Mattila	CSR-Green hotel, consumer satisfaction, perceived warmth and competence, perceived motive	International Journal of Hospitality Management
2014	Jeong et al	Restaurant green practices, green image, customer attitude, Green marketing	International Journal of Hospitality Management
2013	Tesng and Hung	Environmental Sustainability, Green Product, Green Marketing, SERVQUAL	Journal of Cleaner Production
2013	Hur et al	Consumer value hybrid satisfaction, Loyalty, Price consciousness, Environmental marketing, Sustainable consumption	Corporate Social Responsibility and Environmental Management
2013	Bhatia and jain	Green Marketing, environmentally friendly products, Green Product Awareness, Willingness to buy, Consumer behaviour, Management	Electronic Green Journal
2013	Slevitch et al	Consumer behaviour, customer satisfaction, product attribute, level performance, eco-friendly, green attribute	International Journal of Contemporary Hospitality Management

2013	Borin et al	Green marketing, Green product, Sustainable, Green operations, Environmental, Ecological, Environmental Management	Journal of Product and Brand Management
2013	Chen and Chang	Green trust, Green satisfaction, Green perceived quality, Green perceived risk, Green marketing, Trust, Perception	Journal of Business Ethics
2013	Komatsu et al	Solar home systems, Rural electrification, Satisfaction, Bangladesh	Energy
2013	Rahman and Ahmad	Solar Home System (SHS) Rural development Bangladesh	Energy Policy
2013	Hoque and Das	Solar home system, Cost, Energy, Emission	International Journal of Renewable Energy Research
2012	Bond et al	SHS, Development impact, East Timor	Energy policy
2012	Buragohain	Development, energy, Odisha, solar	International journal of environmental science and development
2012	Hartman and Apaolaza	Environmental Marketing, Environmental consumer behaviour, Psychological brand benefit, Green electricity adoption	Journal of Business Research
2011	Urmee and Harries	Solar PV, SHS, Bangladesh, Micro-credit, Successfulness	Renewable Energy
2011	Kamalapur and Udaykumar	Rural electrification, Photovoltaic Solar Home System, Grid extension	International Journal of Electrical Power & Energy Systems
2011	Iemsomboon	Quality of Life, Solar Home System, Analysis Hierarchy Process	Energy Procedia
2011	Han et al	Green hotel, Eco-friendly attributes, Personal characteristics, Eco-friendly intention	International Journal of Hospitality Management
2011	Koller	Perceived value, Consumer loyalty, Green perspective	Psychology and Marketing
2010	Han and Kim	Green hotel, Extended theory of planned behaviour, Revisit intention, Decision-making	International Journal of Hospitality Management
2009	Urmee and Harries	Solar home system, Success factors, Program implementers, Barriers, Success indicators	Energy for Sustainable Development
2009	Breyer et al	Rural Electrification, Dissemination, Education and Training, Developing Countries, Sustainable Development	In Proceeding s 24th European
2009	Tapaninen et al	Barrier, basis of competition, perceived characteristic, renewable energy, wood pellet heating	International Journal of Agile Systems and Management

2009	Aziz et al	Solar Home System (SHS), technical performance, Micro financing, After sales service	In Developments in Renewable Energy Technology
2007	Manaktola and Jauhari	Green Marketing, Consumer behaviour, Hotel and creating industry, Corporate Social Responsibility	International Journal of Contemporary Hospitality Management
2006	Anisuzzaman and Urmee	Solar Home Systems, Rural Electrification, Financing Mechanism	
2004	Ellegård et al	solar photovoltaic (PV), solar energy services	Renewable energy
2004	Getzner and Grabner	Marketing Strategy, Green Marketing, Consumer behaviour, Social responsibility, Business ethics, Austria	The International Journal of Bank Marketing
2002	Djain et al	solar home system, social impact	In World Renewable Energy Congress VII
2001	Morante and Zilles	Solar home system, Energy demand	Research and Applications
2001	Nieuwenhou et al	Solar home system; rural electrification; households	Research and Applications
1996	Schlegelmilch	Green purchasing decisions, environmental consciousness	European Journal of Marketing

## Conclusion

This article considers a review on green marketing and renewable energy. It also explores customer perception and satisfaction. The results show that most articles focus on the following points:

- Green initiatives with successful service situation of solar home system increase customer satisfaction.
- Green innovation, emotional, social and functional value has a positive influence on customer satisfaction.
- Customer perception of green practices has a positive influence on green image of products.
- Awareness about environment and environmental issues influence on customer perception; so, they prefer products that are green.
- Green perceived quality positively influences green satisfaction and trust.
- Level of education, income and environmental awareness are the main factors for using renewable energy.

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# ENTREPRENEURSHIP OPPORTUNITIES IN ORGANIC FARMING POST COVID-19

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## Key Words:

Entrepreneurship  
Opportunities,  
Organic Farming,  
Value Addition

## Abstract

*COVID-19 has compelled us to retrospect our lifestyles. More emphasis is laid on wellbeing and sound health. As there is a lot of scepticism about hygiene and source of the food, people could opt for growing their own food in their capacity or they would at least consume organic, chemical free food. Organic farming would be the goto solution to fulfil the growing need of availability of wholesome food. Agripreneurs can adroitly utilise all the entrepreneurial opportunities Organic Farming has to offer. Aggressive Government initiatives can make organic farming the new conventional farming by increasing its penetration and awareness.*

## Introduction

Agriculture is the backbone of Indian Economy. The geo-climatic conditions of a country have a direct effect on crop varieties grown there. A few factors which help India in producing diverse commodities are: It is bestowed with 15 climatic zones out of 24 totally. Out of 60 types of agro soils it has 46 of them. India has the 10<sup>th</sup> largest arable land in the world. Total land area is 32 crore hectares in which 16 crore hectares is cultivated. Out of the total Indian population of 135 crores, farmer population constitutes 16.6 million. India is the largest producer of spices, pulses, mango, milk, banana, jute, cotton, marigold etc. In spite of all these advantages most farmers live a miserable life, but there are farmers who have huge turnover too. The reasons for this imbalance are Land Fragmentation, which is division of land among subsequent generations of family and lack of entrepreneurial skills. Middle men exploit farmers and manipulate commodity prices, preventing them from reaping profits. Hence the need of “Agripreneurs” proliferates. Agripreneurs are entrepreneurs combining their love for farming and agriculture with an acquired business approach. Agripreneurship can lead to economic transformation and poverty alleviation.

Due to the world-shattering phenomenon called COVID-19, economic decline was not unprecedented. But the resilience to manage this

crisis provides one with immense opportunities to promote sustainable agriculture, so that there is no paucity of food. A domain which is gaining popularity is Organic Agriculture which can meet the demand of quality wholesome food. The use of various chemicals & pesticides during different stages of farming and packaging, contaminate the products by the time they reach end consumers. It is also dangerous for overall well-being. Organically, food is grown and harvested without using chemicals. This has garnered appreciation and interest from many. As people are ready to invest money in healthy and chemical free food, which benefits their health in the long run.

## Review of Literature

Europe had carried out a framework to assess the impact of Organic Farming Initiatives on Rural Development. They designed a workable structure of supply chains to market good products at reasonable prices. Bertil and Nathalie conducted a research on resource-based theory and the second on entrepreneurship. It was concluded that it was the entrepreneurial approach in an organization that determines the success of Organic Marketing Initiatives and not the resources of the farmer. A similar framework could be carried out in India, by considering an additional factor of farmer literacy, as majority population of farmers are not educated and only follow conventional agricultural practices.

Convincing marginalised farmers to shift to organic farming could be a herculean task, considering current situation with minimal infrastructure like cold storages, transportation to preserve and transport produce timely.

Implementation of economic, social and ecological development goals should start by entrepreneurship encouragement in rural areas. Entrepreneurship in organic production and trade could be one of the main drivers of economic growth, productiveness and innovations in rural regions. Organic production is economically effective, ecologically compatible and socially responsible and it occurs to be an effective entrepreneurial strategy. In India exceptionally marginalised farmers lack awareness about entrepreneurial benefits they could obtain by growing organic produce. Government provides incentives but prior that efforts must be made to holistically educate farmers about the environment friendly farming practices. A farmer shouldn't shift to organic farming for obtaining incentives by government but rather she/he should be more conscious towards preventing environmental damage and they should feel more responsible towards the wellbeing of consumers. (Venelin et al)

Despite growing interest and enthusiasm for organic entrepreneurship, Desirée et al suggest that under certain conditions, where even though sustainable business models may be collectively beneficial, entrepreneurs face a disadvantage when pursuing costly sustainable actions, as such costs may not be borne by their competitor's. In such situations, sustainable actions turn to be a bane instead of boon as entrepreneurs face a system of incentives that fail to encourage sustainable practices. This is countered by changing the competitive rules of the game by transforming economic incentives. Sustainable entrepreneurs transform institutions by altering and/or creating norms property rights, and government legislation. But there are limitations which entrepreneurs can face like: First, when the costs of institutional change outweigh its benefits, entrepreneurs will likely continue operating under the status quo. A robust cost to benefit analysis in the long term is mandatory before establishing or proposing an institutional incentive Second, greater the size of the industry group in which entrepreneurs operate, greater the challenges entrepreneurs face in monitoring and enforcing the behaviour of competitors. Employing a centralised authority and deducting some portion of incentives of the players as the cost for functioning of the authority could be considered.

Many farmers have turned to agritourism for additional income and opportunities. Agritourism strengthens financial health of farm owners, increases job opportunity and diversity, and gives them a chance to explore new business avenues. In India, Agritourism is still gaining prominence but is not dominant. As 70% Indian farmers are marginalized and own small sized land with no irrigation facilities. So, the rudimentary requirement of owning a presentable agricultural land is compromised. If farmers are trained by experts on how to make the best out of limited resource, this shortcoming can be eliminated. More emphasis on honing their communication skills can help them better elucidate their farming practices to people.

The role of the farmer in Europe is changing, as farmers have to be more entrepreneurial to be competitive. Many skills associated with running a successful business are not necessarily skills that the farmer has. Also, farmers do not systematically engage in continual professional development to update their skills and competences. There is plethora of strategies which farmers can adopt to survive and be successful in a changing economic environment. They can intensify production, by volume increase, specialise or diversify. For example, the farm enterprise may be broadened, through tourism or other forms of non-agricultural business, or through organic production. All of these options involve growing the business.

A miniscule section of tea growers in Assam shifted to organic cultivation considering its economic and ecological profits. But they lacked experience, technical know-how and market access. These could be dangerous for their initiative. The organic growers displayed entrepreneurial characteristics by being innovative, taking risks, and opportunity seeking to overcome the initial difficulties. The findings suggest that the development of entrepreneurial skills among small growers would be very pivotal to promote organic cultivation amongst all farmers in general. (Nabhyajyoti and Kishore)

### Objectives

- To highlight entrepreneurial opportunities in Organic Farming
- To promote value addition so that farmers get their dues
- To suggest measures which enhance biodiversity

## Discussion

Urban Agriculture and Vertical Farming, which are food growing techniques in controlled environment. These techniques judiciously use available environmental resources. In vertical farming crops are grown on stacked layers, which have less water requirement, increased yield and more varieties of crops can be cultivated. There is no weather-related crop loss and very less space is occupied. These are sustainable solutions to fulfil the demand of nutritious food for growing world population.

Farmers would be benefited if they have prior information about climatic changes, crop status, soil status. Based on this knowledge they could predict yields and take corresponding cost-effective damage control measures. Agri Data science, where IoT devices and sensors collect real time data from soil, plants, machineries, etc. Then analysts analyse these huge volumes of data to determine patterns. These patterns provide insights to make more informed decisions. Using AI farmers could understand the kinds of insects infecting crops, the health of soil, etc.

Nowadays many consumers are oblivious of the source of vegetables and greens they buy and use. Few farmers also resort to unethical farming practices to produce more yield and to keep the produce fresh. This can be combatted by Kitchen Gardening Consultancy. If consumers are more concerned about source and nutritive value over taste, Kitchen Gardening Consultancy can guide them in growing their own food which would be fresh and toxic chemical free.

Agriculturally inclined tourists go on vacations to farms, vineyards, ranches. This could be an opportunity for farmers to attract visitors to their agricultural areas for educational and recreational purposes. They can explain them their agricultural practices.

Value addition raises farmer income and minimizes their post-harvest loss. When a commodity in its raw form is processed before sold to the customer, value is added to it and it becomes a differentiated product. Value Addition can be done in multiple ways like growing products differently (organically, grass-fed), by processing products, by segregating products (like first grade, premium), or by utilising farm based renewable energy. Green energy resources are naturally replenished and have very less impact on the environment. They are generated from natural sources like sun, wind, rain etc. When farmers add more value to their produce, they can

charge more price and hence can generate more revenue too.

Incessant use of synthetic pesticides on plants pollute soil. While soil's fertility is gradually degraded, smart farming practices like crop rotation can't be implemented, ultimately leading soil erosion. Organic farming is a sustainable agriculture practice which produces food while protecting biodiversity. Chemical pesticides also pollute ground water. As their use is prohibited in organic farming, they are replaced by natural compost which improve soil structure and water infiltration. Animals which reside on organic farms are exposed to more clean and chemical free grazing, keeping them naturally healthy and illness resistant.

## Conclusion

Improving immunity is paramount to fight COVID-19. Organically grown crop products are exorbitant but they also provide potential health benefits. Organic farming maintains harmony with nature. When food is grown sans chemicals and is not genetically modified, it is healthier and tastier. It is a rapidly emerging concept which binds revenue and nutrition in one pack.

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