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From Editor's Desk…

"Nothing has such power to broaden the mind as the ability to investigate systematically and truly all that comes under thy observation in life."

Marcus Aurelius

With this quote in mind, I am delighted to present before you the maiden issue of **International Journal of Finance, Entrepreneurship & Sustainability (IJFES),** a bi-annual peer reviewed journal published by **International Centre for Business Research & Innovation (ICBRI)**. This issue is a culmination of the plethora of efforts put in by the authors as well as the KIIT School of Commerce & Economics. This scholarly journal has been published by focusing on the theories, systems, methods, and application of knowledge. It is committed to provide a high profile and leading-edge forum for academic scholars, industrial professionals, consultants, educationalists, and policy makers working in the field to contribute and disseminate innovative ideas on various themes. The journal also offers an opportunity for creation of knowledge base for the researchers. It aims to accommodate innovative, empirical, and case based, applied and policy-oriented research articles which promote an inclusive ethos and are open to a diversified range of methodological approaches.

I am grateful to all the contributors and reviewers who have devoted their valuable time and contributed towards this academic venture. I have high expectations that the reputation of our publication will be enhanced in the coming times by attracting higher quality submissions. One of the greatest benefits we can offer to our prospective contributors is the guiding nature of our review process which provides the authors with high quality, helpful reviews that assist them in improving their manuscripts. I hope our readers and editorial board which comprises of scholars from in and around the world share a similar vision of making this journal reach new milestones in the upcoming issues. We anticipate productive but challenging and successful years ahead and any constructive input on standardizing our processes is greatly appreciated for the continuous improvement of our journal.

We expect that the issue will be informative, interesting, relevant, and inquisitive for our readers encouraging them to have a diverse perspective on contemporary issues. Every Journey has a milestone and every breakthrough which is achieved will open a new vista for us to look further.

Prof. Sasmita Samanta
Editor-in-Chief, IJFES
Vice- Chancellor, KIIT-DU

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CONTENTS

THE INFLUENCE OF MACROECONOMIC VARIABLES ON THE STOCK MARKET PERFORMANCE

Anjaly B[1] Malabika Deo[2]

ABSTRACT

The purpose of the study is to empirically analyze the influence of the macroeconomic indicators on India's stock market performance. The macroeconomic variables considered are inflation, interest rate, money supply, industrial production, and exchange rates in India. The study covers the period from April 2005 to April 2021. The ADF test has been employed to explore the stationarity of the variables, and the ARDL methodology has been administered to unearth the association between the macroeconomic variables and stock market return. The study found that industrial production, interest rate, and exchange rate have long term negative relationship with stock return. More specifically, the exchange rate has a significant impact on the stock market performance. At the same time, inflation exhibits a negative short-term relationship with the stock market return. Though money supply has a positive relationship, the magnitude is insignificant.

Keywords: stock market, macroeconomic indicators, India, ARDL.

1. Introduction

The financial system in a country serves the purpose of distribution of resources. Thus, it acts as the most important component in an economy. The long-term capital gets channelized through the stock market or capital market. The primary role of the stock market is to distribute the proprietorship to investors. The performance of the stock market shows how the money gets allocated in an economy. The stock market plays a vital role in economic growth and development. Rightly stock market is considered as the barometer of the economy. A fit and prosperous stock market reflects the country's economic growth by channeling capital to entrepreneurs and investors. The stock market has two vital roles to play in an economy. Firstly, the stock market helps in the price discovery process, and secondly, it provides liquidity. A strong stock market supports economic activity by boosting growth and saving, attracting the FDI, and efficiently allocating investment in the economy. Hence, the stock market has a significant relationship with the macroeconomic indicators in a country.

In this study, our main aim is to understand the influence of macroeconomic indicators on India's stock market return. The macroeconomic variables such as inflation, money supply, exchange rate, interest rate, and industrial production have

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been considered in this study. According to economic theory, the money supply and stock market should have a positive relationship because an increase in the money supply boosts the overall purchasing power in an economy; thereby, the investment will increase. The association between inflation and the stock market is ambiguous. Studies reveal both negative and positive association of inflation with the stock market. The foreign exchange rate and the stock market can positively or negatively affect the stock market. According to the classical economic theory, it is supposed to be negative as with an increase in exchange rate import become costlier, reduces the profitability, reduces the attractiveness of stock on the other hand increase in exchange rate brings more foreign investment make stock market attractive hence positive relation exhibited. Low industrial production leads to low profit and dividends. Hence the linkage between industrial production and the stock market is expected to be positive.

The structure of the research work includes the background of the study, which consists of the literature review in the context of the factors influencing the stock return and the influence of the macroeconomic indicators on the stock market performance. The third section deals with the methodology part of the study, the fourth section explains the data analysis and discussion, and the fifth and final section deals with the conclusion.

1.1 Factors influencing the stock market

The present study is an investigation of macroeconomic influence on the stock market under the Asset Pricing Theory (APT) or Multi-Factor Asset Pricing (MFAP)theory (Lone, et al, 2021). The variables considered in this study have been discussed, taking the reference of past literature.

1.1.1 National output

There is no unanimity regarding the relationship between real economic growth and the stock market performance or the role of the national output in determining the performance of the country's stock market. Fama, (1981) found a positive association between the stock market and the real economic activity in the context of the investment processor model with the justification that when the output raises, it puts pressure on the current stock market to upsurge the demand of goods and services. Likewise, the rise in the average return on investment leads to an increase in the stock return. So, a firm persuades more investment; consequently, the capital expenditure investment also increases. Tobin and Brainard (1977) found a fluctuating relationship between real economic activity and the stock return.

1.1.2 Investment

Comparatively, there is significantly less work done linking investment and the stock market. Groenewold's study (2004)found that investment in the market has a less significant effect on the stock market performance. However, the findings were done by Dow and Gorton, (1997)states that the movement of the stock price has an indirect effect on the investment decisions.

1.1.3 Trade openness

There are few past studies available in the field of the stock market, and trade openness Lim & Kim, (2011) found that there is a positive association between trade openness and stock market performance in a country. Moreover, Levine (2001) stated that the stock market liquidity would increase due to the ease of restrictions in trade openness. Therefore, there is a positive association between these two. Chinn and Ito (2006)found that the stock market development depends on the liberalization of the capital account.

1.1.4 Money supply

Money supply plays a vital role in the stock market performance. Asprem, (1989)found a negative relationship between the money supply(m0) and the stock market performance. However, he found a positive association with the stock market using the broad money as a proxy. Some other authors like Wongbangpo and Sharma (2002), Ibrahim and Aziz, (2003) and Abugri, (2008)argue the same. The rise in the money supply leads to the increased inflation; consequently, it negatively affects the stock market performance. Many other authors found the same (M. Ibrahim & Musah, 2014; Maysami & Koh; 2000; Mukherjee and Naka, 1995; Mohammed Nishat, 2005; talla tagne josep, 2013). They conclude that the money supply and the stock market have a positive relationship.

1.1.5 Inflation rate

Many authors have earlier comprehensively examined the analysis of inflation and the stock market performance. The results evidence both negative and positive relationships. The literature in this field proposes the fisher effect hypothesis, tax-effect hypothesis, proxy effect hypothesis, and the reverse causality hypothesis explaining the relationship. A study done in the US by Jaffe and Mandelker (1976) found a short-term negative relationship between inflation and stock market return. At the same time, a long-run positive relationship with the stock market from 1875 to 1970. According to the fisher effect, both inflation and the stock market performance have a long-term relationship. However, some authors like Fama and Schwert, (1977); Gultekin, (1983); Saunders & Tress, (1981) found a negative long-term association between these two variables. According to the proxy effect hypothesis Fama, (1981)found a negative and

long-term relationship between inflation and the stock market performance. Geske and Roll, (1983) stated a negative relationship between the stock market and the expected inflation, supporting the reserve causality hypothesis. According to the tax effect hypothesis proposed by Feldstein, (1980)the inflation increase the corporate tax, it causes a lowing in share price.

1.1.6 Interest rate

The studies investigating the association between the interest rate and the stock market are large in financial economics. Many studies like Abugri, (2008); (Asprem, 1989); Ibrahim and Musah, (2014); Ibrahim and Shah, (2012); Maysami and Koh, (2000); Mukherjee and Naka, (1995); talla tagne josep, (2013); Wongbangpo and Sharma, (2002); Majid, (2007) found a negative and significant association between these two variables. They argue that when the interest rate rises, the investors in the stock market tend to move to the debt market. Furthermore, a high interest rate causes the high discount factor, which is expected to affect the stock market negatively.

*1.1.7 Exchange rat*e

The exchange rate and stock market have a theory-based association. According to Dornbusch and Fisher (1980) the relationship between the exchange rate and the capital market could have a flow model. This means the movements in the exchange rate could lead to volatility in the stock price. Many studies like Asprem, (1989); Mukherjee and Naka, (1995); Wongbangpo and Sharma, (2002)have found a positive relationship between stock market performance and exchange rates. The argument is that the export will increase when the currency depreciation happens, and the foreign capital inflow increases and creates better performance in the stock market. On the contrary, some authors like Ibrahim and Musah (2014); Talla tagne josep (2013) found a negative relationship between these two and justify that depreciation in currency leads to the rise in the input cost of the domestic firm and stock returns get negatively affected.

1.1.8 Crude oil price

The relationship between the crude oil price and the stock market performance is debatable. Some studies like Kaul, (1996); Kling,(1985) found that the crude oil price has a significant influence on the stock market performance. However, others like e.g., Chen, Roll and Ross, (1986) found contrary results. They argue that there is no conclusive proof of the impact of the crude oil price on the stock market performance.

2. Review of Literature

It is a well-time-honored fact that the macroeconomic variables do affect the performance of the stock market. Apart from the microeconomic factors like firm value, cost of equity, etc., the macro environment plays a vital role in the stock market

performance. In this study an attempt has been made to understand the impact of the macroeconomic influence on the stock market in India.

Kumar (2013)investigated the effect of macroeconomic factors on the stock market performance in India. He carried out his study by classifying the macroeconomic factors into three heads: macro-environment, industrial performance, and policy rates. He found that industrial production has a significant effect on the stock market performance. Nevertheless, the policy rate reported not having a long-lasting impact on the stock market, even though the impact of the policy rate cannot be denied. Through this study, he suggested that the government should attempt to keep the macroeconomic stability for the better performance of the stock market and favorable market supports better than the policy rates to attract the investment in India. Parmar (2013) examines the predictability of the stock market using the macroeconomic variables and the relationship between the stock market and macroeconomic indicators and their effect on the stock market in India. He found out that the macroeconomic variables are having a significant impact on the SENSEX and conclude that the long-term performance of the Indian stock market depended upon the domestic macroeconomic dynamic rather than the foreign macroeconomic dynamics. Misra (2018) conducted a study to examine the association between India's BSE index and macroeconomic indicators from 1999 to 2017. The results show a long-term association between the IPI, inflation, gold price, interest rates, FII, exchange rate, money supply, and BSE index. He also found a short-term relationship between the money supply and stock market index, inflation, and BSE index. Tripathi and Seth (2014) studied the association between the real economy and the stock market's performance in the Indian context using July 1997 to July 2011. They found that there exists a significant correlation between the macroeconomic indicators and the stock market. Hosseini et al, (2011) made a study by exploring the relationship between the stock market performance and the macroeconomic variables such as the crude oil, inflation rate, money supply, industrial production for January 1999 to January 2009. Using the vector error correction model and cointegration method found that short-term and long-term associations exist between stock market performance and macroeconomic indicators. Naka, Atsuyuki, et al, (1998) studied the relationship between the Bombay stock index and macroeconomic indicators in India using the cointegration and Vector Error Correction model. The study showed that industrial production has a considerable positive impact on the Bombay stock exchange. However, inflation has a negative and significant effect on the stock return. Husnain, et al, (2009) examined the link between the price of shares in the Karachi stock market and the macroeconomic indicators in Pakistan. They used macroeconomic indicators like exchange rate, forex reserve, WPI, money supply, gross fixed capital formation. IPI of Pakistan for 1987 to 2008 and employed Johansson cointegration techniques. The evidence showed that post-1991, the forex reserve and exchange rate significantly affected the stock market return. Moreover, the GFCF, WPI,

and M2 were positively and significantly associated with the stock market return. They also reported that inflation depicted the more effective results for the stock market forecast, among other variables. Cota et al, (2008) investigated how the macroeconomic indicators affect the stock market performance of Swedish stock market. Their results show that all macroeconomic variables have a long-term relationship with the Swedish stock return and industrial production, which was found to affect the stock return negatively and significantly. Whereas the money supply was observed to have a negative and long-term association with the Croatian stock return. Rashid et al. (2014) studied the relationship between the macroeconomic, Islamic stock return, and Malaysia investors' sentiment. The results showed that the currency index, interest rate, and FTSE composite index significantly impact the Islamic stock market than industrial production, CPI, investors sentiments, and money supply. Ouma and Muriu, (2014) examined the influence of macroeconomic indicators over the development of the stock market in Zimbabwe during the 1990s and 2018 using the ARDL model. The result reveals a long-term relationship between these variables and the stock market index. The stock market and exchange rate exhibited a positive and significant association, while inflation and the stock market were found to have insignificant and negative relationships. Bhattacharjee and Das (2021) investigated the effect of macroeconomic variables on India's stock market. The result showed that the relationship between money supply and exchange rates is insignificant in the long term.

The inflation, money supply, and foreign exchange rate have a short-term association with the stock market. They suggest that squeezing the money supply by the government is not suitable for the economy. Nevertheless, the excess money supply is also not good for the economy; it will increase inflation even though he recommended not aggressively reducing the money supply. Kaur and Singh, (2019) examined the association between the macroeconomic indicators like CRR, commodity price, reverse repo rate, gold price, inflation rate, oil price, and Sensex from January 2001 to December 2009 in India through regression and correlation analysis and found out that the exchange rate, gold price, and inflation rates are the most critical variable for the prediction of the Sensex. And suggested that a good prediction model for Sensex must include these variables. Norehan and Ridzuan, (2020) examined the influence of macroeconomic indicators on the stock market in Malaysia during the period from 1981 to 2017. He used the ARDL model to examine the association of macroeconomic indicators like inflation rates, domestic savings, broad money, exchange rates, and the stock market. He found that the inflation rates and exchange rates have a positive and significant influence on the stock market index. Moreover, the money supply and the domestic saving negatively and significantly affect the stock market.

The research gap of this study is that even though many studies have done this field, we are considering the macroeconomic variables such as inflation, exchange rate,

industrial production and money supply, and the stock market return. The study takes into consideration the most updated data i.e., up to April 2021.

3. Methodology

3.1 Data

The objective of our study is to understand the influence of macroeconomic indicators on the stock market performance in India. For this, the data collected were of Money supply(M3), inflation (CPI), the exchange rate (INR/USD), industrial production index (IPI), and stock market (BSE INDEX). Our dependent variable was Sensex return. The data collected were monthly and from CEIC database during the period April 2005 to April 2021.

3.2 Methodology

The Auto-regressive Distributed Lag (ARDL) model has been employed to examine the impact of the macroeconomic indicators on the stock market return. ARDL equations are given below.

$$sm_t^r = \beta + \sum_{i=1}^{m} \beta\, m_{t-1} + \sum_{i-1}^{n} \beta\, y + \sum_{i=1}^{o} i + \sum_{i=1}^{p} \beta e^r + \sum_{i=1}^{q} i\, \lambda_1 \Delta_{t-1} + \lambda_2 y + \lambda_3 \Delta + \lambda_4 i + \lambda_5 e^r + \varepsilon \quad (1)$$

Where,

sm^r=stock market return
$m3$= money supply
y = Industrial production index
i= interest rate
e^r= exchange rate return
Δ= inflation

Where c is the constant andβ is the parameters? *n, m, o, p, q* is considered lags of respective variables. $m3$ is money supply y is industrial production index $i$inflation rate of India and e^r is the INR/USD exchange rate and ε is the error term. The equation (1) which can be calculated by mean of delta method. This method involved complex procedure (Pesaran, M. H., Shin, 1997). Otherwise, a variant Error Correction form can be expected via instrumental variable. If the cointegration is confirmed, the Error Correction Model (ECM) uses proper lag selection criteria to obtain the short-term relationship with the stock return.

$$sm_t^r = \propto + \sum_{i=1}^{n} \gamma m_{t-1} + \sum_{i-1}^{n} \delta y + \sum_{i=1}^{n} i + \sum_{i=1}^{n} \Delta + \sum_{i=1}^{n} e^r + \lambda_1 m_{t-1} + \lambda_2 y + \lambda_4 i + \lambda_2 \Delta + \lambda_5 e^r + \gamma ECM + \varepsilon \quad (2)$$

Where γ denotes the speed and ECM is the residual of this model. To employ this model, we tested for stability parameters such as the Cumulative Sum (CUSUM) test and Cumulative Sum Square (CUSUMQ) test. The other diagnostic tests were also conducted

to ensure no autocorrelation through correlogram Q statistics and Squared residuals and serial correlation through Breusch-Godfrey serial correlation test

4. Data Analysis & Discussion

4.1 Result of ADF test unit root test results

Table (1) shows the result of the Unit root test. To check the stationarity of variables, we used Augmented Dicky fuller test.

Table 1: Results of ADF unit root test

variable	i (0)	i (1)
$bse\ return$	-13.25158***	-14.32393***
inr_usd	-12.57789***	-11.92123***
y	-2.710247	-3.402271**
$m3$	1.624056	-2.919486*
Δ	-0.016873	-3.224381***
i	-1.769311	-12.53935***

Test significance at *** 1 % level ** 5 % level * 10 % level

As per the Augmented Dicky Fuller test result of stationarity, the outcome is mixed, and the variables are stationary i (0) and i (1). Variables like BSE index return, and the INR/USD return variables are stationary at level (0), and variables like index of industrial production index, money supply (broad money, M3), inflation (Consumer Price Index, CPI), and the interest rate (short term) are stationarity at level (1). The IPI variables are stationary at 5% level of significance, the money supply is stationarity at 10% significance, and other variables are significant at 1%.

4.2 Results of F-statistic test

Table (2) shows the bound test results of ARDL (1,4,0,0,0,0). We have used the Akaike Information Criterion (AIC). The estimation results of ARDL, which gives the least negative values, are suitable for the future estimation of results.

Table 2: Result of Bound Test

Test statistic	value	k	significance level	I (0)	I (1)
F-statistic	33.47619***	5	10%	2.26	3.35
			5%	2.62	3.79
			2.50%	2.96	4.18
			1%	3.41	4.68

Source: Author's estimation, Indication: I (0) is the lower bound value, and I (1) is the upper bound value.

Null hypothesis: there is no long-term relationship between variables.

The ARDL estimation shows a long-term relationship or cointegration between the variables because the F-statics is 33.47619, greater than the upper bound value of 4.68 at 1% of level significance. Hence the null hypothesis that there is no long-term association between these variables was rejected. The rest directed is to do for further examination for the Error correction model and long-term cointegration.

4.3 Co-integration and long run form

Table (3) showing the long-term relationship between the macroeconomic indicators and Bombay stock market performance. The result revealed a negative and significant relationship between the BSE index and the exchange rate (INR_USD) at 1% and a negative and significant long-term relationship between the short-term interest rate and the industrial production at a 10% level of significance. The inflation was found not to have any significant long-term effect on the Bombay stock market performance.

Table 3: Long-run coefficient -ARDL model (1,4,0,0,0,0)

Dependent variable: BSE return				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Δ	0.000179	0.000837	0.214328	0.8305
inr_usd	-1.570251	0.190488	-8.243308***	0.000
y	-0.000461	0.000189	-2.438583*	0.0157
$m3$	0	0	-0.431447	0.6667
i	-0.008037	0.003792	-2.119326*	0.0354
C	0.137686	0.048131	2.860651**	0.0047
Cointeq = BSE - (0.0002*CPI -1.5703*INR_USD -0.0005*IPI-0.0000*M3-0.00080*T-BILL+.1377				

Note: Test significant at *** 1 % level ** 5 % level * 10 % level. The numbers are concerned variables coefficient, St. Error, and t-statistics of variables

4.4 Short-run coefficients and residual diagnostic tests

Table (4) shows the results of the short-run relationship and residual diagnostic of this ARDL estimation. The inflation and BSE500 index return depicted a positive and short-term relationship. The money supply was found to have an insignificant relationship with the BSE500 index return. The other variables were found to be negatively related to the BSE500 index. The error correction term (ECM) (-.99321) was negative and significant at 5% significance, implying the existence of the long-term relationship among variables.

Table 4: Short-Run Coefficients and Residual Diagnostic Test

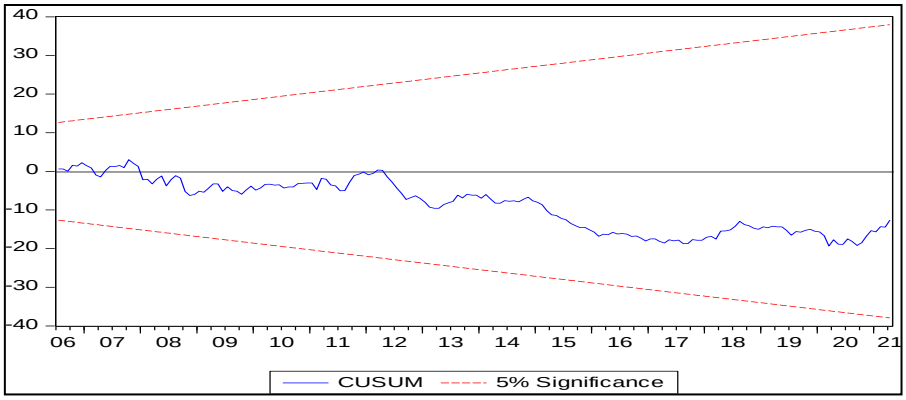
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D (Δ)	0.002565	0.001594	1.609523	0.1093
D (ΔI (-1))	-0.008768	0.007199	-1.217986	0.2248
D (Δ(-2))	0.020153	0.007145	2.820765**	0.0053
D (Δ (-3))	-0.011586	0.004374	-2.649165**	0.0088
D (inr_usd)	-1.557019	0.163667	-9.513334***	0.000
D (y)	-0.000457	0.000186	-2.454217*	0.0151
D ($m3$)	0.000	0.000	-0.430832*	0.671
D (i)	-0.007969	0.003813	-2.089949*	0.038
Residual diagnostic test			T-statistic	Prob. value
Breusch-Godfrey Serial Correlation LM Test: F-Statistic			0.022664	0.976
Heteroskedasticity Test: Breusch-Pagan-Godfrey			3.410522	0.8507
Ramsey RESET test-statistics			1.559388	0.1207

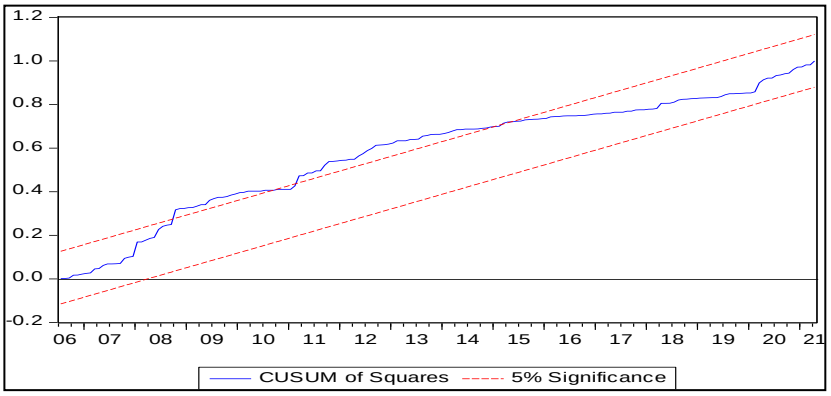
Note: Test significant at *** 1 % level ** 5 % level * 10 % level
Source: Authors estimation.

The residual diagnostic test i.e., Breusch-Godfrey Serial Correlation LM Test, Heteroskedasticity Test, and Ramsey RESET test-statistics, proved a short-run relationship among variables. There is no serial correlation found. The results of Heteroskedasticity and Ramsey statics show the rightness of this model

4.5 Cusum test

Finally, the diagnostic stability test, namely the CUSUM test and CUSUM Square test, were applied. The CUSUM test 5% fitted precisely, but the CUSUM Square test did not fit at 5% level significance because of the insignificant money supply relationship between the BSE index returns.





For the stability diagnostic result, we have used the CUSUM test. This result shows that the CUSUM test result shows that this model is precisely fitting. However, the CUSUM square test does not fit because of the insignificant relationship between the money supply and the stock market.

5. Conclusion & Critique

Macroeconomic factors like inflation, exchange rate, money supply, interest rate, and industrial production index impact the stock market's performance. The relationship of the money supply is positive with the stock market. Other macroeconomic variables have either long-term or short-term impacts on the stock market performance. The study found that industrial production, interest rate, and exchange rate have long term negative relationship with stock return. Especially the exchange rate has an impact on the stock market performance. Moreover, inflation has a negative short-term relationship with the stock market performance. This study concludes that the money supply does not affect the stock market performance in India, even though the impact of money supply cannot be denied. The healthy and efficient stock market performance dependent upon the economic growth and development, fiscal policy of nation. So, the researcher suggests having a low interest rate and inflation rate and improved national output or industrial production to positively impact the stock market return. The policymakers need to consider the stock market performance of a country while implementing any policy.

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Annexure-I

1. Correlogram Q-statistics

Sample: 2005M04 2021M04
Included observations: 192

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob*
		1	-0.032	-0.032	0.2051	0.651
		2	0.020	0.019	0.2831	0.868
		3	-0.019	-0.018	0.3533	0.950
		4	0.049	0.047	0.8233	0.935
		5	-0.090	-0.087	2.4474	0.784
		6	-0.157	-0.166	7.3997	0.285
		7	0.030	0.025	7.5798	0.371
		8	-0.041	-0.039	7.9220	0.441
		9	0.029	0.029	8.0896	0.525
		10	-0.049	-0.039	8.5826	0.572
		11	-0.050	-0.092	9.0988	0.613
		12	0.026	0.007	9.2359	0.683
		13	0.008	0.009	9.2503	0.754
		14	-0.062	-0.072	10.054	0.758
		15	0.029	0.036	10.234	0.805
		16	0.030	0.002	10.423	0.844
		17	-0.100	-0.126	12.545	0.766
		18	0.077	0.091	13.817	0.741
		19	0.108	0.108	16.342	0.634
		20	0.067	0.053	17.315	0.632
		21	-0.015	0.012	17.367	0.689
		22	0.057	0.024	18.088	0.701
		23	-0.089	-0.115	19.816	0.653
		24	-0.022	0.017	19.926	0.701
		25	-0.019	0.018	20.007	0.746
		26	-0.141	-0.132	24.458	0.550
		27	-0.097	-0.104	26.590	0.486
		28	-0.018	-0.044	26.664	0.537
		29	0.105	0.098	29.179	0.456
		30	-0.004	0.055	29.183	0.508
		31	0.028	-0.015	29.369	0.550
		32	0.083	0.047	30.968	0.519
		33	0.039	0.016	31.316	0.551
		34	-0.051	-0.091	31.941	0.569
		35	0.029	0.092	32.141	0.607
		36	-0.055	-0.038	32.873	0.618

SECOND MOMENT SPILLOVER ACROSS STOCK AND INDIAN FOREX MARKET DURING COVID-19 PANDEMIC

Anjali Yadav[1] Dhananjay Sahu[2]

ABSTRACT

This paper explored the second moment spillover across stock market (domestic & foreign) and Indian Foreign Exchange market (INR/USD, INR/GBP & INR/JPY) with three data frames labelled: Full Period (April 2, 2014, to March 31, 2021), Pre-Covid Period (April 2, 2014, to January 29, 2020) & Post-Covid Period (January 20, 2020, to March 31, 2021) by deploying Diebold & Yilmaz (2012) method. The empirical results insinuate that there is low connectedness across foreign (S&P 500; FTSE 100) and Indian Forex market except in case of Nikkei 225 which disappear in pre-covid period but inflate in post-covid period with moderate connectedness. Similarly, low connectedness across domestic stock market & Indian Forex market is experienced except in case of INR/JPY rate. Furthermore, in the context of own inducement, each series has shown high spillover which gradually decrease in post-covid period but in contrast, inducement from stock to forex market has increased except in case of CNX Nifty & INR/GBP. This empirical evidence expounds the presence of contagion effect across both the markets.

Keywords: contagion, Diebold & Yilmaz (2012), forex market, second moment, stock market, volatility spillover.

1. Introduction

Volatility spillover idiosyncrasies with the swift transformation of stress across markets which potentially lead to systemic and non-systemic risk for stakeholders and economies. Such risk is accounted as diversion of profitability of transactions from its expected value which range to either side. Integration of Indian financial market is facilitated by major economic and financial sector reforms and shift towards market determined exchange rate system with timely RBI intervention. The underlying premise of dynamic of exchange rate with stock price purports dual approach [First moment (traditional) approach and Second movement (portfolio) approach].

The first moment approach (Dornbusch and Fisher,1980) elucidate the effect of fluctuation (appreciation/depreciation) in real exchange rate (RER) on international competition of national goods and services and indebtedness of corporate which eventually affect the present and expected cash flow of corporate entities reflected in market valuation of stock prices. The second moment approach elucidate the relationship

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between the stock market price fluctuation and exchange rate movements where stock price driven by demand initially lead to a positive wealth effect and consequently affect demand for money and eventually interest rate. The upward movement in interest rate appealed foreign portfolio investments which result into appreciation in exchange rate. In contrast, downward movement in stock price drive negative wealth effect and outward movement of foreign portfolio investment which eventually lead to depreciation in exchange rate.

There is plethora of empirical evidence on the first moment relationship between exchange rate and stock prices while second moment study is comparatively unexplored and mostly focused on developed market. This study is crucial to capitalize the importance of linkage between developed & emerging market portfolio and risk management. Further, it has novel contribution in the context of considerations pertaining to cross-asset class i.e., exchange rate and stock market while accommodating Covid-19 pandemic. Further, contemporary time-domain technique i.e., Diebold & Yilmaz (2012) is employed to measure the connectedness across markets. This work would provide insight to calibrate hedging strategies, diversified portfolio, and capital mobility.

2. Literature Review

There is abundance of study in the context of spillover across stock market viz. Chou, Lin, and Wu (1999); Karolyi (1995); Harris & Pisedtasalasai (2006); Bhattacharya et.al (2001); Worthington & Higgs (2004); Li (2007); Joshi P. (2011); Dedi et al. (2016) and others. The pioneer research in the domain of volatility spillover was developed by Engle, Ito, and Lin (1990) through the proposition of dual hypotheses namely 'Heat Wave' (intra-market volatility) and 'Meteor Shower' (inter-market volatility) using GARCH and VAR modelling. Kanas (2000) explored six developed market, namely US, UK, Germany, France, Canada, and Japan by using bivariate E-GARCH modelling and document the unidirectional spillover from stock market to exchange rate in all market expect Germany. Antonakakis (2012) studied spillover across Euro, British Pound, JPY, and Swiss Franc in the context of INR/USD Dollar under time frame of pre and post introduction of euro and found significant spillover effect with bidirectional effect. However, magnitude of volatility declined in post euro time frame. Allen, et.al. (2017) concluded significant impact of US & Hong Kong market on Australian market by employing Diebold & Yilmaz (2012).

Xionget et.al. (2015) studied the spillover across RMB/US dollar exchange rate & PSH (Shanghai Composite Index) under two-time frame July 2005 – July 2008 (Constant appreciation period) & July 2008 -April 2010(decline appreciation period) and document the asymmetrical bi-directional spillover directed significantly from RMB to PSH. In contrast, during second period, spillover significantly directed from

PSH to RMB. Moreover, some of study also suggest unidirectional movement from stock to exchange rate including Rubayat & Tereq (2017) in the context of Bangladesh, Fedorova & Saleem (2010). There are also studies in pre and post Asian financial crisis period where Choi et.al. (2009) presented both unidirectional and bidirectional spillover in New Zealand and Wu (2005) document only bidirectional movement for six East Asian countries.

In India, few studies were undertaken. Panda & Deo (2014) reported bidirectional asymmetrical spillover during pre & post crisis period and unidirectional during crisis period with prominent asymmetries during post crisis whereas Majumder & Nag (2015) documented the bidirectional asymmetrical spillover during crisis and post crisis period with prominent asymmetries for whole period. Jebran & Iqbal (2016) found unidirectional whereas Mitra (2017) found bidirectional spillover across stock and foreign exchange market. Sahoo, Behra & Trivedi (2017) using bivariate BEKK-GARCH model reported the bidirectional spillover during high volatility period & unidirectional during relative tranquil period. Mishra et.al. employed Diebold & Yilmaz (2012) and explained moderate level of connectedness among four exchange rates.

2.1 Objective

To explore the second moment spillover from stock market (domestic & foreign) to Indian foreign exchange market during Covid-19 pandemic.

3. Data & Methodology

The time-series data of exchange rate viz. INR/USD; INR/JPY & INR/GBP and indices namely CNX Nifty; S&P 500; Nikkei 225 & FTSE 100 are considered for the period April 2, 2014, to March 31, 2021. Further, the time frame is split into Pre-Covid Period (April 2, 2014, to January 29, 2020) & Post-Covid Period (January 20, 2020, to March 31, 2021) based on announcement of Covid-19 as pandemic by World Health Organization. The exchange rate series is retrieved from RBI warehouse & FBIL, and indices data accessed from NSE website and https://finance.yahoo.com. The series is modelled by employing GJR-GARCH (p, q) to extract volatility pattern. The standardized mean and variance equations of GJR-GARCH model are as follows:

$$R_t = \tilde{\theta} + \varepsilon_t \qquad (1.1)$$

Where,

R_t = return series

$\tilde{\boldsymbol{\theta}}$ = expected return

$\boldsymbol{\varepsilon_t}$= white noise term (i.i.d)

$$h_t = \delta + \sum_{i=1}^{q}(\theta_i \, {\varepsilon^2}_{t-i} + \tau_i I_{t-i} {\varepsilon^2}_{t-i}) + \sum_{j=1}^{p} \alpha_j h_{t-j}$$

Where,

$\sum_{i=1}^{q}(\theta_i \varepsilon^2{}_{t-i}$ Indicates news about volatility from previous prd (ARCH term)

$\sum_{j=1}^{p} \alpha_j h_{t-j}$ Indicates last period forecast variance (GARCH term)

$\tau_i I_{t-i} \varepsilon^2{}_{t-i}$ Indicates asymmetric coefficient

All the data series are gauged at GJR-GARCH (1, 1) except INR/USD which is gauged at GJR-GARCH (1, 2) based on appropriate information criterion. Further, Diebold & Yilmaz (2012) model based on 'generalized forecast error variance decomposition' is employed to unfold volatility spillover.

3.1 Diebold & Yilmaz (2012) Index

This contemporary method explains the connectedness as the fraction of variances in the forecast contributed by other than own error element which depicts by off-diagonal elements to the total of the entire matrix. In contrast, the diagonal matrix depicts the forecast contributed by own error element. Generalized VAR framework is the fundamental of DY index (2012) which eliminates the potential dependability on ordering and focused on measurement of directional connectedness. The modelling equation of stationery covariance of variable in VAR (q) is

$$v_t = \sum_{i=1}^{q} \beta_i s_{t-i} + \mu_t \qquad (2.1)$$

There are variance decompositions, to access GFEVD of each variable in parts under system which contributes to shocks in the same.

$$\left(\omega_{L_{I,J}}\right) = \frac{\sigma_{JJ}^{-1} \sum_{l}^{L-1}((\pi_l \varepsilon)_{I,J})^2}{\sum_{l}^{L-1}((\pi_l \varepsilon \pi)_{I,I}} \qquad (2.2)$$

π_l are n x n matrices of coefficient parallel to lag L and $\sigma_{JJ} = \varepsilon_{JJ}$. The forecast coefficient $\omega_{L_{I,J}}$ depicts the value of J[th] variable in the system of GFEVD on I[th] variable series. The connectedness equation is as follows:

$$S_L = 100 \frac{(\sum_{I \neq J}(\tilde{\omega}_L)_{I.J}}{\sum(\tilde{\omega}_L)_{I.J}} = 100\left(1 - \frac{T\{\tilde{\omega}_L\}}{\sum \tilde{\omega}_{L_{I,J}}}\right) \qquad (2.3)$$

S_L= Connectedness of entire system.

T = Trace operator (relative contribution of other variables to the forecast error variance)

3.2 Empirical Results

Table 1 documented the descriptive statistics of exchange rate and stock indices series which elucidates that exchange rate (INR/USD) exhibit highest mean return followed by Japanese Yen (INR/JPY) and Great Britain pound (INR/GBP) whereas in the context of return volatility, Japanese Yen show more volatile position followed by GBP & USD.

Furthermore, stock indices Nikkei 225 exhibit highest mean return followed by S&P 500, CNX Nifty and negative FTSE 100. A similar trend is shown by standard deviation coefficients with lowest positive FTSE 100 index. The skewness coefficient is negative for Japanese Yen whereas all other series depicts positive coefficient. While explaining distribution pattern, Kurtosis shows the leptokurtosis attribute. In addition, Jarque- Bera test rejects the null hypothesis of normal distribution which in nutshell, proclaim the exhibition of non-normality distribution pattern in all the considered time series.

Table 1: Descriptive Statistics

Test Statistics	Exchange Rate			Stock Market Indices			
				Domestic	Foreign		
	INR/USD	INR/GBP	JPY/INR	CNX Nifty	S&P 500	FTSE 100	Nikkei 225
Mean	0.000124	1.03E-05	8.52E-05	0.000405	0.000413	-9.45E-06	0.000427
Median	0.000000	0.000105	-0.00015	0.000692	0.000594	0.000480	0.000739
Maximum	0.013738	0.028133	0.035309	0.084003	0.089683	0.086664	0.077314
Minimum	-0.01529	-0.06769	-0.0317	-0.13904	-0.12765	-0.11512	-0.08253
Std. Dev.	0.003304	0.006042	0.006194	0.011177	0.011514	0.010802	0.012836
Skewness	-0.0484	-0.89617	0.417456	-1.54464	-1.02807	-0.90276	-0.15181
Kurtosis	4.784748	13.71656	5.828221	25.47223	23.80778	16.38065	8.614809
Jarque- Bera	224.5604	8298.439	611.2502	36168.23	30730.91	12814.30	2222.501
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Observations	1687	1687	1687	1687	1687	1687	1687

Source: Computed

Table 2.1 documents the connectedness across stock market of India & USA and the forex market of India for the full period under study. The empirical exploration is initiated with the pre-testing of properties of data series which explain the

non-stationery attributes. Consequently, log data is converted into stationery series at first difference. Further, GJR-GARCH variance series is modelled for each variable to extracted volatility pattern. At last, Diebold & Yilmaz (2012) methodology is deployed to explore the connectedness of index across stock and foreign exchange market. In each table of DY index, the diagonal elements depict the spillover due to own inducement whereas other elucidate the spillover due to other series inducement.

Table 2.1: Output of DY Index of INR/USD (Full Period)				
	INR/USD	CNX NIFTY	S&P 500	FROM
INR/USD	89.72	5.51	4.77	3.43
CNX NIFTY	7.05	75.21	17.74	8.26
S&P 500	7.93	45.48	46.59	17.80
TO	4.99	17.00	7.50	29.50

Source: Computed

For Full Period, it is depicted that in the context of own inducement, INR/USD, CNX Nifty & S&P 500 show89.72%, 75.21% & 46.59% respectively. On the contrary, in the context of other series inducement, spillover from stock market CNX Nifty and S&P 500to foreign exchange market (INR/USD) is 5.51% & 4.77% which shows low connectedness. The overall system contains only 29.50% DY index.

Table 2.2 documents the connectedness across stock market of India & USA and the forex market of India for the pre-covid period under study. For Pre-Covid Period, it is documented that in context of own inducement, INR/USD, CNX Nifty & S&P 500 show99.31%, 99.31% & 94.30% connectedness respectively which is relatively high in comparison of full period. On the other side, in context of other series inducement, spillover from stock market CNX Nifty and S&P 500to foreign exchange market (INR/USD) is 0.32% & 0.37% which shows relatively very low connectedness. The overall system contains only 2.81% DY index which is relatively very low compared to full period. i.e., 29.50%.

Table 2.2: Output of DY Index of INR/USD (Pre- Covid)				
	INR/INR/USD	CNX NIFTY	S&P 500	FROM
INR/USD	99.31	0.32	0.37	0.23
CNX NIFTY	1.85	99.31	0.19	0.68
S&P 500	3.24	2.45	94.30	1.90
TO	1.70	0.92	0.19	2.81

Source: Computed

Table 2.3 documents the connectedness across stock market of India & USA and the forex market of India for the post-covid period under study. For Post-Covid Period, it is documented that in context of own inducement, INR/USD; CNX NIFTY & S&P 500 show99.31%; 99.31% & 94.30% connectedness respectively which is relatively high in comparison to full period. On the other side, in context of other series inducement, spillover from stock market CNX NIFTY and S&P 500to foreign exchange market (INR/USD) is 20.27% & 15.87% which shows somehow moderate connectedness. The overall system contains 44.21% DY index which is relatively high compared to full period (29.50%) &pre-covid period 2.81%.

Table 2.3: Output of DY Index of INR/USD (Post- Covid)				
	INR/USD	CNX NIFTY	S&P 500	FROM
INR/USD	63.86	20.27	15.87	12.05
CNX NIFTY	20.58	55.89	23.53	14.70
S&P 500	19.41	32.99	47.60	17.47
TO	13.33	17.75	13.13	44.21

Source: Computed

Table 3.1: Output of DY Index of INR/GBP Full Period				
	INR/GBP	CNX NIFTY	FTSE	FROM
INR/GBP	98.56	0.98	0.46	0.48
CNX NIFTY	16.86	80.39	2.75	6.54
FTSE	11.49	53.16	35.35	21.55
TO	9.45	18.05	1.07	28.57

Table 3.2: Output of DY Index of INR/GBP (Pre- Covid)				
	INR/GBP	CNX NIFTY	FTSE	FROM
INR/GBP	99.28	0.70	0.01	0.24
CNX NIFTY	0.00	99.63	0.36	0.12
FTSE	0.41	2.36	97.23	0.92
TO	0.14	1.02	0.13	1.28

Table 3.1 documents the connectedness across stock market of India & Great Britain and the forex market of India for the full period under study. In the context of spillover from stock market CNX NIFTY and FTSE 100 to foreign exchange market INR/GBP the results show 0.98% & 0.46% connectedness respectively which is very low. The overall system contains 28.57% DY index. Table 3.2 documents the connectedness across stock market of India & Great Britain and the forex market of India for the pre period under study. In context of spillover from stock market CNX Nifty and FTSE 100 to foreign exchange market (INR/GBP), the results show 0.70% & 0.01% respectively which depicts very low connectedness. The overall system contains only 1.28% DY index which is relatively very low compared to full period. i.e., 28.57%.

Table 3.3 documents the connectedness across stock market of India & Great Britain and the forex market of India for the post period under study. In context of spillover from stock market CNX Nifty and FTSE 100 to foreign exchange market (INR/GBP), the results show 0.26% (decrease from pre-covid) & 1.77% (increase from pre-covid) respectively which depicts very low connectedness.

Table 3.3: Output of DY Index of INR/GBP (Post- Covid)

	INR/GBP	CNX NIFTY	FTSE	FROM
INR/GBP	97.97	0.26	1.77	0.68
CNX	62.97	34.97	2.06	21.68
FTSE	43.16	21.55	35.30	21.57
TO	35.38	7.27	1.28	43.92

Source: Computed

Table 4.1 documents the connectedness across stock market of India & Japan and the forex market of India for the full period under study. In context of spillover from stock market CNX Nifty and Nikkei 225 to foreign exchange market (INR/JPY), the results show 21.13% & 1.13% respectively which depicts moderate connectedness between CNX Nifty &INR/JPY whereas very low connectedness between Nikkei 225 &INR/JPY. The overall system contains 22.81% DY index.

Table 4.1: Output of DY Index of INR/YEN (Full Period)

	INR/YEN	CNX NIFTY	Nikkei 225	From
INR/YEN	77.74	21.13	1.13	7.42
CNX NIFTY	2.46	90.07	7.47	3.31
Nikkei 225	11.63	24.60	63.78	12.07
TO	4.70	15.24	2.87	22.81

Source: Computed

Table 4.2 documents the connectedness across stock market of India & Japan and the forex market of India for the pre period under study. In context of spillover from stock market CNX Nifty and Nikkei 225 to foreign exchange market INR/JPY, the results show 0.01% & 1.59% respectively which depicts very low connectedness between CNX Nifty &INR/JPY and very low connectedness between Nikkei 225 &INR/JPY. The overall system contains only 6.93 % DY index which is relatively very low compared to full period i.e., 22.81%.

Table 4.2: Output of DY Index of INR/YEN Pre- Covid				
	INR/YEN	CNX NIFTY	Nikkei 225	From
INR/YEN	98.40	0.01	1.59	0.53
CNX NIFTY	0.24	97.40	2.36	0.87
Nikkei 225	16.60	0.01	83.39	5.54
To	5.61	0.00	1.32	6.93

Source: Computed

Table 4.3 documents the connectedness across stock market of India & Japan and the forex market of India for the post period under study. In context of spillover from stock market CNX Nifty and Nikkei 225 to foreign exchange market (INR/JPY), the results show 53.11% (increase from full & pre-covid) & 27.65% (increase from full & pre-covid) respectively which depicts low connectedness between CNX Nifty &INR/JPY and between Nikkei 225 &INR/JPY. The overall system contains only **6.93** % DY index which is relatively very low compared to full period i.e., 22.81%.

Table 4.3: Output of DY Index of INR/YEN Post- Covid				
	INR/YEN	CNX NIFTY	Nikkei 225	From
INR/YEN	19.24	53.11	27.65	26.92
CNX NIFTY	9.36	63.12	27.52	12.29
Nikkei 225	8.23	51.12	40.65	19.78
To	5.86	34.74	18.39	58.99

Source: Computed

6. Conclusion

The study documented low connectedness from domestic (CNX Nifty) & foreign stock market (S&P 500, FTSE 100 & Nikkei 225) to Indian forex market except somehow moderate connectedness from domestic (CNX Nifty) to INR/JPY exchange rate which insinuate that at financial front, there is diversified foreign portfolio

opportunity for international investors and risk managers. In addition, at economic stability front, it implies calculated approach for RBI intervention and government policy makers. The pre-covid period shows very low level of spillover as measured through Diebold & Yilmaz index which suggests that international investors have diversified foreign portfolio opportunity and at trade front, the outcome of the study infers secured value of bills receivables & payables. But, after the outbreak of Covid-19 pandemic, connectedness across stock and forex market has significantly inflated which affirm the contagion effect. Hence, it is crucial for economies & financial market players to revisit their portfolio strategies; risk management approaches; international trade practices; timing if artificial interventions in forex market & policy implementation in considering instability in domestic & world market due the infusion of news volatility rather than fundamentals disturbance.

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REDEFINING TECTONIC START-UPS IN INDIA DURING PANDEMIC TIME

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ABSTRACT

Start-up as India's economy grows, so will the contribution of private equity and venture capital to the overall economy. It is also a fair acknowledgment of unique requirements that these kinds of businesses need to maintain their business operations, which require innovation and size. Further, adding that some of the outstanding start-up country like India is adopting technology to transformation areas such as healthcare and wellness sector, education sector, agriculture and ailed sector, clean energy, security, financial inclusion and exclusion, and water management. The spirit of start-ups boosts up the next generation economies and as the one stop solution of fortunes of people in rural India and thieving economy. The Start-up and Stand-up missions can help the youth upgrade their skills to become entrepreneurs. With Gig work gaining ground, the deserving candidates can get lucrative offers for their services. The article addresses the issues and problems that start-ups in India confront. The startup Eco-system is closely watching the Indian business climate and critically assessing how much help is required from the Indian government, with their new Digital India initiatives.

Keywords: startups, financial inclusion, economy, management

1. Introduction

Start-up business is the new gift of recent time. It is a new type of business centred on innovation or aggregation or both. Start-up as a business has caught the attention of new young generation bubbling with enthusiasm and innovative ideas. The launch by government of India as regards to objective of the 'Start-up India, Stand-up India' call given five years ago was to inspire a movement for accelerating the creation of start-ups in the country to speed up and create a new space of economic growth. In between time, India today has become the third largest start up economy in the world. Start-ups are new way of wealth creators the country like India. Further, it has underscored the need of the government to relentlessly work towards making India's Start-ups and the Start-up Ecosystem the best in the whole world.

The Government of India will also support start-ups and entrepreneurs in the most challenging phase which is the initial risk phase and stated to serve 1.3 billion people

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India will scale up the network of incubators and accelerators to phenomenal levels. Thus, new steps have taken the shape of "Start-up Accelerators of MeitY for Product Innovation, Development and Growth (SAMRIDH)" programme, which was launched today by "Ministry of Electronics & Information Technology" to create a conducive platform to Indian Software Product star-ups to enhance their products and securing investments for scaling their business. The programme has implemented by "MeitY Start-up Hub (MSH)". This is the initiative will not only provide the funding support to the start-ups but will also help in bringing skill sets together which will help them to become successful. The new initiatives, new products and new services which will create a better life for the marginalized sections of the society and for those who are at bottom of pyramid and are living in remote parts of country.

Further, the technology can also play a role in accelerating and in taking the momentum as well as quantum jump in reaching out to people. The SAMRIDH scheme will pick up start-ups that are ready for acceleration stage and will provide them with funding support, mentorship and a lot of other support that is required by start-ups at this stage. However, the rise of "Ethical start-ups" will be a golden opportunity for the Indian Information and communication Technology start-ups. It also creates a new global market as well as global capital as new evident from Zomato IPO case.

Indians are one of the three biggest startup ecosystems in the world. The NASSCOM figures indicate that till 2016, India has gained a total of 1,400 new companies, bringing the number to over 4,750. Inefficiencies in logistics, healthcare, education, and financial services start-ups in India are being solved using machine learning and artificial intelligence. Start-up technology companies are considered crucial regarding invention, production, growth, and employment, with their introduction aiding in a Country's Competition. The emergence of a unique entrepreneur's ecosystem, which suppers and promotes technology start-ups is an essential factor for a city to harbor-technology start-ups. Microsoft has introduced "Microsoft's startup engagement was driven by a "Catch them Young Approach". Further, Microsoft's "Cloud platform Azure" will come for B2B startups. India's Unicorn Club or list of startups valued more than $1 billion i.e., Byju's (March 2018 Rs. 5.4 billion), Swiggy (June 2018) Rs. 3.3 billion), Big Basket (March 2019 Rs. 2.3 billion), Paytm Mall (April 2018 Rs. 2.0 billion), Bill Desk (November 2018, Rs. 1.8 billion), Delhivery (March 2019, Rs. 1.6 billion), Dream11 (April 2019, Rs. 1.5 billion), Uddan (September 2018, Rs. 1.2 billion), Policy Bazzar (June 2018, Rs. 1.2 billion). Malik, Yuvraj (2019). A company's success depends on the integration of people, processes, and technology. The startup must adopt a process that can be continually deconstructed, re-designed, and deployed in response to disruptions. As a result of the epidemic, new standards have been set. Many companies that have been in existence for some time now need to find ways to test and verify their current processes against basic

principles. It is necessary for them to reflect on how a 1.3-billion-person economy can continue to create products and services, have secure incomes, and be celebrated for their contributions to society, all while going through hard times. The kind of start-ups that concentrate on innovation may help older companies to innovate by opening new process avenues.

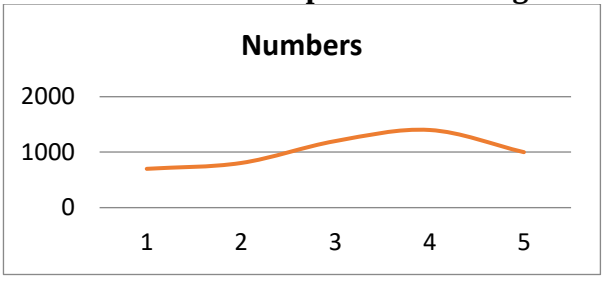
Starting a new business will first happen utilizing new procedures that bring about new methods of doing things, as well as superior alternatives than what is now available. They will join the contest as business process and product innovation providers that help old companies secure long-term financial stability. Among the first companies to implement new goods and processes in the market will be referred to as being an agile company. The use of digitalization and integration of various technology-based applications will account for a significant portion of this innovation. This decade will be characterized by many changes that are happening quickly, in many areas, and in many ways. Actions that governments, consulting firms, and corporations take must be one step ahead of such developments and should be prepared with the necessary deterrent powers in advance. New institutional norms will call for an enhanced capacity to gather, analyze, and understand data to make better decisions and be on the cutting edge of the future. Thable-1 stated the startups added during 2013-17.

Table 1: Stated the Start-ups added during 2013 to 2017

Year	Numbers
2013	700
2014	805
2015	1200
2016	1400
2017	1000

Source: NASSCOM Start-ups Report 2017

Figure 1: Trend of the Start-ups added during 2013 to 2017



Proactive institutional behavior is unlocked when new technological breakthroughs in emerging technologies like big data, artificial intelligence, machine learning, and

cloud computing spawn startups. Ratan Tata backed retail tech start-up Snapbizz has partnered with HDFC Bank and ICICI Bank to launch new digital solutions for 3 lakh Kirana stores. Snapbizz said its solutions allow kirana stores to carry out store operations efficiently. It provides store owners with their very own consumer app to acquire new customers and service existing customers better. Its solutions integrate kirana stores via the cloud with FMCG brands, distributors, wholesalers, financial service players and e-commerce firms (B2B and B2C). Since its inception in 2013, the Bengaluru based start-up has transformed 13,000 kirana stores across 110 cities into 'virtual supermarkets' with its Android/Windows based cloud platform solutions.

Table 2: Reflects the Investment in Startups by Rounds

Year	Seed	Series-A	Series-B	Series-C	Series-D	Series-E+
2014	91	145	56	28	11	10
2015	208	257	93	41	12	11
2016	198	186	102	45	20	11
2017	174	154	101	30	21	15
2018	148	137	83	62	24	15

Source: Venture Intelligence

A company must regularly update its business model or else they will be out of phase and become obsolete. We are familiar with the failure story of emerging start-ups which has no existence anywhere. It has also been observed that many startups failed during their first year of inception. Established companies are also dealing with competition and they also need to come up with an updated version. Reality is such that, to be relevant, entrepreneurs and businesspeople must either come up with new market opportunities, new goods, new services, and new processes, or they must significantly improve on those they have already built. Short form: If a company does not challenge their current model, they risk being replaced by competitors in their sector. A company that is already established may adopt a new business model to remain on top of the competition. Disruptive business models use innovative techniques to disrupt established markets. Reinventing business models and established business strategies by adding disruptive innovation to models is a popular strategy among innovative businesses. In pursuit of India's goal of becoming the world's fifth trillion-dollar economy, the country also has a ready supply of raw talent, which awaits development, expansion, and integration into the expanding human resource pool in rural settings. If India is to have a huge economic potential, it must invest in developing a capable and well-trained workforce. Also, because rural kids would be entering a technology-enabled and boisterous world, they must be educated in cognitive and interpersonal skills. India's ecosystem of start-ups continues to grow, placing it as the third largest in the world. The Start-ups have acted as a magnet for attracting capital and talent, providing an alternate asset class to investors.

Table 3: Top 10 Startup Investors in India during 2018

Sl.	Company	Nature	Amount
01	Soft Bank Group	Japanese Multinational Holding Conglomerate	$ 8,008M
02	Ten cents	Chinese Investment Holding Company	$ 3,227M
03	GIC	Singapore Severing wealth fund	$ 2,731M
04	Teamasek	Singapore Severing wealth fund	$ 2,172M
05	Alibaba Grap	Chinese Multinational Conglomerate	$ 1,870M
06	Tybourne Capital Management	Hong Kong based investment advisory firm	$ 826M
07	Didi Chuxing	Chinese Tech-Conglomerate	$ 500M
08	Beenext	Singapore band VC firm	$ 360M
09	Meituan	Chinese grap-buying website	$ 310M

Source: Tracxn, ET-Magazine July 15-21, 2018, p.6

Start-ups are generating empowerment for highly skilled technology graduates, as well as semi-skilled business Correspondents, they are also creating unskilled labor-intensive jobs such as delivery professionals and taxi operators, thus enabling multiple strata of socio-economy. The Start-up ecosystem in the Country has set a global benchmark in reminding resilient during this disruptive year. The Jobs with specific Skill sets such as a (a)Big data (b)Analyses (c) Artificial intelligence, (d) Product management (e) cloud Architects. Continue to be in high demand across the tech start-up ecosystem**.** (Mishah, Bibhu Ranjan (2020).

Table 4: Stated the Fund Raising by Start-ups by Angel / seed Capitalist

Sl. No	Year	No. of Deal	Deal Value ($Mn)
1	2013	349	110
2	2014	476	206
3	2015	968	457
4	2016	903	374
5	2017	450	251
Total		3146	1398

India still has one of the youngest populations in the world, putting it in a unique sweet spot wherein the working-age. Population is more than non-working age. Leveraging the demographic dividend and adoption of digital technologies has put us in a prime position to embark on a journey of rapid growth. Start-up activity in the country

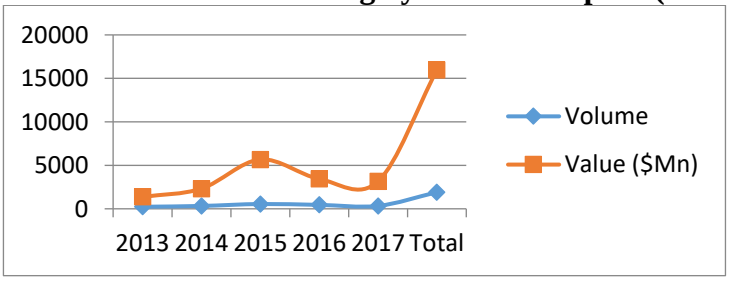
has been impacted severely because to the Pandemic/lockdown of the Covid-19 Pandemic. A great deal of investment is desirable in start-up enterprises in India, and the government has begun the evaluation process for the Indian Start-ups Programme. Further, start-ups are assisted by the government-backed Small Industries Development Bank of India fund, which offers Rs 10,000 crore in seed funding (SIDBI). Start-up companies are not directly funded by the fund de funds; rather, money is provided through alternative investment funds (daughter funds) known as registered AIFs (AIFs registered with the SEBI). DDPIIT (Department for promotion of Industry and Internal Trade) has registered 28,979 startups as of March 1, 2020, because of the Start-up India activities that were launched on January 16, 2016 (Suneja andkirika, 2020).

Table 5: Stated the Fund Raising by Venture Capital (All Senses)

Year	Volume	Value ($Mn)
2013	237	1370
2014	328	2323
2015	552	5669
2016	452	3447
2017	336	3153
Total	1905	15962

Source: Business Standard, 04th January 2018.

Figure 2: stated the Fund Raising by Venture Capital (All Senses)



2. Government of India's Startup Policy

It defines a startup as "an entity, incorporated or registered in India within the last five years, that has annual revenue less than 25 Cores and profits have not been generated prior to the year being evaluated. Such entities can form early-stage venture capital funds with the intention of investing in or financing new products, processes, or services driven by technology or intellectual property (IP)." Further, the policy includes such as (a) Reduction of regulatory burden and self-certify themselves.(b) starting of startup community (c) startup process through mobile app and portal (d)Intellectual

property rights (IPR) protection for startups, (e)Exit norms and changes of debt structure,(f) exempted from tax on capital gains,(g) Startups will get an exemption of first three years,(h) With a corpus of Rs 10,000 cores over four years for support startups.(i) credit to innovators, (i)eased norms for manufacturing sector, (j) setting of incubators(k) promotion of startup functions and fests (l) operation of research park at IIT, Madras and (l) Starting up of biotech parks. Thus, the digital revolution has already put forward the world. The Doing Business Report just published by the World Bank placed India at 130 on the Ease of Doing Business Index.

Table 6: Days Recount for Start of a New Business

Particular	Delhi	Mumbai	South Asia
No. of days taken to start a business in	26.0	26.0	15.4
No. of procedures required	12.0	14.0	8.1
Cost of starting a business for men	11.4	16.5	13.4
Cost of starting a business for women	11.4	16.5	13.4

Note: *% of income per capital. Source: The World Bank.

The new innovations and technology disruptions are opening avenues for new businesses and start-ups are also throwing challenges to big players. Govt. of India has also started friendly regime in terms of regulations related to (a) Incorporation, (b) Tax laws, (c) labour compliances, (d) listing, (e) Access to external capital. Innovations by start-ups are fostering economic growth of the country by reducing cost of doing business, bringing transparency and scalabiling. Innovative and disruptive solutions are solving problems faced by Government through e-Gov and G2C (Government to Company) services, large corporations, banks, and medium, small, and micro enterprises (MSMEs) (Toshniwal et al., 2020).

Table 7: Ranking of India in "Doing Business" During 2017-18 to 2018-19

SL	Particular	Doing Business	
		2017	2018
1	Overall	131	130
2	Starting a business	151	155
3	Dealing with construction permit	184	185
4	Getting electricity	51	26
5	Registering property	140	178
6	Getting credit	42	44
7	Protecting minority Investors	10	13
8	Paying taxes	172	172
9	Trading across boarders	144	143
10	Enforcing contracts	178	172
11	Resolving Insolvency	135	136

Source: World Bank doing Business Report.

The firms are necessarily required to apply for recognition with the Department of Promotion of Industry and Internal Trade (DPIIT) for availing themselves of benefits such as Self- Certification, reduced compliance requirements under environmental and labour laws, fast tracking of patent applications along with IPR protections, easier winding up and public procurement norms etc. Start-up recognition by the DPIIT is based on specified criteria such as date of incorporation, turnover, and business activities. Additionally, income tax benefits, DPIIT recognized start-ups must obtain a certificate from the Inter- Ministerial Board (IMB), of DPIIT. A traditional partnership firm recognized as a Start-up can avail itself of benefits provided by the Indian Government under Startup India program. DPIIT grants Startup recognition to traditional partnership firms as well if it meets the required criteria. However, income tax holiday for Start-ups and deferral of tax on ESOPs are available only upon obtaining a specific certificate from the IMB, which is granted to Startups incorporated as private limited company or LLP. Nevertheless, a recognized Start-up housed as a traditional partnership firm can get exemption from angel tax, subject to specific conditions of the DPIIT. Start-up incorporated abroad an entity incorporated outside India is not eligible for benefits under the Start-up India program. Start-up recognition is granted by the DPIIT only to those entities which are incorporated in India as a company or registered in India as traditional partnership firm or LLP. A Start-up set up abroad cannot avail itself of benefits given to Indian Start-ups even if it has major operations in India. However, such foreign start-ups can register on Start-up India Hub for interacting and exchanging information with other Start-ups.

Startup registration is offered to businesses, especially ones with innovation, development, or process improvement, or the potential for employing many people or creating a large amount of money. Any MSME fulfilling the criteria under Start-up regulations can obtain both registrations in tandem. Using ‘Startup India’ logo and “Startup India” logo are allowed to any organization only with the prior approval of the DPIIT, for events organized to promote Start-up India initiative of the Government. Organisations are required to file an application with details of the event/programmes for use of logo in the prescribed form on Startup India Hub. Applications for use of logo on electronic and social media are required to be furnished at least 30 days in advance for consideration and approval by the DPIIT.

Table 8: Fund raised by India's Startups (IPO) Route.

Intellect Design Arena	2011	18.12.2014
Koovs	2010	10.03.2014
Infibeam	2007	21.03.2016
Yatra	2006	19.12.2016
7 Seas Entertaint	2005	28.09.2010
Centennial Surgical Suture	2002	29.02.2008
Tejas Nationals	2000	27.06.2017
Health Fore	1999	22.08.2011
Matrimony Can	1997	21.09.2017
Bella Casa Fashion	1996	15.10.2015
Quick Hel	1995	08.02.2016
Just Dial	1993	20.05.2013

Source: Anand et al. (2017).

Table 9: Digital Payment Startups Founders in India

Sl.	Company	Founders	Location
1	NIYO Solutions	Vinay Bagri, Virendar Bisht	Bengaluru
2	Zeta	Bhavin Turakhia, RumkiGaddipati	Bengaluru
3	Udio	Anish Willions, Sandeep Ghule, Aditya Gupta, Anand Kapada	Mumbai
4	Pire Gift	Lokuir Kapoor	Noida
5	Advantage Club	Sourabh Deorh, Smiti Bhatt	Gurghaon
6	Vantage Circle	Anjan Pathak, ParthaNeog, Ramkrishana KC	Delhi
7	Paysack	Ricky Jacob, Vivek Joseph	Bengaluru

Table 10: Digital Payment Startups in India

Sl.#	Company	Overview	Founded
1	Billdosk	Payment Gateway	2000
2	Free charge	Prepaid wallet and bill payment app.	2010
3	FINO Pay Tech	Financial Inclusion Technology Provides.	2006
4	Paytm	Mobile wallet, payment bank	2010
5	Mobikwik	Mobile wallet, app	2009
6	Policy Bazar	Online insurance aggregular	2008
7	Capital Float	Online lending platforms for small business	2013
8	Digit Insure	Internet-general insurer	2016
9	Ezetup	Device for merchants to accept card and wallet payment	2011

Source: Times of India, 18th October 2017.

India capitalizes on "Demographic Shift". Thus, India has large percentage of population under thirty. It means all companies, whether farm, automotive, FMCG or any other sector will focus on markets like India. A further important need for raising productivity levels is growing investments in human capital. This is enhancing the momentum of startups. Mobile-first solutions and ramification technologies are the future of education. Imparters are also for teachers. Ed-Tech start-ups are creating mobile first with midst a technological breakthrough.

Table 11: The New Agriculture Startups in India

1	Sky MET	Weather Forecasting
2	Agrostar	Direct-to-former digital startup
3	Doodhwala	Digital Milk Delivery
4	Ag Next	Precision Agriculture
5	BigHaat	Multi-brand agri e-store
6	Cropin	Digitalization of farm Data
7	Milk Mantrad	Dairy Sector
8	ULinkAgritech	Manufacturing of Organic Fertilizer

Table 12: The Major Startups Founders in India with their area of Business

Sl.	Company	Area of Business	Founders
01.	Worxoge (2015)	AI based Saas application. (Neuron economics and Behonial Science)	Ramesh Srinivas Anant Sood etc.
02.	Sequretek (2013)	Digital Security	Pankit Desai Anand Naik
03.	Stanza Living (2017)	Student Housing Plat	Anindya Dutta Sandeep Dalmia
04.	Netmeds (2015)	Online Pharmacies	PradepDedha Bruce Schwack
05.	IMG (2015)	Online Pharmacies	Prashant Tandon Gaurav Agarwal Vikas Chauhan
06.	Pharm Easy (2015)	Online Pharmacies	DharmilSheth Dhaval Shah
07.	Lifcare (2015)	Online Pharmacies	Krishna Killa Rohit Mohta
08.	Medlife (2014)	Online Pharmacies	Tushar Kumar
09.	USPL (Universal Spartsbiz (p) Ltd. (2012)	Apparels	Anjana Reddy
10.	Bounce	Rental Motorcycles & Bicycles	VivekandaHallekere Varun Agni Anil G
11.	Mobycy	Rental Motorcycles & Bicycles	Akash Gupta RashiAgerwal
12.	PEDL	Rental Motorcycles &Bicycles	Unit of Zoomcar
13.	Yulu	Rental Motorcycles & Bicycles	Amit Gupta
14.	Mobile	Rental Motorcycles & Bicycles	Hu Weiwee
15.	OLA Pedal	Rental Motorcycles & Bicycles	Unit of ANI Technology

3. Problems and Challenges of Startups in India

In the past eight months since the Covid-19 epidemic broke out, 78% of micro-small and medium-sized enterprises (MSMEs) and startups in India have decreased staff. According to the results of a study conducted by Local Circles, just 22% of startups and micro-enterprises have an expanded staff or a match with pre-Covid levels. Due to the Covid-19 epidemic and the ensuing shutdown, India's startup and MSME environment has had a very difficult period. Most companies reduced expenses to weather the storm, leading to others to go out of business temporarily or permanently. CMIE estimates that 6 million white-collar jobs have been lost in India over the March-August timeframe. A study was performed on startups and small and medium-sized enterprises (SMEs) to identify any effect that Covid-19 may have on their workers. The study got over 7,000 answers from startups, micro and small and medium-sized enterprises, and entrepreneurs that are based in 104 different high-traffic commercial areas in the nation. Throughout the Covid-19 epidemic, startup and microbusiness firms were questioned about the changes to their personnel that had occurred during the pandemic. Of those surveyed, 15% said that they had a 50% or more staff reduction, while 25% stated that their company had shut down and all personnel had been let go. Additionally, about 19% of respondents said that their staff has been cut by as much as 25% to 50%. Around six percent claimed their staff has grown, while another sixteen percent indicated their employment is the same as prior to the period before to Covid-19. This data illustrates that as of August 2017, 78% of the MSMEs and startups in India have decreased employment because of the Covid-19 epidemic, whereas 22% of startups and MSMEs have an expanded headcount. The government launched a program to assist small companies, the Atmanirbhar Bharat programme, but businesses' responses in July this year indicate that the benefits of the program have been modest. Indian Prime Minister Narendra Modi approved a bill increasing the amount of paid maternity leave to six months in 2017, putting India at the third highest in the world (Kapoor and Mohit, 2020).

Table 13: Stated the Layoff of Start-ups during 25th March 25-1st June 2020

Sl.	Start-ups	No. of layoffs
1	OYO	5,000
2	Udaan	3,000
3	Ola	1,400
4	Swiggy	1,100
5	Curefit	800
6	Paytm	800
7	Uber India	600

Sl.	Start-ups	No. of layoffs
8	Livspace	450
9	MakeMyTrip	350
10	Bookmystore	270
11	Lendingkart	200
12	Blackbook	200
13	CarDekho	200
14	Meesho	150
15	Sharechart	101

Source: Data compiled by ET Tech, ET, 6.6.2020, P-8.

One of the biggest challenges for e-commerce startups is finding a way to have their products delivered to their customers' homes. The highest number of growths of the start-up sectors in China and Israel are biggest threats to India due to lack of "ease of doing business". Further about to 70% total share of start-ups in Bengaluru NCR and Mumbai as per NASSCOM - Zinov report for 2016. (Babu, Anita and Pramanik, Ayan (2016) India's leading ecommerce firm Flipkart now in hand of US-based Wal-Mart's ecommerce giant. The Co-Founder Benny Bansal has left under a sexual assault allegation cloud i.e., "Serious Personal Misconduct". The Other co-founder Section Bansal found himself out in the cold. Paytm is on an expensive mode. It is expected to start its much-awaited payments bank and it would lunch a marketplace "app Paytm mall". Many Indian startup businesses have problems in corporate governance, mishandling of finances, and gender discrimination. tayZilla, which became insolvent owing to unpaid vendor fees. Due to this firm's co-founder Yogendra Vasupal has been arrest. Tanwar, Sangeeta and Sharma, Ritiwik (2017) further, some of the country's largest Big Tech companies like Alibaba Group, Didi, Tencent holdings and Byte Dance have come under Government Scanner for alleged violations. For instance, Tencent's Wechat, China's largest messaging app has suspended temporarily due to ongoing upgrades for compliance with new security regulations (Vermbu and Sridhar, 2021).

4. Conclusion

Startup is a new business centered around innovation or aggregation or both. Startup as a business has caught the attention of young generation bubbling with enthusiasm and ideas but with little or no resource. Start-up India, Stand-up India, an initiative to promote start-up formation in the nation was started five years ago with the goal of motivating a movement to promote start-up development to help drive economic growth. India now has risen to third place in the global start-up economy. Encouraging start-up development in India is being aided by a supportive ecosystem of incubators and venture capitalists that has brought in over $70 billion in total investment over the last three years. Inc42 Plus, by using time series forecasting, predicts that companies will raise about $13.4 billion in equity in 1,000 transactions in 2021. Different techniques are used to evaluate the worth of entrepreneurial company initiatives that focus on introducing new goods or services utilizing unique ideas or technology.

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JOB SATISFACTION FACTORS AMONG COLLEGE TEACHERS: AN EMPIRICAL INVESTIGATION

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ABSTRACT

Human resources are one of the most vital resources of a country, as it exploits the natural environments for the entire population. The importance and significance of various aspects of development scientific and technological, economic, and social, to name a few can be evaluated on a criterion of their utility and service for the welfare of human being. All the aspects of development in the ultimate analysis are or should be aids to human development. The development is not just about factories dams and roads. Development is basically about people. The goal is people's material, cultural and spiritual fulfilment. Job satisfaction is solitary of the largely extensively discussed issue in organizational performance and human resource management. In the present study, an effort has been made to identify the major factors affecting the job satisfaction among the college teachers. The researchers identified 25 job satisfaction items through extensive literature review. The perceptions of the respondents were collected through structured questionnaire based on 5-point Likert scale. Exploratory factor analysis was done to explore the factors. The Cronbach's alpha (0.870) confirms the internal consistency of the instrument. The KMO Measure of Sampling Adequacy is 0.798, indicating the present data is suitable for factor analysis. Similarly, Bartlett's Test of Sphericity is significant ($p<0.001$) indicating significant correlation exists between the variables to proceed with the factor analysis. The study explored 7 factors having eigen value of more than 1 and explaining 77.078% of the total variance. Further, independent sample t-test is applied to find whether there exists any difference in overall satisfaction with respect to various demographic variables of the respondents. It was found that significant difference exists only with Sector and Education of the respondents. Moreover, age, gender and income bear no impact on job satisfaction.

Keywords: human resource development, job satisfaction, college teachers, factor analysis, t-test

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1. Introduction

Education is one of the most important institutional organizations of a nation. It oversees issues over national agenda. Its effective running depends firmly on its coordination in the direction of societal expectation. Successful educational programs lie on the important contributions of effort, involvement, and most importantly on the overall teacher professionalization. Employee job satisfaction, commitment, and retention are crucial to effective schools (academic institutions). A positive and healthy education climate translates into increased academic staff job satisfaction. A healthy university climate will not only increase the job satisfaction of academic staff, but it will at the same time improve the learning environment and increase the productivity of the university or college. In addition, it becomes significant to job satisfaction because commonly held visions and beliefs, coupled with a positive environment, carry with them energy for success.

The concept of general satisfaction is defined as the extent to which a worker feels positively or negatively about his or her job (Locke, 1976; Odom, Boxx, and Dunn, 1990). It refers to employee's satisfaction with the general aspects of work situation such as pay, supervision, the firm, the job itself, fellow employees, and prospects of advancement. Educational staff job satisfaction is a predictor of staff retention which influences school effectiveness. Educational staff job satisfaction studies, nevertheless, reveal wide ranging differences in determining factors contributing to job satisfaction. Academic staff job satisfaction influences job performance, motivation, morale, attrition, and ultimately students' performance. Hall, Pearson, and Carroll (1992) in their study on the area found that

Teachers (academic staff) who plan to leave the teaching profession can be distinguished from those who plan to stay by the pattern of their work-related attitudes, perceptions, and reactions. Borg et al., (1991) study on primary teachers reveal among others that job satisfaction and stress are related. Other researchers found that effective teachers place significant emphasis on student-relationships (Gay, 1995; Laden and Billings, 1994). Heller, Rex, and Cline (1992) reported that variance in teacher satisfaction can be accounted for by satisfaction in meeting students' achievement.

2. Literature Review

Researchers across different disciplines have written many articles relating to the job satisfaction. Satisfaction is an important element in Job. Authors from psychology, human resources management, and organizational science have defined, measured, and interpreted the significance of job satisfaction in their discipline. Job Satisfaction results in high performance. Workers' performance and satisfaction on the job is studied by

different people belonging to different disciplines. Job satisfaction is a complex function of several variables. A person may be satisfied and happy with one or more aspects of his/her job but at the same time maybe unhappy and not satisfied with other things related to the job. For example, a doctor may be satisfied with his designation, environment and certain other things but may not be satisfied with the level of his income. Job dissatisfaction is widespread among workers of all ages across all income brackets.

In other words, Job satisfaction is a generalized feeling of fulfilment of an employee's economic and psycho-social needs and aspirations in life which he seeks to obtain through the expression of his abilities and aptitudes in accordance with his interest via the medium of an organization. The opportunity he gets for such an exercise in his place of work determines his attitude towards the organization and its goals. The overall performance of an organization thus becomes the function of the degree of job satisfaction.

Keith Davis (1986) remarked that job satisfaction is the favourableness or unfavourableness with which employees view about their work. The job satisfaction of individuals within a work group also may be influenced by both their co-workers and their supervisor or manager. The supervisor could be regarded as an organizational factor, but because the position is described and defined by the organization, it is often his or her individual characteristics (warmth, understanding, integrity) that most strongly influence employee attitudes. Herzberg, F., Mausner, B. and Snyderman, B.B. (1959) stated that (positive) satisfaction is due to good experiences, and that these are due to `motivators' - achievement, recognition, the work itself, responsibility, and advancement. The reason for the dissatisfaction is due to bad experiences caused by `hygiene' factors - supervisors, fellow workers, company policy, working conditions, and personal life (Herzberg et al., 1959). Herzberg, Mausner, Peterson and Capwell (1957) stated that job satisfaction has many facets and is multidimensional. “There can be satisfaction with the specific activities of the job; with the place and working conditions under which the job is performed; or with specific factors such as economic rewards, security, or social prestige”. Clark 1998 has correlated job Satisfaction with Job quality measures and has shown that Job Satisfaction is strongly correlated with Income for men, and working Hours for women, younger workers Job Satisfaction has no or weak correlation with level of difficulty or hardness of work. Similarly, he has identified that promotion opportunities become less important with age whereas income become more important.

Clark (1996) has done empirical studies on job satisfaction in Britain. This paper uses information from a study of 5000 British employees to investigate the relationship between three measures of job satisfaction and a wide range of individual and job

characteristics, notably, men workers in their thirties, the well-educated those working longer hours and workers in larger establishments. The results have shown that job satisfaction is higher for women, older workers, and those with lower levels of education. The types of job that workers have are also strong predictors of job satisfaction, workers with long hours, those in large establishment's union members and those without promotion opportunities are more likely to be dissatisfied at work. Income is strongly positively correlated with pay satisfaction and much less strongly with overall job satisfaction.

Ilies and Judge (2004) have done their work on job satisfaction and its relationship with affectivity, mood at work. The study involved a three-phase multi-source longitudinal design that included experience-sampling surveys in the second phase of the study. Results suggested that average levels of experience-sampled job satisfaction indicate the general attitudinal construct of job satisfaction. As expected, pleasant mood at work and beliefs about the job made independent contributions to the prediction of job satisfaction. Other Pleasants mood mediated the affectivity job satisfaction relationship, and the mediating effect was much stronger when job satisfaction was assessed with the experience-sampling method.

3. Statement of the Problem

There have been substantial research touching about job satisfaction determinants but few talks about job satisfaction in context to the sector they work in. There is a need to analyse this issue to inform measures that can be used to improve human resource management. Further, this study intends to examine the factors that affect job satisfaction of employees.

4. Objective of the Study

1. To study the overview of job satisfaction
2. To analyze the dimension of job satisfaction
3. To explore the factors affecting level of job satisfaction among college teachers.
4. To analyze whether there is any significant difference in job satisfaction among college teachers vis-à-vis their demographic characteristics.

5. Research Methodology

This study is exploratory research based on primary data. Data were collected through structured questionnaire based on Likert scaling. The sample of the study consisted of the teachers working in Public and Private Colleges. Convenient sampling was used for the present study. The study was also supplemented by different articles, research papers, journals, books, and publications related to job satisfaction.20 items were identified from

literature review which indicates towards job satisfaction. Exploratory factor analysis was applied to these items to explore the major factors. Further independent sample T-test has been applied to analyze whether there is any difference in overall job satisfaction with respect to various demographic factors.

6. Analysis and Discussions

6.1 Demographic analysis

Five demographic variables have been considered in the present study which is sector, education, gender, age, and monthly income. Simple frequency distribution has been shown to highlight the demographic characteristics of the respondents.

Table 1: Demographic Profile of the Respondents (N=100)

Demographic Variable	Distribution	Frequency (or %)
Gender	Male	45
	Female	55
Job Sector	Public	52
	Private	48
Education	Post-Graduate	48
	Ph.D.	52
Age	Below 30 yrs	40
	30yrs and above	60
Income	Below Rs. 25000	23
	Rs. 25000 and above	77

It is evident from the above Table that respondent comprises of 45 males and 55 females. Almost equal number of respondents belongs to public (52) and private (48) sector. Similarly, almost equal share of the respondents possesses Masters' (48) or Ph.D. degree (52). 40% of the respondents are below 30 years of age and remaining 60% are 30 years or above of age. However, there is huge gap in respondents with respect to their income. 77 respondents have their income of Rs. 25000 and above and remaining 23 respondents earn below Rs. 25000.

6.2 Reliability analysis

Reliability refers to consistency and/or repeatability of the measurement; in other words, consistency can relate here to the questionnaires being clear and well define to not confuse the respondents and repeatability here means that if searchers have findings from a group, they should be able to repeat the survey and get the same results. In this analysis, Cronbach's Alpha was used to check the internal consistency of the instrument.

Table 2: Reliability Statistics

Cronbach's Alpha	No of Items
0.870	25

The calculated value of Cronbach's alpha is 0.870 for the present instrument. Based on the rule of thumb proposed by George and Mallery (2003), it can be stated that the present value lies in "Good" confiability. A high value for Cronbach's alpha indicates good internal consistency of the items in the scale.

6.3 Factor analysis

The exploratory factor analysis (EFA) was done to identify the major factors related to the job satisfaction among college teachers. Factor analysis is applied to reduce the items to lesser manageable factors. The principal component analysis (PCA) was conducted on 25 items with varimax rotation. To ascertain the sample adequacy and correlation among the items, KMO and Bartlett's test is done. The summary of which is given below.

Table 3: Result of KMO and Bartlett's Test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.798
Bartlett's Test of Sphericity	Approx. Chi-Square	2251.097
	Df	300
	Sig.	.000

The Kaiser-Mayer-Olkin (KMO) measure verified the sampling adequacy for the analysis. The KMO calculated is found to be 0.798. This score indicates that the sample is 'good' for factor analysis (Field, 2009). Further, Bartlett's test of Sphericity is significant (p-value<.001), which rejects the null hypothesis that there is no correlation among the items. Thus, there is enough correlation to go ahead for factor analysis.

Table 4: Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.693	30.773	30.773	7.693	30.773	30.773	6.434	25.736	25.736
2	4.261	17.044	47.817	4.261	17.044	47.817	4.446	17.785	43.521
3	2.122	8.487	56.305	2.122	8.487	56.305	1.971	7.884	51.405
4	1.702	6.810	63.114	1.702	6.810	63.114	1.926	7.702	59.107
5	1.290	5.158	68.272	1.290	5.158	68.272	1.734	6.935	66.042
6	1.169	4.676	72.949	1.169	4.676	72.949	1.447	5.787	71.829
7	1.032	4.129	77.078	1.032	4.129	77.078	1.312	5.249	77.078

Extraction Method: Principal Component Analysis.

An initial analysis was run to obtain Eigen value for each component in the data. Table 4 reveals that 7 components have eigen value over Keiser criterion of 1 and in combination explaining 77.075% of the total variance. Further, all the factors with latent root less than 1 are concluded to be insignificant and ignored. The analysis also reveals that there are 7majorjob satisfaction factors among college teachers. The figure below exhibits the extractable factor (the factors having eigen value more than 1) graphically through the Scree-plot.

Figure 1: Scree Plot

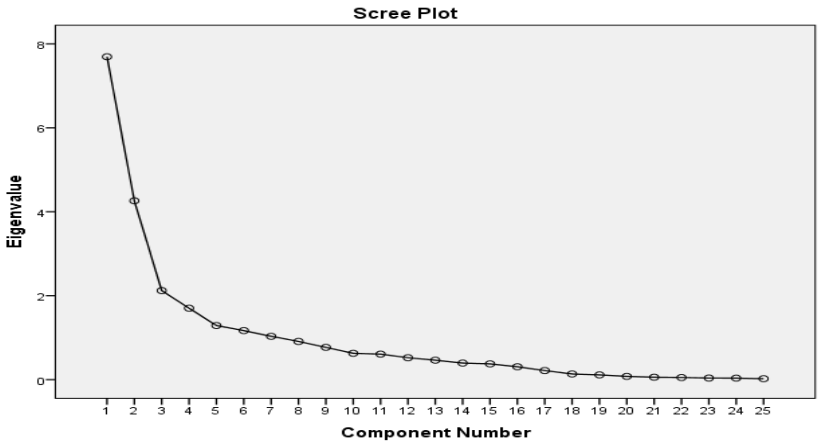

Table 5 shows the factor loading of various variables on the factors extracted. The factor analysis was applied on 25 variables which extracted 7 major factors of job satisfaction among college teachers. Put together, all factors explain 77.075% of variations in the data. It is observed from the above table that the most important factor perceived by the college teachers regarding job satisfaction is "Individual Motivating Factors" which has the highest Eigen value of 7.693 and explains 25.736% of variance. This comprises 7 variables which are Participation in management, Job content, Salary, Work-life balance, Work environment, Job security and Incentives. Among them, participation in management has the highest loading of 0.936. The second factor is "Team Motivating Factors" with eigen value of 4.261 and it explains 17.785% of variance comprising 6 variables.

Table 5: Result of Factor Analysis

S.N.	Name of Factor	Loading	Eigen value	% of Variance	Cum. % of Variance
1	**Individual Motivating Factors**		7.693	25.736	25.736
	Participation in management	0.936			
	Job content	0.931			
	Salary	0.931			
	Work-life balance	0.917			
	Work environment	0.879			
	Job security	0.819			
	Incentives	0.783			
2	**Team Motivating Factors**		4.261	17.785	43.521
	Supervision	0.904			
	Collective bargaining	0.886			
	Respect from colleague	0.879			
	Job responsibility	0.783			
	Competition among employees	0.745			
	Perquisites	0.529			
3.	**Challenging Factors**		2.121	7.883	51.404
	Job rotation	0.779			
	Org. conflicts	0.601			
	Org. politics	0.509			
4	**Ease Factors**		1.702	7.702	59.106
	Working hours	0.720			
	Open communication	0.634			
	Work culture	0.598			
5	**Advancement Factors**		1.289	6.934	66.040
	Opportunity for Career Development	0.734			
	Interesting & Challenging work	0.705			
	Flattery	0.551			
6	**Growth Factors**		1.169	5.786	71.826
	Promotion	0.838			
	Training	0.623			
7	**Skills Development Factor**	0.839	1.032	5.249	77.075

The most important variable in Team Motivating Factors is supervision having factor loading of 0.904. Third factor is termed as "Challenging Factors" which comprises 3 variables. This factor has eigen value of 2.121 and explains 7.883% of variance. The fourth factor is named as "Ease Factors" on which 3variables are loaded and it explains 7.702% of variance with eigen value of 1.702. In this factor, the variable working hours has highest loading of 0.720. The fifth factor is assigned name as "Advancement Factors" comprising 3 variables and it explains 6.934% of variance with eigen value of 1.289. Opportunity for Career Development has the highest loading of 0.734 in this variable. The sixth factor is "Growth Factors" comprising 2 variables

promotion and training. Lastly, Skills Development has emerged as the single factor with eigen value of 1.032 and it explains 5.249% of variance.

6.4 t-test analysis

Independent sample t-test has been applied to analyse whether there is difference in overall job satisfaction of teachers with respect to their various demographic characteristics.

Null Hypotheses (Ho):

- There is no significant difference in overall job satisfaction between male and female teachers.
- There is no significant difference in overall job satisfaction between public and private teachers.
- There is no significant difference in overall job satisfaction between post-graduate and Ph.D. degree holder teachers.
- There is no significant difference in overall job satisfaction between teachers of below 30 years of age and teachers of 30 and above years of age.
- There is no significant difference in overall job satisfaction between teachers earning below Rs. 25000 and teachers earning Rs. 25000 and above.

Table 6: Summary Result of t-test

Demographic Variable	Category	N	Mean ± SD	df	t-value	Sig.	Decision
Gender	Male Female	45 55	3.2889± 1.160 3.5818± 1.150	98	-1.262	.210	Ho Accepted
Sector	Public Private	52 48	4.1731± 0.706 2.6667± 1.038	98	8.540	**.000**	Ho Rejected
Education	Post-Graduate Ph.D.	48 52	3.0625± 1.343 3.8077± 0.817	98	-3.380	**.001**	Ho Rejected
Age	Below 30 yrs 30yrs and above	40 60	3.7000± 1.114 3.2833± 1.166	98	1.782	.078	Ho Accepted
Income	Below Rs. 25000 Rs. 25000 & above	23 77	3.378± 1.027 3.4805± 1.199	98	-0.480	.632	Ho Accepted

Note: Level of significance at 5%.

Table 6 summarizes the result of t-test. It reveals that significant difference in overall job satisfaction exists only among sector-wise and education-wise. The null hypotheses are rejected for Sector and Education. It can be thus concluded that the sector has a role in job satisfaction among college teachers. The mean value for satisfaction of public teachers is 4.1731, which is more than the private teachers. The public teachers fall in High satisfaction scale and the private teachers with mean value 2.6667 fall even below Moderate satisfaction. Similarly, the educational qualification also impacts the job satisfaction. The Ph.D. degree holders are more satisfied than the post-graduates only. However, in remaining variables the null hypotheses are accepted, which means gender, age and income has no impact on job satisfaction, for the given set of respondents.

7. Conclusion and Implications

The study explores 7 major factors which lead to job satisfaction among the college teachers. The individual motivating factor has emerged as the most prominent factor affecting job satisfaction. The study also reveals that the college teachers rank individual motivating factors above the team motivating factors. Self-centric factors satisfy the teachers more. The college management should therefore frame individual reward system to motivate the teachers rather than team reward. The management should also focus on other factors such as advancement factors, growth factors and skill development factors. Therefore, management or organization should organize regular training programmes to enrich and equip teachers with latest developments, arrange regular formal meetings with teachers to consider their suggestions and try to value it. The respondents also admitted that the challenges face in their job makes their job more interesting and thus increases their satisfaction. The study further reveals that the public sector teachers are more satisfied than the private sector teachers. The respondent attributed it to the flexibility, security of job, high wage and independence enjoyed in public sector. Similarly, educational background also impacts the satisfaction of the teachers. The Ph.D. degree holders are more satisfied than the post-graduate only teachers. This is because the Ph.D. degree holding teachers are remunerated more and are given special respect and importance among their colleagues.

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EFFECT OF E-BANKING ON FINANCIAL INCLUSION IN NEPAL

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ABSTRACT

The study examines the effect of electronic banking on financial inclusion in Nepal. Financial inclusion is the dependent variable. The selected independent variables are automated teller machine, point of sale terminal, internet banking, mobile banking, and agency banking. The primary source of data is used to assess the opinions of the respondents regarding the financial inclusion and electronic banking. The study is based on primary data of 150 respondents. To achieve the purpose of the study, structured questionnaire is prepared. The regression models are estimated to test the significance and importance of electronic banking on financial inclusion in Nepal. The study showed that automated teller machine has a positive impact on financial inclusion. It indicates that increase in number of automated teller machines leads to increase in financial inclusion. Similarly, mobile banking has a positive impact on financial inclusion. It indicates that better orientation towards mobile banking leads to increase in financial inclusion. Likewise, internet banking has a positive impact on financial inclusion. It indicates that better orientation towards the internet banking leads to increase in financial inclusion. Furthermore, agency banking has a positive impact on financial inclusion indicating that increase in agency banking leads to increase in financial inclusion. Lastly, point of sale has a positive impact on financial inclusion. It indicates that better orientation towards point-of-sale services leads to increase in financial inclusion.

Keywords: financial inclusion, automated teller machine, point of sale, internet banking, mobile banking, and agency banking.

1. Introduction

The advancement in technology and globalization has changed the way banking service is delivered across the world. Customers taste and preferences have also changed in response to new trends in technology. Banking customers have become more sophisticated and demand quality, speed and variety of services and products offered by banks. Customers who required banking services have had to leave everything and travel to their branches to be able to transact banking business. This put banking services out of reach of many people across the country. The emergence of electronic

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banking has meant that many banking products and services can be accessed through the internet. Thus, electronic banking has enabled many products and services to be offered to customers who do not have to travel to the branch before accessing banking service. E-banking has made banking more competitive (Chavan, 2013). Bank customers are more discerning, sophisticated, and demanding. To meet customers' needs and expectations, banks have invested heavily in IT Infrastructure to offer a wide range of products and services including ATMs, telephone banking, Internet banking, Mobile banking etc. Electronic banking includes the systems that enable financial institution customers, individuals, or businesses, to access accounts, transact business, or obtain information on financial products and services through a public or private network (Daniel, 1999).

The concept of financial inclusion has continued to gain global acceptance since it was identified as one of the key drivers of inclusive economic growth and development. Financial inclusion means access to finance and financial services for all in a fair, transparent, and equitable manner at an affordable cost. In a more concise manner, it can be defined as delivery of basic banking services at an affordable cost to all sections of the society, especially the vast sections of disadvantaged and low-income groups who tend to be excluded (Abid and Noreen, 2006). Exclusion from the formal financial system has increasingly been identified as a barrier to eradicating poverty (Donovan, 2012). Indeed, lack of access to financial services such as credit as saving reduces household's ability to invest, save and respond to shocks (Aker and Wilson, 2013). At the micro level, low levels of financial inclusion led to lower economic growth and exacerbate income inequality (Demirguc-Kunt *et al.*, 2008). Financial inclusion refers to the absence of price or non-price barriers in the use of financial services (Sharma and Kukreja, 2013). In other words, financial inclusion comprises all initiatives that make formal financial services available, accessible, and affordable to all segments of the population (Nandhi, 2012). Electronic banking has played a significant role in improving the standard of service delivered to the customer. With just a click of a button, the customer can check the services or products on offer in different banks making it easy to compare and choose. Electronic banking has made banking more competitive and complex (Kirakosyan and Danaiata, 2014). Electronic banking has enabled customers to carry out several financial transactions from many different locations with just a few clicks. It helps in reducing costs by providing financial services cheaper and faster with less staff. Electronic banking has created variety for customers. Customers can choose the time, place, the products they want and the method by which they want to use to access the service or product. Electronic banking has become significantly popular, employed by making financial institutions to reduce costs associated with having personnel to serve customers physically. Electronic banking can help banks achieve competitive advantage (Yousafzai et al., 2003). Financial innovation has a critical role in financial deepening, which include electronic

banking services (Beck and Wagner, 2018). E-banking is the use of electronic means to deliver banking services, mainly through the internet.

Triki and Faye (2013) defined financial inclusion as all initiatives which makes formal financial services readily available, easily accessible, and affordable to all subgroups of the population in a particular country. Financial inclusion is also defined as the process which ensures accessibility, availability, and utilization of financial system by members of an economy (Sharma, 2008). Financial inclusion is an intervention strategy that seeks to overcome the market friction that hinders the market from operating in favour of the poor and under privilege. Financial inclusion offers incremental and complementary solutions to tackle poverty, to promote inclusive development (Chibba, 2009). It aims at drawing the unbanked population into the formal financial system so that they can access financial service ranging from savings, payments, and transfers to credit and issuance. Financial inclusion strategies aim at increasing the number of people with accounts in banks and other formal and financial institutions saving current and credit. It also pursues the promotion of the uses of formal payment media, including cheques, ATM cards, internet payments, mobile payments (Mbutor and Uba, 2013).

E-banking services are being deployed rapidly across emerging markets as a key tool to further the goal of financial inclusion. Hussien and El Aziz (2013) stated that rapid growth in the e-banking services has led to increased access for the less privileged and disadvantage population to affordable financial services not only within but also across the borders. The integration of banking technologies with mobile technologies that have much wider penetration hold new promise of financial inclusion for the mass. Nwudeet al. (2020) stated that e banking transactions have increased at a rapid place for the success of financial inclusion. Thus, the rapid growth of e-banking services user has made an important platform for extending banking services. The affordability of e-banking services means e-banking services is a useful avenue towards increased financial inclusion, making it is important in countries where financial inclusion is high or where people are informally served (Casaloet al., 2008). The efficiency of cashless payments channel significantly encourages the use of financial products and services. The desire to own bank account and excessive digital payments charges have significant influence on financial inclusion. E-banking payments have enhanced equal access and use of financial products and services (Eze and Markjackson, 2020). Ozili (2018) observed that digital finance has a positive effect on financial inclusion in emerging and advancing economies. According to Lumsden (2018), implementing e- banking financial systems can increase financial inclusion and improve economic development. E-banking is a powerful instrument that banks can employ to drive financial inclusion because of its convenience and cost effectiveness (Bizahet al., 2013). Digital financial services can be more convenient and affordable than traditional banking services. It

enables low- income and poor people in developing countries to save and borrow in the formal financial system, earn a financial return, and smooth their consumption.

In the context of Nepal, Dangol and Humagain (2020) concluded financial innovation and quality of financial services are the significant determinants of financial inclusion. Financial literacy plays a moderating role between financial innovation and financial inclusion. The study revealed that the tendency of higher level of financial inclusion was influenced by gender, educational level and monthly income and internet banking. Many countries have introduced comprehensive measures to improve access to and usage of tailored financial services. Greater financial inclusion is achieved when all economic activities and segments of the society have access to financial services with ease and at minimum cost. According to Pant (2016), most of the measures could not be executed to the degree desired due to problems of low financial literacy, paucity of infrastructural facilities as well as inadequate technology-based facilities. Likewise, Simkhada (2013) found that co-operative model should receive increased attention in Nepal, allowing existing cooperatives to be strengthened and more cooperatives to be established, reaching more remote rural communities. The digital finance improves the services provided by banking and financial institutions which plays positive role in encouraging financial accessibility. Likewise, Rana (2016) stated those consumers are interested in electronic banking services because of ease and time saving. Increase in use of internet banking services has also led to increase in the number of customers. The study also stated that people are encouraged to engage in banking and financial institutions due to increase in technology and research.

The above discussion shows that empirical evidence varies greatly across the studies on the effect of electronic banking on financial inclusion. Therefore, to support one view or the other, this study has been conducted. Hence, this study focuses on the influence of electronic banking on financial inclusion in Nepal. The major purpose of the study is to examine the effect of the electronic banking on financial inclusion in Nepal. Specially, it examines the relationship of automated teller machine, mobile banking, internet banking, point of sale terminal and agency banking with financial inclusion in Nepal.

The remainder of this study is organized as follows: Section two describes the sample, data, and methodology. Section three presents the empirical results and final section draw conclusions and discuss the implications of the study findings.

2. Methodological Aspects

The study is based on the primary data which were gathered from 150 respondents. The respondents' views were collected on automated teller machine, mobile banking,

internet banking, point of sale terminal, agency banking and financial inclusion. The study is based on descriptive and causal comparative research designs.

2.1 The model

The model estimated in this study assumes that financial inclusion depends on different factors. Moreover, the various factors influencing financial inclusion are automated teller machine, mobile banking, internet banking, point of sale terminal and agency banking. Therefore, the model takes the following form:

$$FI = \beta_0 + ß_1 ATM + ß_2 MB + ß_3 IB + ß_4 AB + ß_5 POS + e \quad (1)$$

Where,

FI= Financial inclusion
ATM= Automated teller machine
MB = Mobile banking
IB = Internet banking
POS = Point of sale
AB = Agency banking

Financial inclusion was measured using a 5-point Likert scale where the respondents were asked to indicate responses using 5 for strongly agree and 1 for strongly disagree. There are 10 items and sample items include "Financial institution provides inexpensive and easy to use services," "Financial technology makes banking services easier to achieve" and so on. The reliability of the items was measured by computing the Cronbach's alpha (α= 0.740).

Automated teller machine was measured using a 5-point Likert scale where the respondents were asked to indicate responses using 5 for strongly agree and 1 for strongly disagree. There are 5 items and sample items include "ATM banking is flexible and suitable for daily transaction," "ATM banking fees are minimal for customer" and so on. The reliability of the items was measured by computing the Cronbach's alpha (α= 0.771).

Mobile banking was measured using a 5-point Likert scale where the respondents were asked to indicate responses using 5 for strongly agree and 1 for strongly disagree. There are 5 items and sample items include "M-banking transaction can be done from any place to any banks," "Mobile banking assures quick transaction in terms of time" and so on. The reliability of the items was measured by computing the Cronbach's alpha (α= 0.730).

Internet banking was measured using a 5-point Likert scale where the respondents were asked to indicate responses using 5 for strongly agree and 1 for strongly disagree. There are 5 items and sample items include "Internet banking is easier than traditional banking," "Internet banking transaction is confidential and secure" and so on. The reliability of the items was measured by computing the Cronbach's alpha (α= 0.760).

Point of sale was measured using a 5-point Likert scale where the respondents were asked to indicate responses using 5 for strongly agree and 1 for strongly disagree. There are 5 items and sample items include "POS is very useful among customers at retail store," "POS technology helps to execute transaction fast" and so on. The reliability of the items was measured by computing the Cronbach's alpha (α= 0.778).

Agency banking was measured using a 5-point Likert scale where the respondents were asked to indicate responses using 5 for strongly agree and 1 for strongly disagree. There are 5 items and sample items include "Agency banking cost is minimal," "Agent banking is useful to solve problems without visiting banks" and so on. The reliability of the items was measured by computing the Cronbach's alpha (α= 0.845). The following section describes the independent variables used in this study.

2.2 Automated teller machine

ATM system is an inter-organizational system that links bank and financial institutions to retail banking customer for several types of routine banking transactions. These includes inquires, deposits, cash withdrawals, cash transfer and payments (Santos and Peffers, 1993). Peat et al. (2011) found that ATM has a significant positive relationship with the financial inclusion. Furthermore, Bayero (2015) showed that there is significant positive relationship between ATM service and financial inclusion. The study found that customers are increasingly associating quality of bank service with ATMs. Idowu et al. (2002) also revealed that automated teller machine has a positive and significant influence on the financial inclusion. Based on it, the study develops the following hypothesis:

H_1: There is a positive relationship between automated teller machine and financial inclusion.

2.3 Mobile banking

Mobile banking refers to the provision of banking and financial services with the help of mobile telecommunication devices. It is a system that allows customers of financial institutions to conduct several financial transactions through mobile devices such as mobile phone (Adewuyi, 2011). Mobile banking has a positive correlation with the access and use of financial services (Chakrabarty, 2011). Ishengoma (2011) assessed the influence of banking through mobile phones system on the financial addition in Tanzania. The study exhibited positive association and statistically important link

between financial inclusion and mobile banking. In addition, Ngugi (2015) empirically investigated mobile banking and financial inclusion in Kenya. The study showed that mobile money transfer services are positively associated to financial inclusion. Based on it, the study develops the following hypothesis:

H_2: There is a positive relationship between mobile banking and financial inclusion.

2.4 Internet banking

Internet banking is also referred as online banking. It involves banking transaction on the internet using electronic tools such as the computer without visiting the banking hall (Daniel 1999). Cheruiyot (2010) assessed the impact of electronic banking on financial inclusion. The study discovered that financial inclusion and offerings of internet banking have positive and significant relationship. Brich and Young (1997) assessed the impact of internet banking on financial inclusion in Nigerian economy. The study found that use of internet banking helps to increase the financial inclusion in Nigerian economy. Similarly, Maiyo (2013) found positive relation between internet banking and financial inclusion due to technological advancement. The study also found that internet banking services have improved and increased financial inclusion due to ease, efficiency, and effectiveness. Based on it, the study develops the following hypothesis:

H_3: There is a positive relationship between internet banking and financial inclusion.

2.5 Agency banking

Agency banking refers to delivery of financial services outside the conventional bank branches (Kelly, 1989). Agency banking is new strategy commercial banks are employing to increase market share and offer banking services to their clients in varied places (Howcraft and Beckett, 1996). Agency banking increases trust and usages of banking services. Moreover, Doh (2020) found that agency banking leads to increase in usages of banking facilities, reduces the cost of accessing and managing new clients. Thus, agency banking is positively correlated with financial inclusion. Likewise, Muasya and Kerongo (2015) revealed that agency banking services awareness among the rural population are positively correlated to access to financial services. Similarly, Anyanzwa (2012) found that agent banking is positively correlated to financial inclusion. Based on it, the study develops the following hypothesis:

H_4: There is a positive relationship between agency banking and financial inclusion.

2.6 Point of sale

Point of sale is an electronic device that is used for verifying debit card and credit card transaction. Sorescuet al. (2003) showed that point of sale includes convenience and low transaction cost which leads to increase in financial services. According to

Colombia (2006), point of sale has made significant contribution to enhance financial inclusion across the world. Point of sale terminal increases ease convenience and reduces the transaction cost which encourage customer to use banking services. Bolivia (2006) found that point of sale terminal is positively correlated to financial inclusion. Based on it, the study develops the following hypothesis:

H_5: There is a positive relationship between point of sale and financial inclusion.

3. Results and Discussion

3.1 Correlation analysis

On analysis of data, correlation analysis has been undertaken first and for this purpose, Kendall's Tau correlation coefficients along with mean and standard deviation has been computed and the results are presented in Table 1. This table presents Kendall's Tau correlation coefficients between dependent variable and independent variables. The correlation coefficients are based on 150 observations. The dependent variable is FI (Financial inclusion). The independent variables are ATM (Automated teller machine), MB (Mobile banking), AB (Agency banking), IB (Internet banking) and POS (Point of sale).

Table 1: Kendall's Tau Correlation Coefficients Matrix

Variables	Mean	SD	FI	ATM	MB	IB	AB	POS
FI	3.793	0.651	1					
ATM	3.847	0.596	0.320**	1				
MB	3.911	0.691	0.398**	0.417**	1			
IB	3.771	0.702	0.497**	0.336**	0.443**	1		
AB	3.547	0.698	0.498**	0.274**	0.366**	0.514**	1	
POS	3.865	0.785	0.478**	0.282**	0.380**	0.427**	0.472**	1

Notes: The asterisk sign (**) indicates that the results are significant at one percent level.

The result shows that automated teller machine has a positive relationship with financial inclusion. It indicates that increase in number of automated teller machines leads to increase in financial inclusion. Similarly, mobile banking has a positive relationship with financial inclusion. It indicates that better orientation towards mobile banking leads to increase in financial inclusion. Likewise, internet banking has a positive relationship with financial inclusion. It indicates that better orientation towards the internet banking leads to increase in financial inclusion. Furthermore, agency banking has a positive relationship with financial inclusion indicating that increase in agency banking leads to increase in financial inclusion. Lastly, point of sale has a

positive relationship with financial inclusion. It indicates that better orientation towards point-of-sale services leads to increase in financial inclusion.

3.2 Regression analysis

Having estimated the Kendall's Tau correlation coefficients, the regression analysis has been carried out and the results are presented in Table 2. More specifically, it presents the regression results of automated teller machine, internet banking, mobile banking, agency banking and point of sale on financial inclusion in Nepal. The results are based on 150 observations using linear regression model. The model is

$$FI = \beta_0 + ß_1 ATM + ß_2 SMB + ß_3 IB + ß_4 AB + ß_5 POS + e \quad (2)$$

Where, the dependent variable is FI (Financial inclusion). The independent variables are ATM (Automated teller machine), MB (Mobile banking), AB (Agency banking), IB (Internet banking) and POS (Point of sale).

Table 2: Estimated Regression Results of Automated Teller Machine, Internet Banking, Mobile Banking, Agency Banking and Point of Sale on Financial Inclusion

Model	Intercept	Regression coefficients of					Adj. R_bar^2	SEE	F-value
		ATM	MB	IB	AB	POS			
1	1.797	0.519					0.221	0.574	43.244
	(5.847)**	(6.579)**							
2	1.709		0.533				0.316	0.537	69.954
	(6.754)**		(8.364)**						
3	1.42			0.63			0.458	0.478	126.968
	(6.626)**			(11.268)**					
4	1.51				0.644		0.474	0.471	135.137
	(7.545)**				(11.625)**				
5	1.604					0.566	0.464	0.471	129.965
	(8.185)**					(11.400)**			
6	1.316	0.222	0.415				0.338	0.529	38.994
	(4.418)**	(2.403)*	(5.207)**						
7	0.882	0.105	0.184	0.474			0.484	0.462	49.518
	(3.291)**	(1.269)	(2.378)*	(6.816)**					
8	0.622	0.093	0.145	0.251	0.366		0.572	0.425	50.803
	(2.475)*	(1.225)	(2.024)*	(3.274)*	(5.253)**				

9	0.571 (2.355)*	0.079 (1.075)	0.099 (1.412)	0.18 (2.355)*	0.279 (3.910)**	0.224 (3.567)**	0.604	0.409	46.473
10	0.843 (3.809)**		0.141 (4.367)**	0.315 (2.129)*		0.312 (5.254)**	0.565	0.429	65.438

Notes: 1. Figures in parentheses are t-values. 2. The asterisk signs (**) and (*) indicate that results are significant at one percent and five percent level of significance respectively.3. Dependent variable is financial inclusion.

The results show that the beta coefficients for automated teller machine are positive with financial inclusion. It indicates that automated teller machine has a positive impact on financial inclusion. This finding is like the findings of Peat *et al*. (2012). Likewise, the beta coefficients for mobile banking are positive with financial inclusion. This finding is consistent with the findings of Ishengoma (2011). Similarly, the beta coefficients for internet banking are positive with purchase intention. It indicates that internet banking has a positive impact on financial inclusion. This finding is consistent with the findings of Brich and Young (1997). Furthermore, the beta coefficients for agency banking are positive with financial inclusion. It indicates that agency banking has a positive impact on financial inclusion. This finding is like the findings of Muasya and Kerongo (2015). In addition, the beta coefficients for point-of-sale terminal are positive with financial inclusion. It indicates that point of sale terminal has a positive impact on financial inclusion. This finding is like the findings of Bolivia (2006). The result also shows that the beta coefficients for all explanatory variables are significant at one and five percent level.

4. Summary and Conclusion

Financial inclusion has been broadly recognized as critical in reducing poverty and achieving economic growth. When people participate in the financial system, they are better able to start and expand businesses, invest in education, manage risk, and absorb financial shocks. Digital finance services are vital to the public as it boosts security for their cash and it's more convenient compared to keeping money at home traveling with the money. Digital financial inclusion can improve the welfare of individuals and business that have a reliable digital platform with which to access funds in their bank accounts to carry out financial transaction. The study attempts to examine the effect of e banking on financial inclusion in Nepal. The study is based on the primary data which were collected from 150 respondents. The study shows that automated teller machine, internet banking, mobile banking, agency banking and point of sale have positive impact on financial inclusion in Nepal. The study concluded that better orientation of customers towards automated teller machine, internet banking, mobile banking, agency banking and point of sale leads to increase in financial inclusion. The study also

concluded that agency banking followed by point of sale and internet banking are the most influencing factors that determines the financial inclusion in Nepal.

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SUSTAINABLE TOURISM – A COMPREHENSIVE MEASURE FOR COUNTERACTING CLIMATE CHANGE

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ABSTRACT

Climate change or global warming has become the matter of discussion around the world. There are a variety of reasons that contribute to the climate change. It is the human activity that has pushed our globe towards this vulnerable situation. Trees have been cut on large scale the past three decades to improve the infrastructure and to accommodate the huge growing population. Industrial growth is another reason for this climate change as pollution is created by the industrial wastage. Plastic usage, hydrocarbon emissions and increase in vehicles have also brought negative impacts on the environment. Now-a-days experts argue that tourism also contributes to the negative impact of the environment as the stakeholders like tourists, local people, private and public tourism business owners deviate from their responsible behavior.

This study is going to address the aim of identifying the major causative agents that contributes towards climate change and the strategies that can be identified in the mitigation of the negative impacts of these causative agents. The methodology adopted for this study is area sampling. Both descriptive and analytics is used in the study by the researcher. The research approaches like quantitative and qualitative techniques are used.

The findings of the study are that tourism is identified as an important reason for the negative impact of the environment. It is also found that all the stakeholders have equal responsibility in re-establishing the lost pleasant climate and that government's role is proved to be vital for the responsible behavior as legislations must be enforced for controlling the negative impacts. The study suggests that it is the responsible behavior of the stakeholders for which awareness must be created on the long-term impact of climate change and the ways for the effective mitigation.

Keywords: climate change, global warming, environment, legislation, stakeholders

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1. Introduction

The vibrant tourism industry is witnessing its growth in full swing bringing increase in number of tourists as well as foreign exchange to a country. Between the years 2009 to 2019 the world tourism receipts has reached 54% and the World GDP increased to 44% growth (UNWTO, 2020). Tourists keep travelling a lot to destinations where they are attracted the most and they become repeat visitors. Moreover, through word of mouth they recommend other tourists, friends, and relatives to visit them. Likewise, tourists travel in big groups and indulge themselves in many unacceptable irrational activities causing hindrance to the sustainability of all the criterions of economic, social, cultural, and environmental wellness.

Many destinations are overused due to mass tourism, usage of carbon emitting transport modes leading to extreme increase in temperature. Apart from that stakeholder like the tourists, local people, industries, governmental and non-governmental organizations are instrumental in creating negative impacts too. One of the biggest hazards created by the stakeholders is more on the environmental front. Therefore, rapid climate change is happening around the world especially India and tourism has been one of the causative agents for such a vulnerability being created.

It is imperative on the stakeholder's side to reduce climate change and restore the lost original climate our environment once experienced. To achieve this all the stakeholders should by and large be accountable in their behaviour and activities. All the stakeholders should follow a conscientious approach for undertaking sustainable tourism to reduce the drastic climate change contributing towards long term sustainability. Practicing sustainable tourism, environmental sustainability should be infused having a check on the global climate change. This study is going to address the aim of identifying the major causative agents that contributes towards climate change and the strategies that can be identified in the mitigation of the negative impacts of these causative agents.

2. Scenario Leading to Climate Change

Deforestation has become a basic problem and one of a causative agents for climate change. FAO and UNEP (Food and agriculture organization United Nation Environment Programme, 2021) that globally the total forest area has declined about 178 million h.a. from the year 1990 to 2020. During this period the decade 1990 to 2000 the loss of the forest accounted to 7.8 million h.a. per year. In the next ten years the loss reduced and recorded as 5.2 h.a. million and during 2010 to 2020 the loss was 4.7 million h.a. Though there is a decrease in the forest loss in the recent years it is just a slowdown and has not completely stopped.

In the study conducted by Jha et al. (2000), their recording via satellite data identified that through the years 1973 to 1995 the forest cover in the western ghats have been lost to an extent of 25.6%. This was the highest recorded loss during that period. They further added that dense forest of 19.5%, was lost and open forests by 33.2%. The overall spatial variability was found to be 26.64% lost, all due to excessive land usage.

Based on the assessment made by ISFR (India State of Forest Report, 2019) in the state of Tamil Nadu out of the total forest cover of 20.27% of the total geographical area, 2.77% are dense, 8.48% are moderately dense forest and 9.02% are open forests. Compared to the year 2017 assessment the forest cover grew up to 83.02sq.km. in 2019. Among the many reasons for deforestation hospitality, recreation, and tourism along with conservation of cultural and spiritual sites and educational research has been a reason for forest usage and 186 million ha per year and the same has increased at the rate of 1,86,000 ha per year since 2010.

Around 8 million tonnes of plastic were generated in the year 2008. The annual report on CPCB (2012) put forth those 150 million tonnes of plastic was produced annually worldwide. In the year 2011 it was identified that 5.6 million tons of plastic waste was generated in India that accounted to be 15342 tons per year. It is to mention that no authentic estimation is available on total generation of plastic waste prior to 2012 in the country however, in 2011 considering 70% of total plastic consumption is discarded as waste, thus approximately 5.6 million tons per annum (TPA) of plastic waste us generated in country, which is about 15342 tons per day (TPD). 205724.95 tons/annum in 2012-2013, 150323 tons/annum in 2015-2016. 2016-17 is approximately 79114.792 tons/annum. 3360043 TPA in 2018-2019 all over India. 401091 in Tamil Nadu alone 12% contribution.

According to the Goddard Institute for Space Studies (GISS, 2020) of NASA, the average global temperature has increased almost a degree Celsius since 1880. Two third of the warmth experienced by our globe has increased only after 1975 at a rate of 0.15° to 0.20°C per decade. After 2005 alone the globe has witnessed 10 warmest years the highest being the years 2016 and 2019 and the next place was given to the year 2020. Between the years 1900 to 1980 the rise in warmth creates a record once in every 13.5 years but from the years 1980 to 2019 a new record is being established every three years. The institute further highlighted a one degree increase in celsius has the capacity to heat up the whole world and a one-degree decrease has the capacity to convert certain location to be turned to ice age. Transport sector has created big havoc in the inducement of global warming or climate change as energy usage creates greenhouse gases and chlorofluorocarbons (Halberstadt, 1990). According to Statistical Research Department (2021), the vehicle increase has been almost 71.3 times through the 50 years from 1951 to 2000. The same has increased 13.8 times in 2019 when

compared to the vehicle counts in the year 2000. In 70 years of time between the years 1951 to 2019 the increase in vehicles has been almost 986 times. It can be inferred that in the year 1951 one person out of 1000 owned a vehicle and in the year 2019 for every 1000 people 986 people own a vehicle. Vehicles are prone to release the carbon monoxide, methane, nitrogen, and other hydrocarbons otherwise called the greenhouse gases which contributes towards the greenhouse effect. Halberstadt (1990) identified that 4.7% of the enhancement of global warming around the world is due to the vehicle usage The National Academies of Science, Engineering, and Medicine (2016) explain that climate change is the result of the extreme weather, heat waves, heavy precipitation, and drought. These are the outcomes of the above said problems.

3. Sustainable Tourism – A Conceptual Overview

Sustainable tourism is a two-decade old concept that is widely accepted by all the countries and the international associations. It finds its roots in the Brundtland commission where a mention is made in the writing "Our Common Future". The importance of human activity and its impacts was discussed in the summit organized in the year 1972 by UNWTO to create awareness in the minds of the people on the negative impact of human behavior on the environment (WCED, 1987).

Many authors have explained sustainable tourism like Goodwin and Font (2012) call it as a movement organized with the aim to reduce the costs of a destination with a view to maximize the economic, social, and environmental benefits. One the other hand DEAT (2002) describes that sustainable tourism is a type of tourism management strategy which works towards product planning, product development, marketing with a goal to launch positive impacts on the social, cultural economic and environmental aspects.

4. Scope of the Study

The scope of the study revolves around the concept of climate change or global warming, causes of climate change, the impact played by tourism and climate change on each other and the ways to counteract the negative impacts. The area of the scope of study is limited to Tamil Nadu especially with the destinations Ooty, Kodaikanal and Silent valley in Kerala as the former two receives more tourists while the last one is an eco-tourism destination. The two different extreme destinations are used because better ideas can be generated from the different types of tourists.

5. Statement of the Problem

Now the talk of the town and big threat to the world is "Climate Change/Global warming". People all over the world use plastics, destroying the purity of the environment, minimizing the forest areas. Industries put high powered wastages and so on which are encouraging reasons for the increasing level of climate change/global warming. The people are the major reasons for increase in global warming. Around the year trees are cut on large scale for human consumption, extension of highways minimizing the green cover which are all the major key to global warming and climate change. The sea level increases, the Himalayas' ice gets melting and the overall temperature of the globe is increasing rapidly. Tourism plays another vital role in bringing global climate change as the stakeholders like tourists, hoteliers, transport industry contribute to the climate change. Tourists on large scale throng and put forth their irresponsible behavior through their activities, causing damage to the overall global climate's deterioration. Due to all the above said reasons it is imperative to conduct this study on climate change/global warming and find solution with the aim to mitigate the negative impacts of climate change.

6. Research Questions

The following questions have been identified during the exploratory research which guides the study throughout:

1. What are the causative agents for climate change/global warming?
2. How far does the tourism industry contribute to the negative impact?
3. What are the measures that can be adopted to mitigate global climate change/global warming?

7. Objectives of the Study

The overall goal of the study is to find out whether the tourists understand the causes, impacts, and seriousness of climate change.

1. To identify the Major causative agents of climate change.
2. To identify how Tourism industry contributes towards climate change.
3. To suggest strategies for mitigation of climate change and its negative effects.

8. Significance of the Study

This study is significant as it is evident through climate change of the globe, which has many causes that is to be identified and analyzed. Many studies have been conducted on

climate change/global warming with respect to many reasons in general. But from the point of tourism, as a causative agent for global warming or climate change has not been considered. Hence, the significance is justified.

9. Research Design

The researcher has used both qualitative and quantitative approaches towards the study. In the beginning the study was revolving qualitatively as information was elicited through unstructured questionnaire, interviews, and group discussions with the experts in the field. On the quantitative side a structured questionnaire was used for information elicitation. Several secondary sources like books, magazines, journals, databases, and websites were referred on the concept of sustainable tourism and thus the study was exploratory in the beginning. In-depth interviews were conducted with several experts like policy makers, academicians, NGOs, and private stakeholder. Pilot study was conducted to identify the reliability and validity of the questionnaire. The researcher used Area sampling and convenience sampling to gather information as three different geographical areas was chosen for the study – Ooty, Kodaikanal and Silent valley. The researcher collected 220 samples from the tourist who visited these three destinations due to the constraints of time and costs the sample size were confined. Both Descriptive and analytical study was utilized by the researcher in the conduct of the study.

The questionnaire was designed by collecting relevant review and the variables of interest of the study were identified and formed as questions using different scaling. Ranking and scaling techniques were used in the questionnaire. Ordinal Scaling technique was used by the researcher for measuring the variables. To identify the bottlenecks in the destination on the causative agent for climate change ranking technique was used on the attributes - Increase in population, Deforestation, Vehicle maximization, Plastic usage, Industrial wastage, Tourist activities and Irresponsible society. The most important attribute was ranked as 1 and the least as 7. The collected data was tabulated, analysed, and interpreted by the use of various tools like frequency distribution, cross tabulation, Chi Square, ANOVA, and Friedman Rank test. Hypothesis testing was made at .05 confidence level to ensure the level of significance of the study.

10. Site Profile

Three different areas have been taken for the conduct of the study like Ooty, Kodaikanal and Silent Valley. The first two destinations are hill stations where tourists visit on large scale and the sustainability of the destinations are questionable. Beyond the carrying capacity of the destinations, tourists visit them, and they behave against the

environment. Large number of vehicles come to these places and carbon emissions can be found on large scale. Lack of responsibility is found amidst these tourists due to their behaviour and therefore form as a reason for climate change. Apart from the tourists the tourism business owners and government also play a vital role in conduct of unsustainable tourism. Silent valley is an eco-tourism destination, and we can find the tourists being little more responsible which they show in their behavioral activities. That's why two extremes of destinations are chosen for the study.

Ooty also called as Udagamandalam and Ootacamund is situated in the Nilgris district of Tamil Nadu. It is a popular hill station in the south and is 86 km north of Coimbatore located in the Nilgiri hills. It is referred as Queen of Hill stations of the south. The destination is located at an elevation of 2286 meters from the sea level. It is located between 110 and 24 'N latitude and between 76 0 and 42' E longitude. April, May, and June seem to be hot while December to February is cold. The maximum temperature is found to be 25ºC and the minimum temperature is 5ºC. Ooty has a variety of attractions drawing large number of tourists throughout the year.

Kodaikanal is a hill town in the Dindigul District of Tamil Nadu situated in the southern part of India. Kodaikanal means "The Gift of the Forest" according to the Tamil Language. It is popularly known as the "Princess of Hill stations" and its history can be traced back to the period of the British as they were the people who were instrumental in identifying it as a popular destination. The total area is 21.45 km2 (8.28 sq mi) and the elevation is 2,133 m (6,998 ft). The density of the population is 1,100/km^2 (3,000/sq mi). The average summer temperature is 19.8 °C (67.6 °F) and the average winter temperature is 8.3 °C (46.9 °F).

Tourism contributes to the major income of the people of Kodaikanal. Much of the local economy is based on the hospitality industry serving tourism. The tourist destinations at Kodaikannal are Berijam Lake, Bryant Park, Shenbaganur Museum, Boat Club, Kodaikanal Lake, Coaker's Walk, Guna Cave (Devil's Kitchen) Kurinji Andavar Temple, Silver Cascade falls, Bear Shola Falls, Pillar rocks and Dolphin's nose. Silent Valley is the ecotourism destination located in the Nilgiri hills. In the year 1984 it was declared as a national park. The area in the beginning was only 85 sq.km. and by the year 2007 had an increase of 148 sq. km apart from the previous 85 sq.km. The silent valley national park is elevated from 900 M to 2,300 M above the sea level. At the Anginda peak it is elevated upto 2,383 M. Average minimum temperature ranges from 8ºC to 14 ºC and average maximum temperature varies from 23ºC to 29 ºC. Silent Valley is known for its biodiversity where variety of species are found like insects, animals, birds, and reptiles. The silent valley is apt for many ecotourism activities like trekking, animal watching, bird watching, and elephant safari thus can find the tourists who behave responsibly for long term sustainability of the park.

11. Review of Literature

Sustainable tourism is the most sought out concept these days as behavior of the tourism stakeholders are pinching the environment through change in climate and increase in temperature. Not much literature is found with respect to tourism as a cause for the environmental vulnerability except for the concepts of behavior of the tourists. It is also the behavior from the part of the tourism industry, hospitality industry and transport industry both from the private sector and the government sector.

First and fore-most let's throw light on the tourists as they play major role in climate change. Sharpley (1994: 84), gives an idea on the responsible tourist how he/she must be. A responsible tourist according to him ". . . seeks quality rather than value, is more adventurous, more flexible, more sensitive to the environment and searches for greater authenticity than the traditional, mass tourist". (Wood and House 1991) coins a different name 'good tourists' and (Swarbrooke 1999) refer them as 'green tourists.

Tourists think differently and act differently. While they speak about responsible behavior, they agree to be ethical at the destinations but the same when they actively participate in tourism in the destinations, they take it for granted and reluctant to stick on to their determination of responsible behavior. The same was highlighted by Locke (1983) that there is a big gap between what the tourists think and act. They are not much concerned about the environment (Sharpley 2001; Doane 2005; Weeden 2005). It also depends on the intention of the tourists to modify their behavior. Cleverdon and Kalisch (2000:173) pinpoint that it is the attitude of the tourists that must be changed to remain ethical having good intentions as a base. There are instances where we can find behavior of tourists with good intentions as they intend to get associated with the travel companies which involve themselves in code of conduct in executing the trips organized by them (Stanford 2000; Tearfund 2001; Weeden 2001). Therefore, it is high that the tourists must transform themselves to be responsible towards the environment for long term sustainability.

It is the private sector also that must be responsibly committed in running their tourism business. The common idea of running a business by the private companies is profit motivation rather than being responsible for the society, and the environment. Hotels & Airlines should act as initiators to promote sustainable tourism. Government also should take the determination to be responsible in conducting tourism. Most of the governments around the world are thinking tourism from the economic point of view and they ignore the importance of long-term sustainability (Hall 2000). They target towards the earning of foreign exchange and market their states and countries. Therefore, governments coordinate with the private sector in development of attractions

and the facilities. Governments act as an economic agent rather than a responsible stakeholder. Of course, there are examples where governments act responsible (Cooper and Ozdil 1992; Harrison and Husbands 1996). One such example is the South African government. It has joined hands with the Centre for responsible tourism and the South African Department of Environmental Affairs and Tourism in the development of Responsible Tourism Handbook (Department of Environmental Affairs & Tourism (SA) 2003). It is not only the national government that acts responsibly but also the local government. Godfrey (1998: 213) mentions about the UK local government that has taken pain to contribute to responsible tourism on the social, economic, and environmental criterions. In New Zealand a local government Kaikoura District Council committed itself to the development of responsible tourism and it was the first local government in the world to achieve the full status in the Green Globe programme (Stanford, 2006). Thus, there are responsible governments considering the importance of sustainable tourism implementation.

12. Data Analysis

12.1 Demographic profile of the respondents

The demographic parameters of the sample respondents like gender, age, marital status, nationality, educational qualification, occupation, and annual income are explained as follows. From the total 220 respondents 125(56.8%) are male and 95 (43.2%) are female. With respect to the age category 118(53.6%) are between 19 and 24. Under the category marital status, 121(55%) are married while 90(40.9%) unmarried, 5(2.3%) divorced, and 2(0.9%) widowed and separated. On the nationality front of the respondents 201(91.4%) were Indians and 19(8.6%) Foreigners. Based on educational qualification 79(35.9%) were graduated, 68(30.9%) post-graduation, 49(22.3%) below graduation and least number of 24 (10.9%) were professionals. Regarding the Occupation of the sample respondents 129(58.6%) was employed in private sector, 46(20.9%) Agriculture, 23(10.5%) government sector and only 22(10%) were running the business related to tourism. It is evident that private sector people undertake trips more to the destinations of study.

Based on the annual income 127(57.7%) of them are drawing income between Rs.60,000 - 99,999, 64 (29.1%) Rs.1 lakh – 2,99,999, 13(5.9%) are 3 lakh – 4,99,999 and a least 16(7.3%) were earning Rs.5 lakh and above. Hence, most of the sample tourist's annual income fall between Rs.60,000-99,999.

12.2 Major causative agents and global warming/climate change

The major causative agents of climate change/global warming according to the respondents are deforestation 81(36.8%), Plastic usage 57(25.9%), Vehicle usage 46(20.9%), Industrial wastage 27(12.3%) and the least 9(4.1%) opine other agents like thermal power plants, greenhouse gases etc.

The awareness of climate change was felt by some of the respondents as well as some did not. About 151(68.6%) are deeply aware that the weather pattern has changed while 34(15.4%) do not know much and 35 (15.9%) are totally unaware. The sources of knowledge about climate change/global warming were media 81(36.8%), Internet 71(32.3%), friends/family 37(16.8%), Environmental group 23(10.5%) and the least 8(3.6%) through sources like books, schools, colleges etc. Thus, it is inferred that most respondents are deeply aware about weather change pattern and media vital role. The level of impact of climate change or global warming amidst the tourist perception is medium level 123(55.9%), high level 63(28.6%) and the remaining 34 (15.5%) of them perceive as low level of impact. Thus, it is inferred that most respondents find that the climate change has brought medium level of impact due to climate change/global warming which itself is hard to tolerate and therefore need to take constructive action to subsidize.

13. Hypothesis Testing

13.1 Test of association

H_0: There is no significant association between the variables Pollution affected health with knowledge about global warming.

Chi - Square – 20.247	Df – 4	P Value - .000 (S)

The association between the variable pollution affected health and knowledge about global warming was tested using Chi square analysis. From the chi square value 20.247 and the P value .000 it is evident that there is significant relationship existing between the variables at 100% confidence level. Therefore, the null hypothesis “There is no significant association between the variables Pollution affected health and Knowledge about global warming” is rejected. It is further inferred that the awareness about global warming will be instrumental in identifying that the same seriously affects the health of the individuals. Therefore, knowing the severity of climate change individuals will be able to behave in a responsible manner.

H_0: There is no significant association of Level of impact by Nationality.

Chi - Square – 9.902	Df – 2	P Value - .007 (S)

The association between the variables level of impact of climate change/global warming and nationality was tested through chi square analysis. From the chi square value 9.902 and the P value .007 it is evident that there is significant relationship existing between the variables at 99.993% confidence level. Therefore, the null hypothesis, "There is no significant association between the variables Annual income and travel arrangements" is rejected. It is further inferred that nationality of an individual helps in identifying the level of impact of global warming as they come from different geographical areas, and they can feel the extent of impact. Therefore, they have the possibility of behaving responsibly irrespective of their nationality.

13.2 Friedman rank test

H_0: There is no significant difference among the factors related to Causative agents for Climate change/Global warming.

Table 1: Causative Agents for Climate Change

Ranks	Mean Rank
Deforestation	2.44
Vehicle maximization	3.04
Plastic usage	3.05
Industrial wastage	3.94
Increase in population	4.84
Irresponsible society	4.84
Tourist Activity	5.85
Chi Square value – 429.009 Df – 6	P value - .000

The Friedman rank test displayed in the above table shows the list of ranks of the major causative agents for climate change. First rank is given to Deforestation with mean value 2.44, followed by Vehicle maximization, Plastic usage, Industrial wastage, Increase in population, Irresponsible society, and Tourist activity with mean values 3.04, 3.05, 3.94, 4.84, 4.84, and 5.85 respectively. The P value is significant at .000 ensuring 100% confidence level. Therefore, null hypothesis "There is no significant difference among the factors related to Causative agents for Global warming" is rejected having chi square value 429.009. The human behaviour is the main causative agent in overall and implementation of severe law check has been ensured.

13.3 One-way ANOVA

H_0: There is no significant difference among the respondents with respect to the variable knowledge on climate change against the main causative agent for climate change or global warming.

Climate change/Global warming is caused due to many reasons. Some of the causative agents identified are deforestation, plastic usage, industrial wastage, vehicle usage and others which is referred as a combination of all these. The awareness on the causes of global warming would help in minimizing the impacts of the causative agents on our global environment. To identify the differences on the knowledge of climate change against the main causative agent ANOVA was run.

Table2: Descriptive Analysis

knowledge about climate change	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Deforestation	81	1.90	1.136	.126	1.65	2.15	1	5
Plastic usage	57	1.93	.842	.112	1.71	2.15	1	4
Industrial wastage	27	2.56	1.311	.252	2.04	3.07	1	5
Vehicle usage	46	2.22	1.031	.152	1.91	2.52	1	5
Other	9	3.44	1.424	.475	2.35	4.54	2	5
Total	220	2.12	1.129	.076	1.97	2.27	1	5

The descriptive table 1.2 shows the difference among the main causative agents based on the mean value. The mean value ranges from 1.90 to 3.44 which shows that there are differences in their opinion. The standard deviation ranges from .842 to 1.311 which again shows deviation in the opinion. The standard deviation value of the deforestation shows 1.136. for plastic usage .842, for industrial wastage 1.311, for vehicle usage the standard deviation is 1.031, and for Others the causative agents - like combination of these, thermal power plant and green-house gases shows the standard deviation measure of 1.424. The Levene's statistic in the table 1.2(a) appears to be 3.949 and P value is significant at 99.996% confidence level the null hypothesis of equal variances is rejected. Therefore, the variances are not equal.

Table 2 (a): Test of Homogeneity of Variances

Knowledge about climate change			
Levene Statistic	df1	df2	Sig.
3.949	4	215	.004

Table 2 (b): ANOVA

Source	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	27.283	4	6.821	5.828	.000
Within Groups	251.644	215	1.170		
Total	278.927	219			

The ANOVA Table 1.2(b): shows the difference between groups and within groups. From the F ratio of 5.828 and P value .000 it is found that significant differences exist among the respondents of different major causative agents regarding the perception of how they knew about global warming. Hence, Tukey Post Hoc Test is run and the same is displayed in the Table 1.2(c) Multiple Comparison below.

Table 2 (c): Post Hoc Tests Multiple Comparisons

Knowledge about climate change Tukey HSD						
(I) Main causative agent	(J) Main causative agent	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Lower Bound	95% Confidence Upper Bound
Deforestation	Plastic usage	-.029	.187	1.000	-.54	.49
	Industrial wastage	-.654	.240	.054	-1.32	.01
	Vehicle usage	-.316	.200	.510	-.87	.23
	Other	-1.543*	.380	.001	-2.59	-.50
Plastic usage	Deforestation	.029	.187	1.000	-.49	.54
	Industrial wastage	-.626	.253	.100	-1.32	.07
	Vehicle usage	-.288	.214	.666	-.88	.30
	Other	-1.515*	.388	.001	-2.58	-.45
Industrial wastage	Deforestation	.654	.240	.054	-.01	1.32
	Plastic usage	.626	.253	.100	-.07	1.32
	Vehicle usage	.338	.262	.698	-.38	1.06
	Other	-.889	.416	.209	-2.03	.26
Vehicle usage	Deforestation	.316	.200	.510	-.23	.87
	Plastic usage	.288	.214	.666	-.30	.88
	Industrial wastage	-.338	.262	.698	-1.06	.38
	Other	-1.227*	.394	.018	-2.31	-.14
Other	Deforestation	1.543*	.380	.001	.50	2.59
	Plastic usage	1.515*	.388	.001	.45	2.58
	Industrial wastage	.889	.416	.209	-.26	2.03
	Vehicle usage	1.227*	.394	.018	.14	2.31

*. The mean difference is significant at the 0.05 level.

The results show that there is significant difference between the major causative agent deforestation and industrial wastage as the significant value shows to be .054, and .001 is found to be significant with the combination of the mentioned causative agents along with thermal plants. Similarly Plastic usage shows significant differences with the combination of the causative agents respectively which is lesser than .05. The causative agents shows that it is the human activities that creates climate change and therefore restrictions should be imposed on the responsible behaviour of the tourists, community, private sector, and government sectors.

14. Findings

Deforestation is found to be the major causative agent as it is a base for all types of infrastructural development. The other agents found to contribute to climate change are industrial wastage, plastic usage, vehicle maximization, and irresponsible society and tourist activities. The exploratory study found that tourism industry along with its relevant industries like hotel industry and transport industry play vital role in contributing towards the hydrocarbon emissions which slowly and steadily increased the temperature of the globe. UNWTO (2014) propounds that tourism industry plays a significant role in the greenhouse gas emissions where transport industry alone accounts for 75% of the overall emissions, aviation 40%. Similarly, accommodation sector accounts to 21% of the total emissions leading to global warming or climate change. It is found that as of now climate change has occurred in the medium level and if left without any check on hydrocarbon emissions and deforestation the negative impact would reach the higher level.

15. Suggestions

More trees must be planted and the same has to be made as a movement all over India. UN (2008) explains that sustainable holistic forest management will reduce the forest fires and will enhance the forest and help in enhancement of resilience to climate change. Such measures will avoid soil erosion, improve the fertility of the soil, regulate climate at microlevel. Matocha et al. (2012) considers that preserving of forests will benefit the adaptation capacity of the people to climate change and will further avoid forest fires. Awareness must be created in the minds of all the stake holders about the severity of climate change and how it can be overcome. The awareness on climate change will reduce the vulnerability (Liet al, 2015; Mutabazi et al., 2015; UNEP, 2015) and must be created in local area. Community participation should be encouraged by the government sector along with the private sector so that all the stakeholders can contribute towards the mitigation of climate change or global warming. Both the private and the public sector hotels must limit the usage of air conditioners and refrigerators. Laukkonen et al. (2009) put forth that that involvement

of the stakeholders having better knowledge on the local area and science will help in sustainable development as they will be facilitators in reducing the vulnerability and enhance climate change suppleness. Government must put forth severe laws pertaining to hydrocarbon emissions of greenhouse gases and ensure that all the stakeholders abide by these rules and regulations. Alternative fuel has to be utilized by the automobile and airline industry as to reduce the negative impacts avoiding over usage of hydrocarbon emitting fuels.

16. Policy Implementation

Climate change or global warming has become a serious threat to the environment. Several reasons have been identified for this increase in temperature. Though many reasons have been identified no single cause has been arrived so far. Among all the reasons it is identified that tourism contributes a major part. It is the international tourism that causes severe negative impact as hydrocarbon emissions are found to be as large number of tourists travel through airlines. Too many vehicles thronging at many important places brings too much of pollution which affects the health of the living beings. Therefore, it is the responsibility of the stakeholders to take necessary steps to reduce the negative impacts and have a control on the human activities.

The Afforestation movement has to be carried out all over the country and awareness has to be created on afforestation and its positive impacts. The necessity of responsible tourism has to be instilled in the minds of the various stakeholders. Thus, this research through light upon climate change, its causes, and measures to mitigate climate change. This study will provide for many future research with respect to the various stakeholders. Laws and regulations that are undertaken for reduction in climate change around the world can be researched so that implementation can be made on the success stories of reduction in climate change. Global code of ethics should be planned for enforcement of the sustainable tourism development goals to minimize the adverse impacts.

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DETERMINANTS OF FOREIGN TRADE IN NEPAL

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ABSTRACT

This study examines the determinants of foreign trade in Nepal. Exports and imports of Nepal are the dependent variables. The selected independent variables are GDP of Nepal, GDP of trading partners, real effective exchange rate, distance, regional economic integration, per capita GDP of Nepal, per capital GDP of trading partners, economic freedom of Nepal and economic freedom of trading partners. The study is based on secondary data of 21 trading partners of Nepal with 210 observations for the period of 2010 to 2019. The data are collected from the Direction of Trade Statistics (DOTS) dataset of International Monetary Fund (IMF), World Development Indicator database of World Bank, CEPII gravity data set and the Heritage Foundation. The regression models are estimated to test the impact of various variables on the exports and imports of Nepal. The study showed that GDP of Nepal has a positive impact on exports of Nepal. It indicates that increase in GDP of Nepal leads to increase in exports of Nepal. Similarly, GDP of trading partners has a positive impact on exports. It indicates that increase in GDP of trading partners leads to increase in exports of Nepal. Likewise, distance has a negative impact on exports. It indicates that greater the distance with the trading countries, lower would be the exports of Nepal to those trading partners. Moreover, real effective exchange rate has a positive impact on exports. It indicates that increase in real effective exchange rate leads to increase in exports. In addition, SAFTA membership has a positive impact on exports. It indicates that SAFTA membership leads to increase in exports of Nepal. Furthermore, **t**he study revealed that economic freedom index of trading partners has a positive impact on exports. It indicates that increase in economic freedom index of trading partners leads to increase in exports of Nepal. In addition, the study shows that GDP of Nepal has a positive impact on imports of Nepal. It indicates that increase in GDP of Nepal leads to increase in imports of Nepal. Similarly, GDP of trading partners has a positive impact on imports. It indicates that increase in GDP of trading partners leads to increase in imports of Nepal. Likewise, distance has a negative impact on imports. It indicates that greater the distance with the trading countries, lower would be the imports of Nepal from those trading partners. Similarly, real effective exchange rate has a positive impact on imports. It indicates that increase in real effective exchange rate leads to increase in imports. The study also reveals that GDP per capita differential has a positive impact on

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imports. It indicates that higher the GDP per capita differential, higher would be the imports of Nepal**.**

Keywords: GDP, trading partners, real effective exchange rate, distance, regional economic integration, SAFTA, OECD, per capita GDP, and economic freedom index

1. Introduction

Due to worldwide liberalization and globalization policies which promote borderless flow of capital and goods, international trade is vital to the development of emerging nations in attracting investments and facilitating expansion. Foreign trade is defined as the country's trade with other countries and involves the exchange of capital, goods, and services across international borders or territories in a legal fashion (Kennedy, 2013). Foreign trade plays a pivotal role in the process of economic development of a country. Both export and import trades are equally important. A country must import required raw materials, intermediate and capital goods to expand its production base and to foster its export growth if these goods are not domestically available. Imports of consumer goods are also essential to meet the growing domestic demand. Further, export trade is vital for meeting the foreign exchange gap and to reduce dependence on foreign aid (Mete and Bozgeyik, 2017). Increased participation in world trade is considered as the single most important key to rapid economic growth and development. International flows of trade have not only increased but they have also been extensively liberalized, supporting many nations in their process of economic development. In addition, trade relationship acts as an important aspect of economic integration between countries, and the role of trade flows remains significant in the global economic growth. The patterns and compositions of bilateral trade flows might possibly describe how countries are integrating and flourishing in the world economy (Anaman and Atta-Quayson, 2009).

Martinez-Zarzoso (2003) applied the gravity model to identify the determinants of trade flow among 47 countries during the period 1980-1999. The study reported that the geographical distance, population of importing country and population of exporting country have a negative impact on the volume of trade. In contrast, exporter and importer income have a positive impact on the volume of trade. Batra (2006) concluded that geographical distance, the historical and cultural similarity, common language, borders with the trade partner and the economic size of the trading partner positively influences the volume of trade. Furthermore, the study used a dummy variable to capture the effect of the absence of ports on the flow of foreign trade which has a negative impact on the volume of foreign trade. Ekanayake *et al*. (2010) analyzed the trade creation and trade diversion effects of the regional trade agreements in Asia on intra-regional trade flows using annual trade data for the period 1980-2009. The study found that the real GDP of both importers and exporters positively influence the

bilateral trade. The population of both importers and exporters and distance negatively influence the bilateral trade.

Bergstrand (1985) found that economic size of both countries (importer and exporter) has significant impact on the exports between two trading countries. Gani (2008) reported that imports and exports by Fiji from Asia are insignificantly but positively influenced by the Fiji's and its partners' GDP. Further, Roy and Rayhan (2011) stated that that Bangladesh's trade flows are significantly determined by the size of Bangladesh's economy and its partners. Moreover, Dilanchiev (2012) reported that the trading partners' GDP has positive influence on trade volume of Georgia. The study also concluded that Georgia's trade is positively determined by the size of the economies, GDP per capita and common history. The results also confirmed that foreign direct investment (FDI) is positively correlated to trade. Alam*et al*. (2009) stated that the geographical distance of Bangladesh with its partner countries has significant negative impact on its import. Moreover, Kumar and Ahmed (2015) stressed that South Asia Free Trade Agreement (SAFTA) has produced significant trade creation among its members.

Mutana*et al*. (2018) reported that GDP, terms of trade, trade liberalization and FDI have significant and positive long-run relationship with trade balance. Furthermore, the study revealed negative long-run relationship between real exchange rate and trade balance. Similarly, Panda *et al*. (2016) concluded that India's trade flows are with the countries having higher GDP. However, China's trade is influenced by higher per capita income of the trading partner and common language. In addition, Husain and Yashmin (2015) reported that trade volume of Bangladesh is positively correlated to per capita GDP and distance of OECD and non-OECD trading countries. Furthermore, Alleyne and Lorde (2014) revealed that per capita GDP differential, trade to GDP and language have positive impact on trade. On the other hand, geographical distance, exchange rate and historical trade relationships have negative effects on trade. Moreover, Wang *et al*. (2010) reported that the levels and similarities of market size, domestic research, and development stock and inward FDI stocks are positively related to bilateral trade. Similarly, the distance, measured by both geographical distance and relative factor endowment, between trade partner countries has a negative impact on the trade.

Coe and Hoffmeister (1999) applied gravity model to determine whether Africa's bilateral trade with industrial countries is unusual compared to other developing country regions. The study concluded that GDP in developing countries and product of per capita GDP have positive impact on trade. Furthermore, the study reported that distance has negative impact on trade. Ozturk (2012) revealed that real effective exchange rate has a positive effect on the import. Further, Ray (2012) found that real effective exchange rate has a negative impact on balance of trade in India. Similarly, Hassan *et al*. (2017) concluded that real effective exchange rate has a positive and significant

effect on trade deficit in India, Pakistan, and Bangladesh. Similarly, Faruqee (2004) revealed that European Economic and Monetary Union (EMU) has a positive impact on intra-area trade. Rahman (2003) concluded that Bangladesh's bilateral trade with SAARC countries is higher than non-SAARC countries. Moreover, Cerrere (2003) stated that regional trade agreements result in an increase in intra-regional trade. Mishra *et al*. (2015) revealed that there is a positive relationship between per capita GNP of the nation and its volume of trade. Furthermore, Doumbe and Belinga (2015) stated that Cameroon's bilateral trade with the Twenty-Eight European Union countries is affected positively by per capita GDP.

In the context of Nepal, Acharya (2012) found that export and import of Nepal is positively influenced by real GDP of trade partner countries. Further, the study reported that Nepal exports more to SAFTA (South Asian Free Trade Area) countries than non-SAFTA and imports less from the OECD (Organization for Economic Co-operation and Development) countries than non-OECD. The study also showed that distance to trade partner countries is highly significant with the trade. The country specific fixed effect analysis showed that time invariant factors is also significant to determine the trade balance of Nepal. Devkota and Panta (2019) empirically found that there exists no co-integrating relationship between exports, imports, and the USD exchange rate in Nepal. Further, Chaudhary *et al*. (2018) found that the income of the countries, exchange rate and the distance between the countries have a significant impact on trade pattern of Nepal with its trading partners. Paudel and Wagle (2017) stressed that partners' GDP and trade costs (measured by gravity variables like distance, contiguity, and common language) are two of the main determinants of Nepal's bilateral exports. Similarly, Prasai (2014) found that GDP, per capita GDP, and distance significantly affects the Nepal's trade with its trading partner countries.

The above discussion shows that empirical evidence varies greatly across the studies on the impact of determinants of foreign trade. Though there are above mentioned empirical evidence in the context of other countries and in Nepal, no such findings using more recent data exist in the context of Nepal. Therefore, to support one view or the other, this study has been conducted.

The main purpose of the study is to analyse the determinants of foreign trade of Nepal. Specifically, it examines the relationship of GDP of Nepal, GDP of trading partners, distance, GDP per capita differential, real effective exchange rate, regional economic integration (SAFTA and OECD), economic freedom of Nepal and economic freedom of trading partners with imports and exports of Nepal.

The remainder of this study is organized as follows: Section two describes the sample, data, and methodology. Section three presents the empirical results, and the final section draws conclusion and discusses the implications of the study findings.

2. Methodological Aspects

The study is based on the secondary data which were gathered for 21 trading partners of Nepal for the period of 10 years from 2010 to 2019. The study is based on gravity model of international trade. The main sources of data include the Direction of Trade Statistics (DOTS) dataset of International Monetary Fund (IMF), World Development Indicator database of World Bank, CEPII gravity dataset and the Heritage Foundation. Thus, the study is based on 210 observations.

2.1 The model

The econometric models employed in this study tries to analyze the determinants of foreign trade in Nepal. The dependent variables are exports and imports of Nepal. The selected independent variables are GDP of Nepal, GDP of trading partners, real effective exchange rate, distance, regional economic integration (SAFTA and OECD), per capita GDP of Nepal and trading partners, economic freedom of Nepal and economic freedom of trading partners. Thus, the following model equation is designed to test the hypothesis.

$$\text{Foreign Trade} = f\,(\text{GDP, DIST, REER, PCD, SAFTA, OECD, ECO})$$

More specifically, the given model has been segmented into following models:

$$\ln EXP_{ijt} = \beta_0 + \beta_1 \ln GDP_{it} + \beta_2 \ln GDP_{jt} + \beta_3 \ln DIST_{ij} + \beta_4 \ln REER_{ijt} + \beta_5 \ln PCD_{ijt} + \beta_6 SAFTA_j + \beta_7 OECD_j + \beta_8 \ln ECO_{it} + \beta_9 \ln ECO_{jt} + e_{it} \quad (1)$$

$$\ln IMP_{ijt} = \beta_0 + \beta_1 \ln GDP_{it} + \beta_2 \ln GDP_{jt} + \beta_3 \ln DIST_{ij} + \beta_4 \ln REER_{ijt} + \beta_5 \ln PCD_{ijt} + \beta_6 SAFTA_j + \beta_7 OECD_j + \beta_8 \ln ECO_{it} + \beta_9 \ln ECO_{jt} + e_{it} \quad (2)$$

Where,

- EXP_{ijt} = Exports, defined as the total exports of Nepal 'i' to trade partner 'j', for year 't', in millions of US dollars.
- IMP_{ijt} = Imports, defined as the total imports of Nepal 'i' from trade partner 'j', for year 't', in millions of US dollars.
- GDP_t = Gross domestic Product, defined as the market value of total production of goods and services in a country in time 't', in millions of US dollars.
- $DIST_{ij}$ = Distance, defined as the geographical distance between the capital city of Nepal 'i' and its trading partners 'j', in kilometers (km).
- $REER_{ijt}$ = Real effective exchange rate, defined as the real exchange rate between the Nepalese Rupees (NPR) 'i' and the currency of the trading partners 'j' in time 't', in national currency of trading partners per NPR.
- PCD_{ijt} = Per capita GDP differential, defined as the absolute value of the difference between Nepal's GDP per capita 'i' and that of its partners 'j' in time 't', in US dollars.

$SAFTA_j$ = South Asian Free Trade Area, measured as SAFTA = 1 if trading partner countries 'j' are the members of SAFTA otherwise SAFTA = 0.

$OECD_j$ = Organization for Economic Co-operation and Development, measured as OECD=1 if trading partner countries 'j' are the members of OECD otherwise OECD = 0.

ECO_t = Economic freedom index, defined as the degree of economic freedom of a country in time 't'.

The following section describes the independent variables used in this study along with hypothesis formulation.

2.2 Gross domestic product

Gross domestic product is the market value of total production of goods and services in a country during a period. Dutta and Ahmed (1999) stated that import volume is co-integrated with GDP and relative import prices. Anaman and Atta-Quayson (2009) found that GDP has a positive impact on the imports and exports of Ghana and ECOWAS countries. Further, Filippini and Molini (2003) stated that GDP has significant positive impact on the exports of East Asia. Based on it, this study develops the following hypothesis:

H_1: There is a positive relationship of GDP with imports and exports of Nepal.

2.3 Distance

Husain and Yashmin (2015) stated that the distances between Bangladesh and the capital cities of trading partners of Bangladesh have a negative effect on trade flows. Furthermore, Wang *et al*. (2010) found that distance, measured by both geographical distance and relative factor endowment, between trade partner countries has a negative impact in bilateral trade flows in OECD countries. Alam*et al*. (2009) found that the geographical distance of Bangladesh with the partner countries has a significant negative impact on its import. Jordan and Eita (2007) stated that distance has a negative and insignificant effect on export of wood products. Alleyne and Lorde (2014) found that distance between trading countries has negative impact on trade flows in commodities for CARICOM countries. Coe and Hoffmeister (1999) found that distance has a negative impact on the bilateral trade flows of Africa. Based on it, this study develops the following hypothesis:

H_2: There is a negative relationship of distance with imports and exports of Nepal.

2.4 Real effective exchange rate

Hassan *et al*. (2017) found that there is a positive and significant effect of real effective exchange rate on trade deficit in India, Pakistan, and Bangladesh. Similarly, Epaphra (2016) found that real exchange rate has a positive impact on export performance in

Tanzania. Likewise, Pandey (2013) found that real exchange rate has positive impact on India's exports and negative impact on India's imports. Ozturk (2012) stressed that real effective exchange rate has a positive effect on the import. Furthermore, Chaudhary *et al*. (2018) stressed that real exchange rate has a significant positive impact on the exports. Based on it, this study develops the following hypothesis:

H_3: There is a positive relationship of real effective exchange rate with imports and exports of Nepal.

2.5 Per capita GDP differential

Kubendran (2020) stated that there is positive impact of per capita GDP on the volume of trade of BRICS. Similarly, Prasai (2014) stated that there is a positive and significant impact of GDP-per capita differential on the imports and exports of Nepal. This finding supports Linder's hypothesis. Doumbe and Belinga (2015) stressed that Cameroon's bilateral trade with the Twenty-Eight European Union countries is positively correlated to per capita GDP. Similarly, Chen *et al*. (2007) stated that per capita GDP of Xinjiang has a positive impact on Xinjiang's bilateral trade. Based on it, this study develops the following hypothesis:

H_4: There is a positive relationship of per capita GDP differential with imports and exports of Nepal.

2.6 Regional economic integration

The formation of a regional economic agreement increases the market size of member countries and attracts non-member countries to transact business in the region. Kumar and Ahmed (2015) stated that South Asia Free Trade Agreement (SAFTA) has produced significant trade creation among its members. Likewise, Roy and Rayhan(2011) stated that membership of SAARC has a significant positive impact on Bangladesh's trade flows. Moreover, Ekanayake *et al*. (2010) stated that membership in regional trade agreements, namely ASEAN and SAARC, have statistically significant and positive impact on the trade flows of Asia. In addition, Sohn (2005) stated that Asia-Pacific Economic Cooperation (APEC) membership has a significant positive effect on Korea's trade volume. Similarly, Faruqee (2004) stated that European Economic and Monetary Union (EMU) has a positive impact on intra-area trade. Based on it, this study develops the following hypothesis:

H_5: There is a positive relationship of regional economic integration with imports and exports of Nepal.

2.7 Economic freedom index

Ngoma (2020) found that trade openness for Zimbabwe and its trading partners has a positive impact on import demand. Similarly, Naanwaab and Diarrassouba (2013) concluded that exporter and importer economic freedom tends to induce more trade. Moreover, Acharya (2012) stated that economic freedom of Nepal is positively related to trade balance. In addition, Kimura, and Lee (2006) stated that Economic freedom has

a significant positive relationship with exports as well as imports. Furthermore, Depken and Sonora (2005) found that there is a positive relationship between economic freedom and the volume of trade. Based on it, this study develops the following hypothesis:
H_6: There is a positive relationship of economic freedom index with imports and exports of Nepal.

3. Results and Discussion

3.1 Descriptive statistics

Table 2 presents the descriptive statistics of the selected dependent and independent variables during the period 2010 to 2019. This table shows the descriptive statistics of dependent and independent variables of determinants of foreign trade of Nepal with 21 trading partners of Nepal for the study period of 2010 to 2019. Dependent variables are EXP ijt (Exports, defined as the total exports of Nepal 'i' to trade partner 'j', for year 't', in millions of US dollars) and IMPijt (Imports, defined as the total exports of Nepal 'i' to trade partner 'j', for year 't', in millions of US dollars). Independent variables are GDP t (Gross Domestic Product, defined as the market value of total production of goods and services in a country in time 't', in millions of US dollars), DIST ij (Distance, defined as the geographical distance between the capital city of Nepal 'i' and its trading partners 'j', in kilometres (km)), REER ijt (Real Effective Exchange rate, defined as the real exchange rate between the Nepalese Rupees (NPR) 'i' and the currency of the trading partners 'j' in time 't', in national currency of trading partners per NPR), PCD ijt (Per Capita GDP Differential, defined as the absolute value of the difference between Nepal's GDP per Capita 'i' and that of its partners 'j' in time 't', in US dollars), ECO t (Economic freedom index, defined as the degree of economic freedom of a country in time 't'), SAFTA j (The South Asian Free Trade Area, defined as SAFTA = 1 if trading partner countries 'j' are the members of SAFTA otherwise SAFTA = 0), OECD j (The Organization for Economic Co-operation and Development, defined as OECD=1 if trading partner countries 'j' are the members of OECD otherwise OECD = 0).

Table 2: Descriptive Statistics

Variables	Minimum	Maximum	Mean	Std. Deviation
EXP	0.01	7343.39	315.87	1028.62
IMP	0.50	8619.53	355.06	1212.05
GDP_i	16002.66	30641.38	22063.41	4528.09
GDP_j	49540.81	21433226.00	2637192.69	4214500.92
DIST	670	12395	5328.33	3184.64
REER	0.0044	301.0582	11.48	47.95
PCD	162.33	87716.20	32386.58	22866.58
ECO_i	50.10	55.10	51.87	1.80
ECO_j	36.70	90.20	68.97	12.15
SAFTA	0	1	0.10	0.29
OECD	0	1	0.57	0.49

3.2 Correlation analysis

Having indicated the descriptive statistics, Pearson's correlation coefficients are computed, and the results are presented in Table 3. This table shows the bivariate Pearson's correlation coefficients of dependent and independent variables of determinants of foreign trade of Nepal with 21 trading partners for the study period of 2010 to 2019. Dependent variables are EXP ijt (Exports, defined as the total exports of Nepal 'i' to trade partner 'j', for year 't', in millions of US dollars) and IMP ijt (Imports, defined as the total exports of Nepal 'i' to trade partner 'j', for year 't', in millions of US dollars). Independent variables are GDP t (Gross Domestic Product, defined as the market value of total production of goods and services in a country in time 't', in millions of US dollars), DIST ij (Distance, defined as the geographical distance between the capital city of Nepal 'i' and its trading partners 'j', in kilometers (km)), REER ijt (Real Effective Exchange rate, defined as the real exchange rate between the Nepalese Rupees (NPR) 'i' and the currency of the trading partners 'j' in time 't', in national currency of trading partners per NPR), PCD ijt (Per Capita GDP Differential, defined as the absolute value of the difference between Nepal's GDP per Capita 'i' and that of its partners 'j' in time 't', in US dollars), ECO t (Economic freedom index, defined as the degree of economic freedom of a country in time 't'), SAFTA j (The South Asian Free Trade Area, defined as SAFTA = 1 if trading partner countries 'j' are the members of SAFTA otherwise SAFTA = 0), OECD j (The Organization for Economic Co-operation and Development, defined as OECD=1 if trading partner countries 'j' are the members of OECD otherwise OECD = 0).

Table 3: Pearson's Correlation Coefficients Matrix

Variable	*lnEXP*	*lnIMP*	*lnGDP$_i$*	*lnGDP$_j$*	*lnDIST*	*lnREER*	*lnPCD*	*SAFTA$_j$*	*OECD$_j$*	*lnECO$_i$*	*lnECO$_j$*
lnEXP	1										
lnIMP	0.758**	1									
lnGDP$_i$	0.192**	0.211**	1								
lnGDPj	0.423**	0.401**	0.059	1							
lnDIST	-0.203**	-0.290**	0.000	0.520**	1						
lnREER	-0.091	0.120	-0.036	-0.384**	-0.626**	1					
lnPCD	0.067	-0.179**	0.034	0.456**	0.848**	-0.682**	1				
SAFTA$_j$	0.340**	0.398**	0.000	-0.118	-0.737**	0.264**	-0.638**	1			
OECD$_j$	-0.261**	-0.279**	0.000	0.549**	0.805**	-0.441**	0.628**	-0.375**	1		
lnECO$_i$	0.139*	0.173*	0.677**	0.028	0.000	-0.021	0.013	0.000	0.000	1	
lnECO$_j$	0.168*	-0.164*	0.089	0.215**	0.597**	-0.538**	0.842**	-0.392**	0.376**	0.066	1

Note: The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent levels respectively.

Table 3 shows that GDP of Nepal has a positive relationship with exports of Nepal. It indicates that increase in GDP of Nepal leads to increase in exports of Nepal. Similarly, GDP of trading partners has a positive relationship with exports. It indicates that increase in GDP of trading partners leads to increase in exports of Nepal. Likewise, distance has a negative relationship with exports. It indicates that greater the distance with the trading countries, lower would be the exports of Nepal to those trading partners. Similarly, real effective exchange rate has a positive relationship with exports. It indicates that increase in real effective exchange rate leads to increase in exports. The study also reveals that GDP per capita differential has a positive relationship with exports. It indicates that higher the GDP per capita differential, higher would be the exports of Nepal**.** Likewise, SAFTA membership has a positive relationship with exports. It indicates that the SAFTA membership leads to increase in exports of Nepal. Furthermore, the study reveals that economic freedom index of trading partners has a positive relationship with exports. It indicates that increase in economic freedom index of trading partners leads to increase in exports of Nepal. In addition, the study shows that GDP of Nepal has a positive relationship with imports of Nepal. It indicates that increase in GDP of Nepal leads to increase in imports of Nepal. Similarly, GDP of trading partners has a positive relationship with imports. It indicates that increase in GDP of trading partners leads to increase in imports of Nepal. Likewise, distance has a negative relationship with imports. It indicates that greater the distance with the trading countries, lower would be the imports of Nepal from those trading partners. Similarly, real effective exchange rate has a positive relationship with imports. It indicates that increase in real effective exchange rate leads to increase in imports. The study also reveals that GDP per capita differential has a positive relationship with imports. It indicates that higher the GDP per capita differential, higher would be the imports of Nepal**.** Likewise, SAFTA membership has a positive relationship with imports. It indicates that the SAFTA membership leads to increase in imports of Nepal. Furthermore, the study reveals that economic freedom index of country has a positive relationship with imports. It indicates that increase in economic freedom index of the country leads to increase in imports.

3.3 Regression analysis

Having indicated the Pearson's correlation coefficients, the regression analysis has been computed and results are presented in Table 4. More specifically, it shows the regression results of GDP of Nepal, GDP of trading partners, real effective exchange rate, distance, regional economic integration (SAFTA and OECD), per capita GDP of Nepal and trading partners, economic freedom of Nepal and economic freedom of trading partners on exports of Nepal.

The results are based on panel data of 21 trading partners of Nepal with 210 observations for the period of 2010-2019 by using the linear regression model and the model is

$$lnEXPijt = \beta0 + \beta1\ lnGDPit + \beta2\ lnGDPjt + \beta3\ lnDISTij + \beta4\ lnREERijt + \beta5\ lnPCDijt + \beta6\ SAFTAj + \beta7\ OECDj + \beta8\ lnECOit + \beta9\ lnECOjt + eit$$

where the dependent variables are EXP ijt (Exports, defined as the total exports of Nepal 'i' to trade partner 'j', for year 't', in millions of US dollars). Independent variables are GDP t (Gross Domestic Product, defined as the market value of total production of goods and services in a country in time 't', in millions of US dollars), DIST ij (Distance, defined as the geographical distance between the capital city of Nepal 'i' and its trading partners 'j', in kilometers (km)), REER ijt (Real Effective Exchange rate, defined as the real exchange rate between the Nepalese Rupees (NPR) 'i' and the currency of the trading partners 'j' in time 't', in national currency of trading partners per NPR), PCD ijt (Per Capita GDP Differential, defined as the absolute value of the difference between Nepal's GDP per Capita 'i' and that of its partners 'j' in time 't', in US dollars), ECO t (Economic freedom index, defined as the degree of economic freedom of a country in time 't'), SAFTA j (The South Asian Free Trade Area, defined as SAFTA = 1 if trading partner countries 'j' are the members of SAFTA otherwise SAFTA = 0), OECD j (The Organization for Economic Co-operation and Development, defined as OECD=1 if trading partner countries 'j' are the members of OECD otherwise OECD = 0).

Table 4: Estimated Regression Results

Model	Intercept	Regression coefficients of									Adj. R_bar^2	SEE	F-value
		$lnGDP_i$	$lnGDP_j$	lnDIST	lnREER	lnPCD	$SAFTA_j$	$OECD_j$	$lnECO_i$	$lnECO_j$			
1	-17.798 (2.36)*	2.129 (2.820)**									0.032	2.138	7.95
2	-5.625 (4.143)**		0.655 (6.725)**								0.175	1.973	45.22
3	8.232 (5.124)**			-0.572 (2.984)**							0.036	2.133	8.91
4	3.272 (15.945)**				-0.068 (1.320)						0.004	2.169	1.75
5	2.632 (3.021)**					0.086 (0.963)					0.001	2.17	0.93
6	3.219 (21.66)**						2.512 (5.215)**				0.111	2.048	27.19
7	4.111 (18.544)**							-1.142 (3.896)**			0.064	2.103	15.18
8	-31.264 (1.83)								8.794 (2.029)*		0.015	2.157	4.12
9	-4.785 (1.42)									1.955 (2.457)*	0.024	2.147	6.04
10	-23.983 (3.465)**	1.86 (2.70)**	0.64 (6.655)**								0.199	1.945	26.95
11	16.154 (8.948)**			-2.692 (8.352)**	-0.126 (2.05)*	0.974 (6.24)**					0.248	1.883	24.03
12	3.648 (15.040)**						2.082 (4.047)**	-0.680 (2.227)*			0.128	2.03	16.34
13	-36.47 (2.136)*								8.132 (1.892)	1.856 (2.342)*	0.035	2.134	4.84
14	-36.562 (3.579)**	1.046 (1.864)	1.103 (12.45)**	-0.907 (1.923)	0.057 (1.141)	0.765 (4.01)**	2.597 (3.32)*	-2.825 (6.95)**	2.616 (0.827)	1.342 (1.178)	0.717	1.55	56.85

Notes: 1. Figures in parenthesis are t-values. 2. The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively. 3. Exports is the dependent variable.

Table 4 shows that the beta coefficients for GDP of Nepal are positive with exports of Nepal. It indicates that the GDP of Nepal has a positive impact on exports of Nepal. This finding is consistent with the findings of Anaman and Atta-Quayson (2009). Similarly, the beta coefficients for GDP of trading partners are positive with exports. It indicates that the GDP of trading partners has a positive impact on exports. This finding is consistent with the findings of Filippini and Molini (2003). Likewise, the beta coefficients for distance are negative with exports. It indicates that the distance has a negative impact on exports. This finding is consistent with the findings of Coe and Hoffmeister(1999). Similarly, the beta coefficients for real effective exchange rate are positive with exports. It indicates that the real effective exchange rate has a positive impact on exports. This finding is consistent with the findings of Epaphra (2016). The study also reveals that the beta coefficients for GDP per capita differential are positive with exports. It indicates that the GDP per capita differential has a positive impact on exports**.** Likewise, the beta coefficients for SAFTA are positive with exports. It indicates that the SAFTA membership has a positive impact on exports. This finding is consistent with the findings of Roy and Rayhan (2011). Furthermore, the study reveals that the beta coefficients for economic freedom index of trading partners are positive with exports. It indicates that economic freedom index of trading partners has a positive impact on exports. This finding is consistent with the findings of Depken and Sonora (2005)**.**

Estimated regression results of GDP of Nepal, GDP of trading partners, real effective exchange rate, distance, regional economic integration (SAFTA and OECD), per capita GDP of Nepal and trading partners, economic freedom of Nepal and economic freedom of trading partners on imports of Nepal are presented in Table 5. The results are based on panel data of 21 trading partners of Nepal with 210 observations for the period of 2010-2019 by using the linear regression model and the model is

$$\ln IMP_{ijt} = \beta 0 + \beta 1 \ln GDP_{it} + \beta 2 \ln GDP_{jt} + \beta 3 \ln DIST_{ij} + \beta 4 \ln REER_{ijt} + \beta 5 \ln PCD_{ijt} + \beta 6 SAFTA_j + \beta 7 OECD_j + \beta 8 \ln ECO_{it} + \beta 9 \ln ECO_{jt} + e_{it}$$

Where the dependent variables are IMP ijt (Imports, defined as the total imports of Nepal ‘i’ from trade partner ‘j’, for year ‘t’, in millions of US dollars). Independent variables are GDP t (Gross Domestic Product, defined as the market value of total production of goods and services in a country in time ‘t’, in millions of US dollars), DIST ij (Distance, defined as the geographical distance between the capital city of Nepal ‘i’ and its trading partners ‘j’, in kilometers (km)), REER ijt (Real Effective Exchange rate, defined as the real exchange rate between the Nepalese Rupees (NPR) ‘i’ and the currency of the trading partners ‘j’ in time ‘t’, in national currency of trading partners per NPR), PCD ijt (Per Capita GDP Differential, defined as the absolute value of the difference between Nepal’s GDP per Capita ‘i’ and that of its partners ‘j’ in time

't', in US dollars), ECO t (Economic freedom index, defined as the degree of economic freedom of a country in time 't'), SAFTA j (The South Asian Free Trade Area, defined as SAFTA = 1 if trading partner countries 'j' are the members of SAFTA otherwise SAFTA = 0), OECD j (The Organization for Economic Co-operation and Development, defined as OECD=1 if trading partner countries 'j' are the members of OECD otherwise OECD = 0).

Table 5: Estimated Regression Results of GDP of Nepal and GDP of trading partners, real effective exchange rate, distance, regional economic integration (SAFTA and OECD), per capita GDP of Nepal and trading partners, economic freedom index of Nepal and economic freedom index of Nepal on imports of Nepal

Model	Intercept	Regression coefficients of									Adj. R_bar^2	SEE	F-value
		$lnGDP_i$	$lnGDP_j$	lnDIST	lnREER	lnPCD	$SAFTA_j$	$OECD_j$	$lnECO_i$	$lnECO_j$			
1	-13.656 (2.418)*	1.760 (3.110)**									0.040	1.601	9.680
2	-2.57 (2.494)*		0.468 (6.32)**								0.157	1.500	39.940
3	9.05 (7.662)**			-0.616 (4.37)**							0.080	1.568	19.060
4	4.098 (26.34)**				0.067 (1.743)						0.010	1.626	3.040
5	5.58 (8.638)**					0.172 (2.617)**					0.027	1.612	6.850
6	3.704 (33.97)**						2.213 (6.265)**				0.155	1.502	39.240
7	4.44 (26.773)**							-0.919 (4.190)**			0.073	1.573	17.560
8	-28.544 (2.229)*								8.221 (2.535)*		0.025	1.613	6.430
9	9.969 (3.944)**									-1.436 (2.398)*	0.022	1.616	5.750
10	-18.054 (3.445)**	1.569 (3.010)**	0.455 (6.253)**								0.189	1.472	25.28
11	10.726 (7.172)**			-1.065 (3.98)**	0.027 (0.521)	0.207 (1.598)					0.088	1.561	7.740
12	4.018 (22.52)**						1.899 (5.031)**	-0.497 (2.22)*			0.170	1.489	22.46
13	-24.215 (1.901)								8.772 (2.737)**	-1.542 (2.610)**	0.052	1.59	6.710
14	-30.708 (3.507)**	1.172 (2.438)*	0.722 (9.516)**	0.781 (1.933)	0.185 (4.303)**	0.663 (4.05)**	3.55 (5.294)*	-2.702 (7.757)**	3.950 (1.458)	-3.297 (3.377)**	0.633	0.991	40.980

Notes: 1. Figures in parenthesis are t-values. 2. The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively. 3. Exports is the dependent variable.

Table 4 shows that the beta coefficients for GDP of Nepal are positive with imports of Nepal. It indicates that the GDP of Nepal has a positive impact on imports of Nepal. This finding is consistent with the findings of Dutta and Ahmed (1999). Likewise, the beta coefficients for distance are negative with imports. It indicates that the distance has a negative impact on imports. This finding is consistent with the findings of Alleyne and Lorde (2014). Similarly, the beta coefficients for real effective exchange rate are positive with imports. It indicates that the real effective exchange rate has a positive impact on imports. This finding is consistent with the findings of Ozturk (2012). The study also reveals that the beta coefficients for GDP per capita differential are positive with imports. It indicates that the GDP per capita differential has a positive impact on imports**.** Likewise, the beta coefficients for SAFTA are positive with imports. It indicates that the SAFTA membership has a positive impact on imports. This finding is

consistent with the findings of Sohn (2005). Furthermore, **t**he study reveals that the beta coefficients for economic freedom index of trading partners are positive with imports. It indicates that economic freedom index of trading partners has a positive impact on imports. This finding is consistent with the findings of Naanwaab and Diarrassouba (2013)**.**

4. Summary and Conclusion

Trade is an integral part of the total developmental effort and national growth of an economy. It is a crucial instrument for industrialization while access to foreign exchange is essential for sustained economic development. Foreign trade plays a pivotal role in the process of economic development of a country. Both export and import trades are equally important. Therefore, the study of determinants of foreign trade is important for a growing country like Nepal.

This study attempts to examine the determinants of foreign trade of Nepal. This study is based on secondary data of 21 trade partners of Nepal with 210 observations for the study period from 2010 to 2019. The study showed that GDP of Nepal, GDP of trading partners, real effective exchange rate, regional economic integration (SAFTA), per capita GDP of Nepal and trading partners, economic freedom of Nepal and economic freedom of trading partners have positive impact on exports of Nepal. However, distance and regional economic integration (OECD) have negative impact on exports of Nepal. The study also showed that GDP of Nepal, GDP of trading partners, real effective exchange rate, regional economic integration (SAFTA) and economic freedom of Nepal have positive impact on imports of Nepal. The study concluded that distance, regional economic integration (OECD), per capita GDP differential and economic freedom of trading partners have negative impact on imports of Nepal. The study also concluded that GDP of foreign trade is the most determinant factor that explains the changes in foreign trade of Nepal.

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DETERMINATION OF KEY SUCCESS FACTORS FOR WINNING ACHIEVEMENT OF INDIAN INSURERS: A PCA APPROACH

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ABSTRACT

In today's economy, the service sector is one of the important sectors which are contributing more to the GDP and the insurance sector is one among them. Here, the study is an attempt to identify the factors which are crucial for the success Indian Insurance Industry. Now a days it became necessary for identifying the critical success factors for the Indian Insurance industry because it provides value in giving due focus to a limited set of factors which are deemed to be the most critical for an organization. CSFs are used by organizations to give focus on several factors that help to define its success and these factors will help the organization and its personnel to understand the key areas in which to invest their resources and time. The study uses both primary and secondary data and from both public and private companies and the Statistical tools such as descriptive statistics, factor analysis and PCA for analyses the data. Finally, this study found out some selected prominent factors responsible for the success of Indian Insurance Industry by using PCA technique. The findings so drawn from the study can be used by the Indian insurers and as well as foreign insurers and provide the scope for further research with different Socio-economic environment.

Keywords: Indian insurance industry, descriptive statistics, factor analysis, PCA

1. Introduction

Indian insurance market is basically a seller's market rather than buyer's market as compared to anywhere else in the world. Indian Insurance Industry is lagging the other countries with respect to penetration, density and in terms of premium and profit volume. The important reason behind this is the poor understanding of the insurance concept and lack of awareness. Now a day's most of the people of India are buying insurance as a tax saving instrument or due to an investment tool rather than seeing insurance as a risk mitigation option. During the last years, many research were done to identify the critical success factors in insurance industry to separate successful factors with unsuccessful ones. In this respect the factors necessary for commercial success guaranteeing them are declared as the critical success factors (CSFs). Critical success factors are the ones that are necessary for producing deliverable items considered by the customer or they are the properties, conditions or variables which can have a considerable influence on the success of the company. CSFs are used by organizations to

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give focus on several factors that help define its success. They help the organization and its personnel to understand the key areas in which to invest their resources and time. CSFs can be utilized in both the organization and the individual levels. Their identification is largely qualitative and can result in differing opinions in pinpointing them. Nevertheless, it is an approach that should be pursued as it provides value in giving due focus to a limited set of factors, which are deemed to be the most critical for an organization or individual.

2. Objectives & Research Methodology

The study is pursued with the objective to identify both the different factors and the critical factors which are influential for the successful performance of the Indian Insurance Industry. The research has been carried out on a stratified random sampling basis with a sample size of 320. The primary data collection was through self-administered questionnaire. The primary data was done through SPSS and in-depth interviews with the customers and insurance companies. The strata included two types of companies' viz., private, and public. The respondents (insurance policy holders) were based in Orissa. Statistical tools such as descriptive statistics, factor analysis and PCA has been used to analyses the data.

3. Literature Review

Farokhian & Toorga (2011) highlighted about the critical success factors of Iran Insurance Industry and suggested that better service quality, innovative products, policy terms, product customization and awareness about insurance are main important factors for the success of the industry. PEFINDO Rating Criteria & Methodology (2019) took into consideration market share, penetration of office branch, asset quality with reference to customer requirements, distribution channels and customers awareness are the weapon component for the success of the Indian Insurance Industry. Mohesen Miri (2019) pointed out that for the growth and long-term survival of the Indian Insurance Industry innovative & customized products, customer satisfaction, supply chain and pricing of the product is very much vital.

According to CII, (2018) pay more attention in two key areas like how to increase the conversion rate of policy holders, increased awareness and simple and easy terms of policy documents which are very crucial for the success of the industry. Zainuddin Zakaria et al. (2016) suggested that reducing the feelings of uncertainty among the customers and influencing the customers to develop the precautionary motive against life or non-life risk can enhance the Indian Insurance Industry. Boynton and Zmud (1984) stated that critical success factors are areas that deserve special and continued attention which help the organisations to attain high performance and achieve the success in future. According to his perception the factors like awareness, advance technology, better service quality followed and implemented by insurers will surely

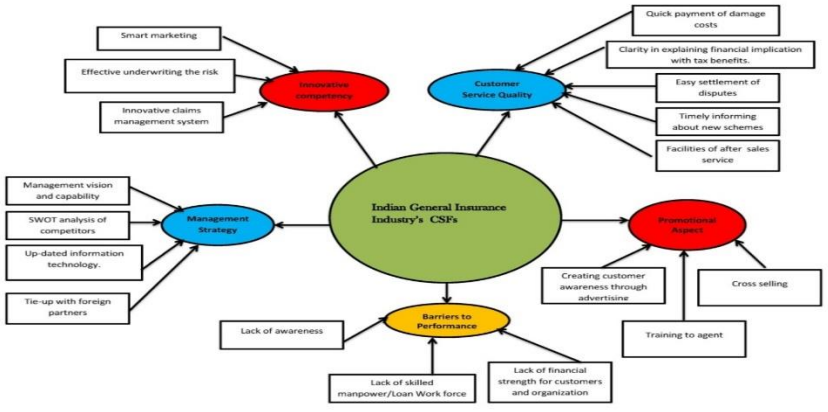
help to become success. Sanvido et al. (2008) defined critical success factors as the aspects of business which are identified as unavoidable to achieve and manage the goals that drive for success. These are the aspects which are typically found in the areas such as operation process, production processes, employees' organizational and personal skills, functions, techniques and technologies, personal performance of Management etc.

Schramm (2008) proposed that the new and innovative product line, products which creates new value to customers and same time gives more financial return will motivate the people to go for the insurance product and increased the market as well. Accroding to Venketash Ganapathi (2019) low ticket products, viable and cost-effective products, rural centric attitude of insurers and efficient distribution channel will be proved as critical success factors for the Indian Insurance Companies. Rockart (1979) described the five sources of critical success factors, such as Industry, strategy, and temporal success factors. These success factors result from the distinctive characteristics of the industry, from the enterprise's chosen competitive strategy and from economic or technological changes, internal organizational needs, and changes.

4. Analysis

Here, the study tries to evaluate the most important success factors for the growth, development of Indian General Insurance Industries. This study identifies 30 key areas/factors which insurance industry of India must build/improve for competing successfully in the Indian market. Table (1) indicates that 320 people viewed these 30 factors as of critical importance for the successful performance of Indian insurance industry. The resultant mean importance scores ranged between 3.15 and 4.25 while the mean importance scores were closer to the highly important category in the first five factors, they were nearer to very important category in the case of other six factors.

Figure 1: Diagrammatic Representation of Constructs



While trying to evaluate the most important success factors for the Insurance Industry in the Indian scenario, we have extracted 30 factors from the extensive review of past literature. Then 18 variables elected from 30 variable using principal component analysis (PCA) and finally five constructs have been framed. The selected 18 variables have been extracted from 30 variables by using SPSS 12.0 software and grouped into five constructs which are customer service quality, promotional aspect, strategy of management, barriers to performance and Innovative competency which are the key pillars of Insurance Industry in Indian Scenario.

4.1 Descriptive statistics of factor

The research has been carried out on a stratified random sampling basis with a sample size of 320. The primary data collection was through self-administered questionnaire. The procedure adopted was to distribute 421 questionnaires. The primary data was done through SPSS and in-depth interviews with the customers and insurance companies. The study groups consisted of businessmen, professionals, housewives, govt. employees who are customers of general insurance companies. The strata included two types of companies' viz., private, and public. The respondents (insurance policy holders) were based in Odisha.Statistical tools such as descriptive statistics, factor analysis and PCA has been used to analyses the data.

Table 1: Descriptive Statistics of Factor

Factors		Mean	Standard deviation	Median	Kurtosis	Skewnesss
1.	The Identification of customers' Need	4.25	0.65	4	0.375	-1.059
2.	Creating customer awareness through advertising	4.15	0.725	4	0.161	-1.061
3.	Development of innovative products and processes	3.325	0.955	4	-0.543	-0.451
4.	Management vision and capability	3.25	0.89	3	-0.672	0.034
5.	Lack of awareness	4.05	0.745	4	0.053	-0.749
6.	Clarity in explaining tax implication	3,95	0.820	4	-1.137	-0.950
7.	Appropriate pricing	4.1	0.878	4	-0.123	-0.523
8.	Lack of skilled manpower	3.15	0.916	4	-0.385	0.000
9.	Training to agent	3.35	0.834	3	-0.463	0.185
10.	Innovative way of underwriting the risk /effective underwriting.	4.1	0.868	4	-0.143	-0.563
11.	Timely informing about new schemes	3.95	1.017	4	0.323	-0.702
12.	SWOT Analysis of competitors	3.75	0.825	4	-1.131	-0.855
13.	Insurance contracts with high quality appearance and proper packaging	3.15	0.995	3	0.330	0.025
14.	Providing education to customer	3.65	0.855	4	-1.040	-1.002
15.	Risk of adverse selection	3.225	0.735	3	-0.332	0.026
16.	Tie-up with foreign partners	3.45	1.075	4	-0.970	-0.498
17.	Bank assurance	4.10	1.015	4	0.536	-0.698
18.	Cross Selling	3.4	0.945	4	-1.002	-0.745
19.	Moral& Morale hazards	3.95	0.976	4	-0.174	-0.216

20.	Role of information technology	3.90	0.788	4	-0.123	-0.523
21.	Facilities of after sales service	3.35	0.905	3	0.053	0.468
22.	Smart marketing	4.20	0.685	4	0.000	-0.477
23.	Incentive to policy holders	3.85	1.037	4	-0.897	-0.427
24.	Lack of financial strength for customers and organizations	4.25	0.65	4	-0.332	0.026
25.	Easy settlement of disputes	4.15	0.725	4	0.532	-0.825
26.	Environment, location, and physical factors	3.35	0.955	4	-1.085	-1.034
27.	Competency of declared rate with competitors	3.25	0.89	3	-0.463	0.085
28.	Creation of strong network	4.05	0.745	4	0.531	-1.055
29.	Quick payment of damage costs	3.9	0.820	4	-0.354	-0.626
30.	Lack of epidemiological information	4.1	0.878	4	-0.958	-0.429

Table 1 indicates the mean, median, standard deviation, kurtosis, and skewness of response values of factors and factor analysis was performed on the responses to the questionnaires with the help of the SPSS-14 package. Table 2 indicates that out of 30 factors listed in the questionnaire, 18 factors captured 86% of the total variance of the data set.

Table 2: Constructs Derived from Questionnaire

Constructs and constituent factors and narration		Factor loading	Cronbach's Alpha	Standardized regression weight
1.	INNOVATIVE COMPETENCY	-	0.867	-
	Smart marketing	0.854	0.816	0.792*
	Innovative way of underwriting the risk /effective underwriting.	0.827	0.804	0.732*
	Claims management system	0.871	0.802	0.853*
2.	CUSTOMER SERVICE QUALITY	-	0.861	-
	Clarity in explaining financial implication with tax benefits.	0.807	0.831	0.808*
	Quick payment of damage costs	0.813	0.818	0.818*
	Easy settlement of disputes	0.801	0.803	0.855*
	Timely informing about new schemes	0.812	0.855	0.692*
	Facilities of after sales service	0.873	0.845	0.638*
3.	PROMOTIONAL ASPECT	-	0.881	-
	Creating customer awareness through advertising	0.834	0.869	0.815*
	Cross Selling	0.802	0.817	0.889*
	Training to agent	0.864	0.801	0.915*
4.	BARRIERS TO PERFORMANCE	-	0.889	
	Lack of awareness	0.889	0.873	0.896*
	Lack of skilled manpower	0.864	0.874	0.801*
	Lack of financial strength for customers and organizations	0.841	0.843	0.413*
5.	MANAGEMENT STRATEGY	-	0.883	-
	Management vision and capability	0.769	0.799	0.800*
	SWOT Analysis of competitors	0.788	0.832	0.874*
	Role of information technology/ Emphasing updated Information technology	0.767	0.881	0.821*
	Tie-up with foreign partners	0.749	0.866	0.812*

4.2 Principal component analysis (PCA)

A principal component analysis is done in the study to capture those features in the data that help to better understand an issue of interest or to discover interesting new patterns among the relationships between variables affecting the success of Indian general insurance industry. A principal component analysis was performed using varimax factor rotation to group the factors and thus determine the category of factors (constructs). Five constructs were formed. Table 2 gives the constructs and their constituent factors. It also gives various statistics (such as Eigen values, variance, factor loading, and cronbach's alpha) for each factor. We conventionally decide to eliminate items with factor loading and cronbach's alpha values less than 0.6 and 0.8 respectively. The extracted items after the elimination from the comprehensive list of questionnaires are given in Table (1). The purpose of the analysis is to identify and eliminate low factor loadings and non-reliable items.

5. Results and Discussion

The results of PCA are very influencing for evaluating the critical success factors for the Indian general insurance industry. From the factor analysis using PCA, 18 factors emerged. These are (1) Customer Service Quality, which is potent weapon for the success of the industry and includes easy settlement of disputes, providing after sales service, timely informing about new schemes and quick payment of damage cost. (2) Promotional aspect, which is striking component and needs special attention for success of general insurance industry consists of training to agent, awareness creation and cross selling. (3) Barriers to performance, otherwise termed as influential factor for growth of the industry comprise lack of skilled manpower, less awareness among people, and financial strength of customers along with organizations. (4) Innovative competency, which is a crucial and striking factor covers the indicators like smart marketing, effective underwriting, and claims management system. (5) Management strategy, which is considered as prominent factors captures Management vision and capability, SWOT analysis, up-dated information technology and tie-up with foreign partners.

6. Implication & Scope for Future Study

Although this study focuses on Insurance Industry of India, however the results and recommendations of these findings can be used for knowing the CSF of insurance industry of any other countries as well. This can be performed by adding some necessary changes in the CSF in accordance with socio-economic environment of that nation. There are also scopes for further research; this study will help better understanding for the success of III of other countries also.

7. Conclusion

Now a days it became necessary for identifying the critical success factors for the Indian General Insurance industry because it provides value in giving due focus to a limited set of factors which are deemed to be the most critical for an organization. Nevertheless, CSF is an approach which is necessary and has a considerable influence on the success of the Indian Insurance Industry. The result indicates that customer service quality and promotional activities hold the key to achieve success in competitive Indian scenario. It is well observed from the study that customer services quality is the first ranked factor/ constructs, which should be focused more for staying ahead of competition in the Indian scenario. It is understood that service quality with low price can be cited as an effective strategy for the Indian general insurance industry. By maintaining high quality customer service, the general insurers can place them in a competitive position that its opponents / counter parts. Sometimes also providing high quality service creates the capability for a company to pursue premium price strategy. In India there is a vast untapped market basically rural market and high-quality customer service can attract mass customer under the insurance blanket. Across the country, the General Insurance companies should recognize that for success and to survive, the customer service quality will act as a potent weapon as people prefer companies providing good customers services. So, keeping this in view in mind, the general insurance companies of India need to improve and maintain the quality of their customer service, so that customers will rate them accordingly and more customers will be attracted towards them.

Lack of skilled manpower, less awareness among people, and financial strength of customers along with organizations works as obstacle to growth and reflects in poor success. So, it is essential to minimize or to remove them by taking action-oriented plans for being success in the highly competitive market. Another vital factor influencing the success of the Indian General Insurance Industry is innovative competency which includes good underwriting, strong claim management system and smart marketing. To be successful and separating from others it is essential for the insurers to identify the problems and establish new solutions to serve the problem. From the study it reveals that management vision, thinking and capacity which help the companies to be boost-up and follow right direction is crucial for the success of the industry. It is noteworthy to admit that it will be difficult to underestimate the positive impact of Swot analysis of competitor for suggesting as the successful factors for the general insurance industry. It is very vital to know about the strength, weakness, opportunity, and threats of the opponent to stay success in the industry. The importance of strategic alliance works as a success factor under the construct like management strategy. The tie-up with foreign partners brings enough capital, expert knowledge and innovative products which acts as a pillar for success.

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SUSTAINABLE ENTREPRENEURSHIP DEVELOPMENT AND POVERTY ERADICATION

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ABSTRACT

Eradication of extreme poverty, access to sufficient and nutritious food by 2030 for all the people in this planet, promoting sustainable industries, etc., are some of the important goals of the United Nation's 17 Sustainable Development Goals (SDG) which were adopted in 2015. Sustainable entrepreneurship development, to large extent, will help to achieve these goals. The main purpose of the study is to find out the elements of sustainable entrepreneurship and develop a new model of it; to examine the relationships between (a) 'the entrepreneurship development and the condition of poverty' and (b) 'the sustainable development movement and higher economic growth'. The present paper is both conceptual and descriptive in nature and based on secondary data. Apart from the reports of various institutions like World Economic Forum, United Nations, World Bank, FAO, newspapers, etc., research articles which are published in journals have also been considered. Spearman correlation test is conducted to find out the relationship between variables. While there is weak inverse relationship between 'the entrepreneurship development and the condition of poverty', there is moderate positive relationship between 'the sustainable development movement and higher economic growth'. The findings would through a light on the existing concept of sustainable entrepreneurship and its role in achieving SDGs. The model's sustainable entrepreneurship has been developed by various scholars; however, a new revised model is developed in the line of SDGs in the present paper.

Keywords: sustainable entrepreneurship, sustainable development, economic growth, poverty reduction, SDG

1. Introduction

For many years, entrepreneurship development has been getting attention from policy makers, researchers and linking it to wealth generation, employment creation, women empowerment, and economic growth. The idea of different form of entrepreneurship like social entrepreneurship, green entrepreneurship, eco-preneurship have also been emerged in the literature of entrepreneurship during 1980s and 1990s. Since then, these types of entrepreneurial ventures have been getting momentum. However, the problems

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of poverty, hunger, unemployment, inequality, lack of decent work have not been arrested till today. The existence of destructive entrepreneurship (Chanu, 2014) associated with 'white colour crimes' are getting prominence now-days. This type of development makes illegal wealth creation and more inequality among the society; further, the COVID-19 pandemic has pushed back hundreds of millions into extreme poverty and chronic hunger (Sustainable Development Goals Report, 2021). The issues of pollution because of rapid unsustainable industrialization, lack of proper innovative waste management policies have already affected the lives of every species of this planet. The United Nations' 17 Sustainable Development Goals which is also known as Global Goals which was adopted in the UN General Assembly Summit in September 2015 by the UN's 193 member states is a universal call to arrest the problems and make the mother earth a better place for everyone. The UNDP has clearly mentioned in Sustainable Development Goals Report, 2021, that to achieve the 8th SDG–'Decent work for all and Economic growth' by 2030, we have to promote entrepreneurship and job creation. However, the traditional form of entrepreneurship which is mainly based on wealth creation won't arrest the above-mentioned problems rather it will create more discrimination in the workplace and bring higher level of inequalities accompanied by new form of poverty. Hence, there is need to develop a different form of entrepreneurship – 'sustainable entrepreneurship'.

The present paper highlights the very concept of sustainable entrepreneurship (SE) as well as investigates the concept of triple bottom line (Elkington, 1994) which is frequently used by several researchers to describe about sustainable entrepreneurship (Hall et. al., 2010, Kuratolo, 2019). Based on the existing literature on entrepreneurship and the UN's SDG, a model of sustainable entrepreneurship is being developed in the present paper.

2. Statement of the Problem

Among the United Nation's 17 Sustainable Development Goals (SDG) which were adopted in 2015, eradication of extreme poverty, access to sufficient and nutritious food, by 2030 for all the people in this planet, promoting sustainable industries (industry innovation and infrastructure), etc., are some of the important goals. Sustainable entrepreneurship development is an important measure to achieve these goals. Sustainable entrepreneurship is not very new concept. There is a need to investigate the traditional form of entrepreneurship development and how is it different from sustainable entrepreneurship development.

3. Review of Literature

Several studies are reviewed to investigate the differences in traditional form of entrepreneurship development and sustainable entrepreneurship (Chanu 2011, 2019). For some authors, sustainable entrepreneurship is the extension of traditional entrepreneurship (Majid&Koe 2012). Entrepreneurship is important for development of economic and social life (Stokes, at al.,), women empowerment (Chanu & Terangpi, 2011). On sustainable entrepreneurship, Kuratolo (2019), Majid & Koe (2012), etc., argue that sustainable entrepreneurship is a concept that link sustainable development. In the studies like Cohen & Winn (2007), Dixon& Clifford (2007), etc., focus is on 'environmental related ventures'; however, one common finding is that apart from achieving economic goals, such type of entrepreneurship ventures is developed to solve the social and environmental problems (Dean & McMullen, 2007, Chanu,2019, Kuratolo, 2019, Hernandez, at., al, 2020). On the relationship between entrepreneurship development and poverty reduction, several case studies are found in the literature and links are established between these two variables. However, the study of Ali & Ali (2013) reveals a weak relationship in their study area (Somalia). Considering the economic growth rate of different nations and their ranks in terms of entrepreneurship development is utmost necessary to validate the idea of relationship between entrepreneurship development and poverty reduction, because poverty reduction needs different approaches. Hence, the study is an attempt to fill up the existing research gap.

4. Objectives and Hypothesis Formation

1. To find out the elements of sustainable entrepreneurship.
2. To develop a model of sustainable entrepreneurship.
3. To examine the nature of relationship between the entrepreneurship development and condition of poverty.
4. To examine the nature of relationship between the sustainable development movement and higher economic growth.

4.1 Hypotheses:

H01: There is no significant relationship between the rankings in entrepreneurship development and condition of poverty among different counties of the world.

H02: There is no significant relationship between the sustainable development's movement and higher economic growth of different counties of the world.

5.Research Methodology

Both conceptual and descriptive research designs are used in the present article. The data have been collected from secondary sources including the reports published by World Bank, United Nations, Food and Agricultural Organisations of the United Nations (FAO), Global Entrepreneurship Research Association, OECD, World Economic Forum (WEF) articles from various journals, books, etc. The poverty data was extracted from the Multidimensional Poverty Index (MPI) which was published by United Nations Development Programme (UNDP) and Oxford Poverty and Human Development Initiative (OPHI). The country-wise entrepreneurship ranking was extracted from the Global Entrepreneurship Index (GEI) which was published by Global Entrepreneurship Development Institute. The country-wise environmental performance ranking was taken from the environmental performance index (EPI) which was published by Yale University and the World Economic Forum (WEF); and the country-wise GDP was taken from the publication of the World Bank. Number of countries considered is 68. The same countries which were mentioned in both the reports of MPI and GEI- 2019; 180 countries which were mentioned both in EPI 2020 and country-wise GDP 2020 of the World Bank. The study period is 2019 and 2020.

5.1 Concept of poverty used in the paper

The widely used definition of poverty in academic literature is – earning less than $ 1.90 a day in case of low-income nations. However, in case of the countries belonging to lower-middle income category and upper middle-income nations which are classified by the World Bank, those whose per day earnings are less than $ 3.2 and $ 5.5 respectively will be below poverty line. Hence, there is a variation in the income of different people who belong to poor/poverty of different nations. To define poverty, here, the concept of multidimensional poverty which is used in UNDP and OPHI reports is considered. It is assumed that poverty encompasses not only the income earning but also different elements which are related to deprivation. The very concept of Multidimentional Poverty encompasses the various deprivations experienced by poor people in their daily lives including poor health, lack of education, inadequate living standards, disempowerment, poor quality of work, the threat of violence, and living in areas that are environmentally hazardous, among others.

6. Findings and Discussion

Descriptive statistics are used to analyse data; Spearman correlations is considered to examine the nature of relationship between the variables and 5 percent level of significant is considered to accept/reject the null hypothesis.

6.1 Elements of sustainable entrepreneurship

Sustainable entrepreneurship (SE) is a process of starting/ developing several enterprises with the objective of making the world a better place. Here, better place

means producing of better products without harming the environment and preserving the nature for future generation. It is also a process of venture creation which are in the form of value –creating enterprises; the entrepreneurial activities of such ventures are linked to sustainable development. SE is also the creation of economic opportunities through the generation of market disequilibria that start the transformation of industrial units towards an environmentally and socially sustainable condition (Hockerts & Wustenhagen, 2010). In sum, SE is the process of identification, exploitation and development of new business opportunities leading to sustainability-oriented ideas for solving problems related to society, and environment (Sanchez-Hernandez, at., al, 2020), economic viability, culture, and political stability. While sustainable development is the balance between 3Ps (people, planet, and profit), SE is the balance between 4Ps (people, planet, product, and profit). Hence, it needs a different type of innovative approach. It is different from the traditional view of entrepreneurship- that is innovation for profit maximization. The differences in the elements of traditional form of entrepreneurship which is also known as regular/economic entrepreneurship (RE/EE) and SE are shown below:

Table 1: Elements of Traditional form of Entrepreneurship and SE

Points of differences	RE/EE	SE
Process	Creation of any form of entrepreneurial ventures	Creation of value –creating enterprises which link to sustainable development.
Main aim	To constantly look for economically viable marketplace- to achieve economic goal	To constantly improve over the past and making future sustainable marketplace
Innovation	Not necessary	Necessary
Purpose of innovation	For wealth maximization	Making balance between 4 Ps & sustainable development
Works for	3Ps (Profit, Product & People)	4Ps (people, planet, product, and profit)
Enhancing of	Exploiting opportunities to earn profit of an enterprise(s)	Economic prosperity, social justice, environmental protection, cultural harmony, political freedom of a state
Rent seeking and creating	Both are available	Rent creating only
Creation of value	For individual achievements	For people around –global customer and global product

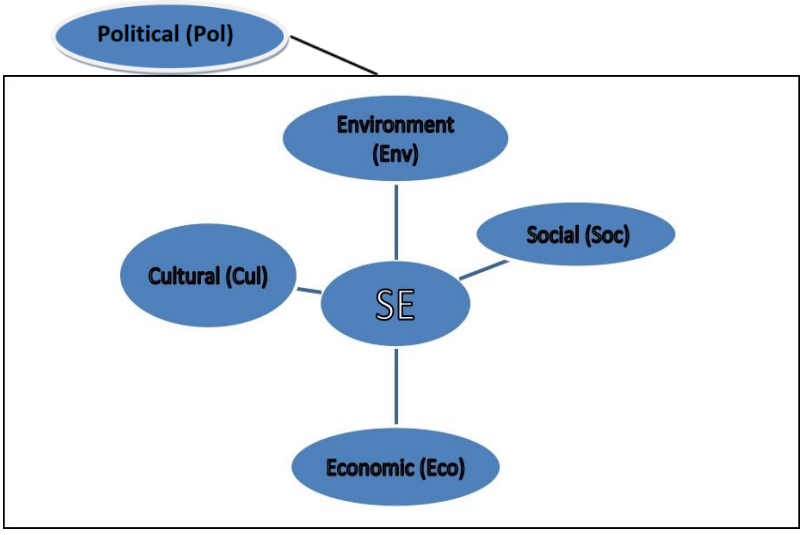
Source: Developed by the author based on the existing literature on entrepreneurship.

6.2 Model of Sustainable Entrepreneurship

As mentioned, several studies have developed the concept of SE based on the triple bottom line (TBL) concept of Elkington (1994). It was developed as an accounting framework to measure performance of corporate by considering 3 dimensions – social, environmental, and financial performances. In the academic literature, the TBL dimensions are commonly known as 3Ps-: People, Planet and Profit. The concept of SE which is based on TBL accepts that entrepreneurs have to play significant role in employment generation, income earnings, prevention of degradation in environment and natural resources due to industrialisation and poverty reduction. A model of SE is found in the study of Majid & Koe (2012). A model which is the extension of it is shown in Figure 1.

Under this model, the assumption is that SE comprises five dimensions and an equal contribution is necessary to bring SE. The dimensions are Environment (Env), Social (Soc), Political (Pol), Economic (Eco) and Cultural (Cul).

Figure 1: Model of Sustainable Entrepreneurship



Source: Developed by the author, based on literature.

So, SE= f (Env +Soc + Pol +Eco+ Cul). Here, n(Env) = n(Soc) = n(Pol)=n(Eco)=n (Cul)

So, any imbalance contribution in these factors (dimensions) will not lead to sustainable development. For example, if an entrepreneur does not maintain decent work culture, exploits natural resources without any second thoughts, produces hazardous waste materials, but, develops political freedom, earns economic profit, and expands his/her enterprises, such form of entrepreneurship is not considered as SE.

In this case, n(Env) ≠ n(Soc) ≠ n(Pol) ≠n(Eco) ≠n (Cul)

The Environment dimension is related to preserving the nature for future generation by managing the natural resources in proper way, controlling /reducing the toxic wastes, stopping production of goods and services which has adverse impact on environment and any activities of entrepreneurs which accelerate global warming, etc. All the entrepreneurs should remember that natural resources are always limited, and the future generation has also the right to fulfil their needs. The Social dimension is related to expanding activities of entrepreneurs for achieving social goals. Hence, the entrepreneurs have to produce the products which the society needs as well as to develop decent work environment with decent wage, to avoid corrupt practices, to deal with social issues like gender issues, unemployment, etc. All the entrepreneurs should remember that people (both internal and external consumer) are the greatest source of opportunity. There is a need to develop a state of 'responsible production (RP)' and responsible consumption (RC) to move towards sustainable entrepreneurship development.

The political dimension (which is not included in the previous models of SE) is related with the roles of entrepreneurship in expanding political freedom & democratic rights, in preventing reverse political freedom and in producing new group entrepreneurs who can give political pressure to make reforms and who have the interest to protect the country. Entrepreneurship is not developed to provide charity works; though earning economic gain in not the main goal of SE, any enterprise needs economic viability to survive and expand the activities in the future. The Economic dimension investigates the creation of value by entrepreneurs that produces economic prosperity; because, without economic prosperity, any enterprise cannot become SE. The Cultural dimension investigates the entrepreneurs' role in the changing culture of the society due to change in production system. Because of aggressive campaigns of certain goods and services and consumption of certain products for long, the traditional /indigenous knowledge which is highly scientific in nature may be lost and make the people dependent. As a result of it, imbalance in harmony of cultural diversity will be brought and it will accelerate social chaos. So, sustainable entrepreneurship (SE) needs equal attention to all the 5 dimensions which are mentioned in the present paper.

6.3 Nature of Relationship between the Entrepreneurship Development and the Condition of Poverty

To know the status of poverty, the countries listed in the Global Multidimensional Poverty Index (MPI) 2019 which was published by OPHI, University & UNDP, 68 countries are classified into three groups: (a) poverty population below 10 % of total population of the country (b) poverty population 10%-20% of total population of the country and (c) poverty population above 20 % of total population of the country. The

findings are shown in Table 2. It is clearly revealed that out of 68 countries, 38 percent belong to the group which has poverty population below 10% of total population of the country, 32.4 percent belong to the poverty population 10%-20% of total population of the country and the remaining 29.4 percent belong to the group of countries which have poverty population 10%-20% of total population of the country. Some of the countries which belong to the third group include Congo, Gambia, India, Kenya, Mozambique, Paraguay, Rawanda, South Africa, Uganda, Ukraine, Tunisia, Zambia, etc.

To find out the relationship between the entrepreneurship development and the condition of poverty, the spearman correlation analysis is conducted between the ranking in entrepreneurship and percentage of poverty to total population and the result is shown in table 3. The result shows an inverse correlation, i.e., negative correlation which indicates that both the variables move in opposite direction. However, a weak correlation (r = -.11) is observed in this case. It shows that the p value is found to be .360 which shows that there is no significant relationship (p>.05). Hence, the null hypothesis is accepted that there is no significant relationship between the rankings in entrepreneurship development and the condition of poverty among different counties of the world in considering the data of the year which is considered in the study.

Table 2: Distribution of Countries based on the Total Percentage of Poverty to Total Population

	Percentage of poverty population	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	poverty population below 10 % of total population of country	26	38.2	38.2	38.2
	poverty population 10%-20% of total population of the country	22	32.4	32.4	70.6
	Poverty population above 20% of total population of the country	20	29.4	29.4	100.0
	Total	68	100.0	100.0	

Source: prepared by the author based on the Global Multidimensional Poverty Index (MPI) 2019 published by OPHI, University & UNDP.

Table 3: Correlations between Ranking in Entrepreneurship and Percentage of Poverty to Total Population of different Countries

			Rank in GEI	Poverty level
Spearman's rho	Rank in Global Entrepreneurship Index (GEI)	Correlation Coefficient	1.000	-.111
		Sig. (2-tailed)	.	.370
		N	68	68
	Poverty level	Correlation Coefficient	-.111	1.000
		Sig. (2-tailed)	.370	.
		N	68	68

6.4 Relationship between the Sustainable Development Movement and Higher Economic Growth

The environmental performance of a country can shows the approach of the government of a particular country toward sustainable development movement to large extent. The widely used parameter to measure the level of economic growth is GDP. To measure the relationship between the sustainable development movement and higher economic growth, spearman correlation analysis is conducted, and result is shown in table 3. The result shows a moderate positive correlation, (r=.486) which indicates that both the variables move in same direction. The p value is found to be .000 which shows that there is significant relationship (p>.05) between EPI and GDP. Hence, the null hypothesis is rejected, and alternative hypothesis is accepted that there is significant relationship between the sustainable development movement and higher economic growth in considering the data of the year which is considered in the study.

Table 4: Correlations between Environment Performance Index and Economic Growth

		GDP	EPI
GDP	Pearson Correlation	1	.486**
	Sig. (2-tailed)		.000
	N	178	178
EPI	Pearson Correlation	.486**	1
	Sig. (2-tailed)	.000	
	N	178	180

Note: EPI- environment performance index**. Correlation is significant at the 0.01 level (2-tailed).

7. Conclusion

Defining sustainable entrepreneurship is not an easy task. It encompasses different dimensions. In the present paper, 5 dimensions of sustainable entrepreneurship are discussed. It is also argued by the author that sustainable entrepreneurship model will contribute more than the traditional model of entrepreneurship in the process of achieving the Sustainable Development Goals. Poverty is a form of deprivation of economic rights, and it is because of various factors. To eradicate poverty, proper policy and programmes are necessary. The entrepreneurship development alone cannot resolve this issue. Having higher ranking in entrepreneurship development index of a country does not mean a smaller number of poor people in that country. The finding of the present paper validates it. However, entrepreneurship development can help to reduce poverty to some extent through generation of employment opportunities. A significant relationship between sustainable development movement and higher economic is found in the present paper. Hence, to conclude, the environmental performances of country's policy have an impact on economic growth, higher the environmental performance, higher the economic growth vice versa. It is suggested that all the stakeholders of the society including entrepreneurs, policy makers should work together to achieve the Sustainable Development Goals (SDG).

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