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THE BUSINESS REVIEW

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From the Desk of the Chief Editor

Dear Readers,

I take this opportunity to place in the hands of readers the present issue of The Business Review. The current issue offers varied flavours of research in different areas of business, management, tourism and economics. The journal is published bi-annually with the objective to address the problems and concerns of organizational decision-makers irrespective of their size, nature of ownership and control. Through this publication, we intend to serve the needs of academicians, scholars, practitioners and policy makers. There is no denying the fact, that for any economy to flourish and thrive, researchers as responsible stakeholders have always proved to be the best resource to bank upon and as fearless interventionists have always put across blatant truths through their unbiased views and opinions. They provide guidelines and suggestions to the policy makers with the objective to meet the local, national as well as global challenges. With the increasing trend in globalization, there are more inter-dependencies. As a consequence, the business organizations are heavily dependent on empirical investigations in various functional areas of management for arriving at timely and valuable policy decisions.

I am highly thankful to all the members of the advisory and editorial board for making this issue more useful and result oriented to the readers. I place on record my gratitude to all the authors and reviewers for their academic support which made this issue come up as a scholarly compendium. While I wish our readers a pleasantly fruitful reading, at the same time, I solicit constructive suggestions to improve upon in the next editions. I personally believe the journey of the publication of The Business Review has yet to touch the final horizons where the academicians of scholarly standing would feel and find it as their preferred research outlet. While towards this end, the editorial board has taken several important and much needed steps especially with regard to having the journal enlisted in the UGC care list, but still a lot needs to be done on particularly improving the quality and visibility of the Journal. The board is fully seized with the challenges ahead in this regard and hope to meet them with your constructive criticism and support. Please feel free to drop your ideas and suggestions at deansbs@uok.edu.in

With regards

Prof. Nazir Ahmed Nazir
Chief Editor, The Business Review

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Allocative and Technical Efficiency of Cricket Bats Manufacturing Industry in Kashmir Valley

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Abstract

The cricket bats manufacturing industry in South Kashmir is a prominent industrial activity with a reputation to supply quality products to the entire country. This paper is an attempt to evaluate the performance of this industry using the concepts of allocative and technical efficiency. The data required for the analysis was collected from 40 unitholders during a field survey in 2016. The technical efficiency was measured by employing the stochastic Cobb-Douglas frontier production function using the software STATA version 13. The results indicate the existence of idle capacity (technical inefficiency) to the extent of 25 percent. On the other hand, it was also observed that the sampled unitholders either overutilized or underutilized the inputs resulting in their allocative inefficiency as well. The education level and the family size were found to influence the efficiency positively.

Keywords: Allocative Efficiency, Technical Efficiency, Cricket Bats, Manufacturing Industry, Kashmir Valley

Introduction

A great deal of literature demonstrates the necessity of upgrading technology for improvements in the growth and productivity of any economic enterprise. However, there is an alternative viewpoint suggesting that if decision-making units are not fully efficient in utilizing the existing technology such a move may lead to a waste of resources. On account of this reasoning, a similar but costless gain is achievable if the firm managers could actually learn to make efficient use of current technology. The efficiency measurement involves two broad concepts, that is, technical efficiency and allocative efficiency. The product of these two efficiencies is referred to as economic efficiency. This paper is an attempt to measure input-specific allocative efficiency and firm-specific technical efficiency of a leading industry associated with the manufacturing of cricket bats in the South Kashmir district of Anantnag.

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This paper is organized into four sections. The first section serves as the background of the problem. The second section on data and methodology explains the nature of the data used along with the model specification. Analysis and interpretation of the results have been done in the third section, followed by the conclusions in the last section.

Background of the Sports Goods Industry

Against the backdrop of the COVID-19 disease, the importance of sport in mitigating the impact of the pandemic on health and well-being is receiving considerable attention globally. Pursuant to the General Assembly Resolution 73/74, the UN SG Report on “Sport: a global accelerator of peace and sustainable development for all” examines and emphasises the ways and means of building global resilience to counter future shocks through investment in sport and sport-related policies. Realizing its significance, the Ministry of Youth Affairs and Sports, Government of India have given a renewed impetus to this activity by launching a national flagship programme “Khelo India” aimed at mainstreaming sports as a tool for national, economic, and community development.

According to India Exim Bank (2021:1-3) the global sports goods industry is expected to be valued at US\$600 billion by 2023. The global exports of sports goods stood at US\$ 53.3 billion in 2019, with the largest contribution of 42.2 percent coming from China, followed by a share of about 8.6 percent by the USA, 4.2 percent by Germany. While the industry in India exports nearly 60 percent of its total output, the value of exports is low, and the sector accounted for only 0.09 percent of India’s merchandise exports during 2019-20. The value of exports is also low when compared to the global market size. India was the 24th largest exporter of sports goods in the world in 2019, accounting for 0.56 percent of the global exports of sports goods during the year. Being the third largest producer in Asia after China and Japan, India currently manufactures more than 300 types of sports goods with the bulk of production coming from the dominant clusters of Jalandhar and Meerut.

The Valley of Kashmir is very famous for manufacturing cricket bats made from locally available willow logs. According to India Exim Bank (2021: 6) “Currently, there are no registered GIs in the sports goods industry, in spite of some products being unique to the country. Kashmir willow bat is one such product, which holds significance as it is made from some of the best quality wood in the world”. According to a rough estimate, there are more than 400 CBM units providing employment to about 8000 people in Kashmir.

However, in Kashmir Valley, the only sports goods industry related to the manufacturing of cricket bats has remained confined to certain pockets of South Kashmir,

especially on both sides of the National Highway in Bijbehara tehsil of district Anantnag. Although, this activity has also begun to spread in the adjoining district of Pulwama.³ Moreover, Sethar Sangam in Anantnag has been notified as an industrial cluster for cricket bat manufacturing by the Government of Jammu and Kashmir. In this direction Common Facility Centre, Sethar was established at an estimated cost of Rs 4.61 crore with plant and machinery installed by Process cum Product Development Centre (PPDC)⁴ Meerut incurring an expenditure of Rs 2.46 crore. The objective of this CFC is to facilitate the seasoning of willow clefts and provide all facilities to the cricket bat unitholders under one roof. This will enable the unit holders to use modern techniques in the production of world-class cricket bats.

Allocative and Technical Efficiency

In order to evaluate the performance of the cricket bats manufacturing (CBM) units, efficiency measurement concepts of allocative and technical efficiency have been employed in this study. Allocative efficiency (also known as price efficiency) is defined as the ability of a decision-making unit (DMU) to use the inputs in optimal proportion, given their prices, to minimize the cost of production or to maximize profits. This condition could be achieved by a firm depending upon its ability to equate extra revenue, also known as value marginal product (VMP), obtained from employing an additional unit of input with its price or marginal factor cost, under the conditions of perfect competition in both the product and factor markets. This principle is referred to as the neoclassical marginal rule of profit maximization. Thus, according to Lau and Yotopoulos (1971:95), “A firm is price-efficient if it maximizes profits, i.e., it equates the value of the marginal product of each variable input to its price”.

Technical efficiency, on the other hand, is a concept related to the ability of a DMU to produce the maximum (potential or frontier) level of output using the minimum possible level of inputs – an output-oriented measure. Technical efficiency also can be defined as the ability of a DMU to produce the same level of output keeping the input level same – an input-oriented measure. Conversely, technical inefficiency can be defined as a failure of a DMU to produce

³ There are 7 villages – Bijbehara, Charsoo, Hallamullaha, Sangam, Pujteng, Mirzapor, and Sethar – in South Kashmir where cricket bats are manufactured.

⁴ Amongst the major sports goods clusters, only Meerut has a CFC called the Process cum Product Development Centre (PPDC) - an autonomous organization under the Ministry of Micro Small and Medium Enterprises, consisting of a tool room, state-of-the-art testing center, and a training section. It is engaged in quality up-gradation, technical assistance, R&D promotion, and providing training to the MSMEs in the region, especially those in the sports goods sector. (India Exim Bank, 2021:81).

the maximum possible output with the given inputs and technology (Bravo – Ureta & Pinheiro, 1993).

Significance of the Study

One of the grave problems associated with the Indian economy is that its structural transformation has not been in accordance with the standard structural path. Despite various policies and incentives provided over the period of time by the respective governments, the manufacturing sector has failed to make a significant contribution to the national economy. As the economy has grown, the manufacturing sector has peaked at a very low level – a phenomenon known as “pre-mature de-industrialization”. Consequently, the resources have shifted over to the tertiary sector at an earlier stage resulting in its domination at an earlier stage (Economic Survey, 2014-15). The Jammu and Kashmir economy is no exception to this and has fallen trap to the same phenomenon.

Table 1 reveals the picture. It can be observed that while the primary sector of the economy has hardly undergone a change from 2011 -12 to 2020-21, the relative importance of the secondary sector has declined from more than 27 percent to about 25 percent during the same period of time. This decline in the secondary sector has mainly been due to the continuously squeezing share of the manufacturing sub-sector of the secondary sector from a high of 10.67 percent to just 7.4 percent during this decade. On the other hand, the tertiary sector has remained the recipient of all the resource inflows emanating from the secondary sector.

Since the structural change in our economy has occurred in violation of the standard norms of the structural change theory and not in accordance with the experiences of the developed or matured economies of the world, it becomes the task of utmost importance to

Table 1: Contribution of the Major Sectors to the Jammu & Kashmir Economy

Sector	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	UT of Jammu Kashmir	
									2019-20	2020-21
A. Primary	18.63	20.65	20.17	16.68	20.72	21.03	20.16	18.22	18.09	18.58
B. Secondary	27.64	27.47	27.54	25.40	27.15	27.88	28.20	27.86	27.17	25.29
of which Manufacturing	10.67	9.66	9.42	10.08	9.93	9.66	9.58	9.31	8.90	7.39
C. Tertiary	54.44	55.26	56.61	58.54	56.90	57.32	58.02	60.02	61.19	62.63

Source: Digest of Statistics, Directorate of Economics and Statistics, Government of J&K, 2020-21.

explore the possibilities of developing manufacturing sector in line with the resource

endowments of our local economy. In this scenario, the cricket bats industry has a very vast potential to become one of the leading activities of our manufacturing sub-sector. A sustainable expansion of this industry is possible given the fact that Kashmir Valley enjoys a monopoly in the supply of willow logs, a dominant component that goes into its manufacture.

Research Methodology

The Study Area and Sampling Procedure

The cricket bats manufacturing activity in Kashmir valley is mostly concentrated in the twin districts of Anantnag and Pulwama. At the time of the field survey, according to the unpublished official data of the District Industries Centre (DIC) Anantnag, the total number of registered CBM units in these districts was 273. Out of this, some 200 CBM units were alone found in district Anantnag. Accordingly, district Anantnag was chosen for field investigation. A random sample of 20 percent was taken from the population comprising 40 CBM units. Primary data were collected from unit holders using a survey method involving a structured questionnaire. The socio-economic data collected included the sex of respondents, age, marital status and formal education levels. Production information collected included output, type of labour used in production, varieties of inputs used, and plant and machinery. Data about constraints faced by unit holders and suggestions to increase their outputs were also collected.

Estimation of Technical Efficiency

Estimation of technical efficiency involves employing a stochastic frontier production function that can either be derived from Cobb-Douglas or the translog production function. Following Aigner, Lovell, & Schmidt (1977) and Meeusen & Broeck (1977) who estimated the technical efficiency using a stochastic production frontier with a composite error term specified as:

$$Y = f(X_i; \beta) + v - u \quad (1)$$

Where, Y , and X_i are vectors of output and input levels respectively and β represent a vector of unknown parameters to be estimated, $f(X_i; \beta)$ is a stochastic production function. The term $v - u$ is a composite error term. Where v is a two-sided ($-\infty < v < \infty$) normally distributed random error [$v \approx N(0, \sigma_v^2)$] that captures the stochastic effects outside the control of a decision-making unit (e.g., weather, natural disasters, and luck), measurement errors, and other statistical noise. The term u is a one-sided ($u \geq 0$) non-negative efficiency component that captures the technical inefficiency of the firm. It measures the shortfall in output Y from its maximum value, given by the stochastic frontier $f(X_i; \beta) + v$. This shortfall in output is associated with firm-specific attributes under decision-making units' control. We assume u is

independently and identically distributed [$u \approx N(0, \sigma_u^2)$] and follows a half-normal distribution. The two components v and u are also assumed to be independent of each other. The parameters are estimated by the maximum likelihood method. Thus, following Battese and Coelli (1995) technical efficiency of the i -th firm is derived as:

$$TE_i = \exp(-u_i) \quad (2)$$

whereas u_i can be expressed as:

$$u_i = Z_i\delta + W_i \quad (3)$$

where Z_i is a vector of firm-specific variables associated with technical inefficiency and δ is a vector of unknown parameters to be estimated, and W_i are random variables defined by the truncation of the normal distribution with zero mean and variance σ_u^2 . Stata -13 was used to provide the maximum likelihood estimates (MLE) of the first and second variance parameters, expressed as:

$$\sigma^2 = (\sigma_u^2 + \sigma_v^2) \quad (4)$$

and,

$$\gamma = (\sigma_u^2 / (\sigma_u^2 + \sigma_v^2)) = (\sigma_u^2 / \sigma^2). \quad (5)$$

Following Ojo (2003), this study specified the stochastic frontier production function using the log-linear Cobb- Douglas production function that in its estimation form is presented below:

$$\ln Y = \beta_0 + \beta_1 \ln X_1 + \beta_2 \ln X_2 + \beta_3 \ln X_3 + \beta_4 \ln X_4 + v - u \quad (6)$$

Y = Output, X_1 = Capital, X_2 = Industrial inputs, X_3 = Non-industrial inputs, X_4 = Human labour, β_0 = intercept, β_1, \dots, β_4 = parameters to be estimated.

Estimation of Factors Affecting Technical Efficiency (T.E)

For analysing the influence of the firm-level characteristics on technical inefficiency, the linear model is estimated as shown below:

$$u_i = \delta_0 + \delta_1 Z_1 + \delta_2 Z_2 + \delta_3 Z_3 + \delta_4 Z_4 \quad (7)$$

Where u_i is as defined before. Z_1 = Age of unit holder, Z_2 = Household size, Z_3 = Experience in years, Z_4 = Education. δ 's, are coefficients of unknown parameters to be estimated along with the variance parameters σ^2 and γ ($0 < \gamma < 1$)

Estimation of Allocative Efficiency (A.E)

Estimating input-specific allocative efficiency has been done using a Cobb-Douglas production function. This study assumes that output (cricket bats) is dependent on capital, human labour, industrial inputs and non-industrial inputs. Therefore, allocative efficiency is

estimated following physical production relationships derived from the Cobb – Douglas production function. Thus, the specific model estimated is given by:

$$Q = AX_1^{\alpha_1} X_2^{\alpha_2} X_3^{\alpha_3} X_4^{\alpha_4} X_5^{\alpha_5} \varepsilon \quad (9)$$

From (3) the linear production function in its estimation form can be re-written as:

$$\ln Q_i = \ln A + \sum \alpha_i \ln X_i + \varepsilon \quad (8)$$

$$\ln Q = \alpha_0 + \alpha_1 \ln X_1 + \alpha_2 \ln X_2 + \alpha_3 \ln X_3 + \alpha_4 \ln X_4 + \alpha_5 \ln X_5 + \varepsilon \quad (9)$$

Where Q = Output, X₁ = Capital, X₂ = Industrial input, X₃ = Non-industrial input, X₄ = Family labour, X₅ = Hired labour and α₀ is the intercept term. α₁, α₂, α₃, α₄, and α₅ are parameters to be estimated, and ε is a residual term.

The measure of allocative efficiency is defined as a ratio of the value marginal product (VMP) to the marginal input cost (MIC). Following Chukwuji (2006), allocative efficiency analysis is determined by estimating a Cobb-Douglas production function using OLS. It is followed by computing the value of the marginal product (VMP_i) for each factor of production, which then is compared with the marginal input cost (MIC_i), which under perfect competition conditions equals input price (P_{x_i})

$$MP_{xi} = \partial Q / \partial X_i = \partial (AX_1^{\alpha_1} X_2^{\alpha_2} X_3^{\alpha_3} X_4^{\alpha_4} X_5^{\alpha_5} \varepsilon) / \partial X_i \quad (10)$$

$$= \alpha_i AX_1^{\alpha_1} X_2^{\alpha_2} X_3^{\alpha_3} X_4^{\alpha_4} X_5^{\alpha_5} \varepsilon / X_i = \alpha_i Q / X_i = \alpha_i * AP \quad (11)$$

$$AP = Q / X_i = AX_1^{\alpha_1} X_2^{\alpha_2} X_3^{\alpha_3} X_4^{\alpha_4} X_5^{\alpha_5} / X_i \quad (12)$$

$$AE = MP_{xi} * P_q / MIC_{xi} \quad (13)$$

Where Q = geometrical mean of output; X_i = geometrical mean of input i ; α_i = OLS estimated coefficient of input i. The value of the marginal product of input i (VMP_i) can be obtained by multiplying the marginal physical product (MP_i) by the price of output (P_q). Thus, allocative efficiency is determined by comparing the value of the marginal product of input i (VMP_i) with the marginal input/factor cost (MIC_i). Hence, if VMP_i > P_{x_i}, the input is underused and the firm's profit can be raised by increasing the use of this input. Conversely, if VMP_i < P_{x_i}, the input is overused and to raise the firm's profit, its use should be reduced. The optimum point of allocative efficiency (maximum profit) is reached when VMP_i = P_{x_i}.

Results And Discussion

Descriptive statistics

The descriptive statistics related to the variables used for analysis is depicted in table -2. The mean output in Anantnag is 13122 bats, average capital expenditure is Rs 387367.7, industrial input expenditure is 2726753, and non-industrial input expenditure is Rs.1078538. The table also shows that, on average, Anantnag bat manufacturing enterprises are employing 7 persons,

with a minimum of 4 persons and a maximum of 13 persons. The table also shows that the mean education of manufacturing unit holders is higher secondary level.

Table 2: Descriptive Statistics of variables

Variables	Unit	Mean	Minimum	Maximum	St. Deviation
Output	Nos	13122	7000	20500	3361.980
Capital	Rupees	387369.7	207000	660400	122724.5
Industrial inputs	Rupees	2726753	1582000	4100000	612690.5
Non-industrial inputs	Rupees	1078535	686000	1537000	193496.2
Family labour	Numbers	393.7	250	500	125.1
Hired labour	Numbers	1543.75	750	2750	542.6
Education	years	12	5	17	3.00

Source: Field Survey 2016.

Allocative Efficiency

The results reported in table 3 show that estimated coefficients are positive and significant for all parameters. According to these results, the estimated elasticity of output with respect to capital, industrial inputs, and non-industrial inputs are 0.10, 0.45, and 0.30 indicating that a 10 percent increase in each of these inputs is expected to increase the output by 1 percent, 4.5 percent, and 3 percent respectively.

Table 3: Estimation of Input Elasticities – OLS Model

Variables	Coefficients	Std. Error	t stat
Intercept	-4.233***	0.741	-5.712
Capital	0.103**	0.035	2.928
Industrial inputs	0.448***	0.100	4.473
Non -industrial inputs	0.301**	0.103	2.922
Family labour	0.021	0.016	1.315
Hired labour	0.198***	0.037	5.298

Source: Field Survey 2016. **, *** significant at 5% and 1% levels respectively.

Table 4: Allocative Efficiency Estimates

Variables	Coefficients (β_i)	APP	MPP	VMP	Factor price (P_{xi})	AE (VMP/P_{xi})	Resource Use
Capital	0.10	0.73	0.07	51.60	1	51.60	Under-utilized
Industrial input	0.45	0.63	0.28	196.67	1	196.67	Under-utilized
Non-Industrial input	0.30	0.68	0.20	143.38	1	143.38	Under-utilized
Family labour	0.02	1.59	0.03	22	280	0.07	Over-utilized
Hired labour	0.19	1.30	0.24	168	280	0.60	Over-utilized

Source: Field Survey, 2016.

These results are consistent with the findings of other researchers like Muslesh, Ghani and Mahmood (2007). It indicates that industrial inputs like willow, grips, threads and stickers are relatively output elastic, hence suggesting that their greater use is still beneficial. The coefficient of family human labour is 0.02. This means that a 10 percent increase in human labour would result in a 0.2 percent increase. The coefficient of hired human labour is 0.19, which implies that a 10 percent increase in hired human labour would result in an almost 2 percent increase in output. Results in table 4 indicate that CBM enterprises of Anantnag scored allocative efficiency scores of 51.60, 196.67, and 143.38 for capital, industrial inputs, and non-industrial inputs respectively, indicating underutilization of these inputs. On the other hand, family labour and hired labour with allocative efficiency scores of 0.07 and 0.60 are overutilized.

Technical Efficiency

Referring to table 5, all estimated coefficients of CBM units are statistically significant at 1 percent, 5 percent and 10 percent levels. The estimated maximum likelihood coefficients of capital, industrial input cost, non-industrial input cost and human labour show positive values. All the variables have positive coefficients indicating that an increase in these variables would result in an increase in output. Furthermore, the coefficients of all the inputs in the OLS model (table 3), showing the average performance, are by and large, similar to the coefficients of the frontier model (table 5), showing the best performance, except that value of the intercept has improved from -4.23 in the OLS model to -2.94 in the frontier model indicating that the technical progress is Hicks’ neutral.

Table 5: Maximum Likelihood Estimates of Stochastic Frontier Production Function

Variables	Coefficients	Std. Err.	Z	P> ZI
Capital	0.170***	0.029	5.87	0.000
Industrial inputs	0.398***	0.106	6.79	0.001
Non-Industrial inputs	0.141*	0.107	2.01	0.080
Human labour	0.312*	0.028	1.35	0.106
Cons	-2.945***	0.563	-11.44	0.000
Sigma _v	0.065	0.028		
Sigma _u	0.100	0.023		
sigma2	0.013	0.000		
Gama (γ)	0.735	0.024		
Log likelihood=100.5				

Source: Field Survey, 2016. *, *** significant at 10%, and 1% levels respectively.

The maximum likelihood estimates provide estimates of the variance parameters sigma squared (σ^2) and gamma (γ). The first variance parameter sigma square (σ^2) determines whether there is technical inefficiency or not. The value of sigma square (σ^2) is 0.01 indicating that all the firms in the sample are not fully efficient. The second variance parameter gamma (γ) determines whether all the deviations from the frontier are due to random error or technical inefficiency. If γ is equal to zero, then all the deviations from the frontier are caused by random error. Higher values of gamma (γ) imply that much of the variation in the composite error term is due to inefficiency. The result shows that gamma (γ) is estimated to be 0.73 indicating that over 73 percent of the total variation from the frontier is due to technical inefficiency. The study also shows that 27 percent of variations from the frontier are due to random error. Thus, the analysis shows that there is a presence of inefficiency.

Distribution of Technical Efficiency

Technical efficiency computed for each manufacturing unit is shown in Table 6. The mean technical efficiency of manufacturing enterprises is estimated to be 75 percent which indicates that manufacturing enterprises in Anantnag can increase the current level of output by 25 percent with the same level of inputs. This result is consistent with the findings of other researchers like Nikaido Yuko (2004). The study also reveals that more than half of manufacturing enterprises in Anantnag were operating below 80 percent of the optimum level of production.

Table 6: Range of Technical Efficiency

TE level %	No. of firms	Percentage (%)
< 20	0	0
20-39	0	0
40-59	3	7.5
60-79	23	57.5
80-99	14	35.0
Total	40	
Mean TE (%)	0.75	
Minimum TE (%)	0.54	
Maximum TE (%)	0.95	

Source: Field Survey, 2016

Factors Affecting Technical Efficiency

Table 7 shows the linear regression results of T.E scores against explanatory variables. Results indicate that household size, experience and education significantly affected the level of technical efficiency among the sampled decision-making units.

Table 7: Determinants of Technical Efficiency

Variables	Coefficients	Std. Err.	t-ratio
Age	0.007	0.19	0.03
Household size	0.089*	0.05	1.70
Experience	0.062*	0.04	1.46
Education	0.361***	0.07	4.53
Intercept	-1.56	0.70	-2.21

*Source: Field Survey, 2016. *,*** denote significance at 10%, and 1% respectively.*

Household size, experience and education are found to positively and significantly affect the technical efficiency of manufacturing enterprises at 10 percent, 10 percent and 1 percent significance levels respectively. These results are in line with the findings of Amos (2007) where family size and education were also found to have a positive and significant effect on technical efficiency among cocoa-producing households in Nigeria. Hyuha et al., (2006) also report a positive and significant impact of experience and education levels on efficiency.

Conclusions

To sum up, given the existing technology embodied in the machinery and equipment of a particular vintage used for the production process, the output is expected to increase significantly because of the presence of a lot of idle capacity in this industry as evidenced by allocative and technical efficiency analysis. The technical efficiency analysis gives the indication that even without changing the current input mix, there is the possibility to expand the mean level of output by about 25 percent, if factors affecting productivity like education, and training are given due emphasis. Furthermore, for profit maximization, it is advisable for the CBM units to make use of more inputs like capital, industrial and non-industrial inputs, while, at the same time, the excessive use of labour needs to be reduced. Particularly, it appears advisable for manufacturing enterprises to make increasing use of industrial inputs, a dominant component of which is willow logs/clefts, for optimum allocation of resources leading to maximization of profits. However, the supply of willow logs seems to be a major constraint facing this industry, due to which this industry is operating at suboptimal capacity utilization. The state government needs to initiate urgent and serious efforts to overcome the various problems encountered by the business community. The education level of unit holders is found to be positively affecting technical efficiency. Therefore, to encourage large-scale production by involving more educated youth towards this sector, the government needs to develop an appropriate investment climate by providing incentives and a market-friendly environment so that this industry becomes a major attraction for educated youth. However, the government

must also take necessary steps to maintain the ecological balance by developing an appropriate linkage between the conservation and utilization of willow plantations. Education is believed to have a positive relationship with the adoption of new technologies and advisory services resulting in improved efficiency.

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Examining the Perception of Destination Communities towards Rural Tourism Development: A Study of Rural Residents of Kashmir Valley

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Abstract

Tourism is considered as a developmental tool for communities especially in the rural areas experiencing economic hardships. Tourism often is considered an instrument for revitalization of a local economy helping to improve their quality of life and protect natural and cultural resources. Hence, research on local residents' perceptions of tourism's impacts related with these issues would make some certain contributions to tourism literature. Thus, the present study endeavours to discover the local community's perceptions towards rural tourism development impacts. A research instrument was developed based on previous literature and was tested for a pilot study to check validity and reliability. Using convenience sampling technique in 03 rural tourism sites located in three different sub-regions of Kashmir region, a total number of 400 usable responses were received. The investigation showed that respondents tended to agree that tourism contributes to standard of living and improves local economy. From an environmental perspective, respondents strongly agreed that tourism development improves the physical appearance of an area and provides incentives for protection and conservation of natural resources. Regarding practical policy and managerial implications, the study suggest that the interests of local community members should be taken as a priority while developing the rural areas for tourism. It is also suggested that efforts should be made to educate the rural residents regarding the potential benefits tourism could bring, so as to gain more residents' support to tourism development.

Keywords: Resident Perception, Tourism Impacts, Rural Tourism, Tourism in Kashmir

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Introduction

Rural Tourism is nowadays used as an important development strategy for improving the social and economic wellbeing of rural communities. In India Rural tourism as a concept was launched in 2002. In the tenth five-year plan (2002-07), United Nations Development Programme (UNDP) launched a pilot initiative to develop rural tourism in India through the Planning Commission. In this five-year plan, Ministry of Tourism, Government of India planned to develop 39 rural tourism sites with funding from United Nations Development Programme (UNDP) under the innovative Endogenous Tourism Project, focusing on the rural tourism experience and the rural art and craft skills, cultural and natural heritage. This project on Endogenous Tourism was aimed to match the Government's commitment to develop tourism sector and UNDP's commitment to provide an enhanced and improved living and livelihood environment for low –income communities in rural areas.

Rural tourism plays a vital role in developing employment and income that can foster socio economic development of rural communities. The development of strong platform around the concept of rural tourism is definitely useful for a country like India, where almost 74% of the population lives in villages with each village having its own distinctive socio-cultural characteristics. Rural tourism can transform attitudes and mindsets, imparting local pride and visitor appreciation of the diverse culture, heritage and its local environment. The Rural Tourism project was initially implemented at 31 rural locations in 20 states with community participation through NGO or Panchayat Partners, District Collectors as focal points and specialized stakeholders. Later on, the projects were expanded to 168 villages scattered in 28 states.

Rural Tourism in Jammu and Kashmir

Jammu and Kashmir is an important tourist destination in India and had been a centre of attraction for tourists since times immemorial. The tourism sector plays an important role in the development of this region. The valley of Kashmir because of its rich natural and cultural diversity and its pleasant climate has remained an internationally acclaimed tourist destination, whereas Jammu region- the land of temples is attracting a large number of pilgrimage tourists to its rich pilgrimage resources. Kashmir is famous for its natural resources and unique culture and is also preferred by the adventure loving tourists because it's unique topographical features.

Jammu and Kashmir is primarily a rural economy, where majority of the people live in rural surroundings. Each village in Jammu and Kashmir has unique set of cultural ethos and the people living therein are very hospitable and open-hearted. On the recommendations of Union Tourism Ministry, the State Tourism Department has initiated 25 rural tourism projects

in the erstwhile state of Jammu & Kashmir (Table 1). Lot of efforts has been put to make these projects successful. The state department in association with many Non-Government Organizations has organized many capacity building programmes in these villages. These projects were monitored by different Tourism Development Authorities established by the State Tourism Department. Despite all these efforts the concept of rural tourism has not been properly implemented in the state. In fact, through proper planning and consultations Jammu and Kashmir can be promoted as a world class Rural Tourism Destination.

S.No.	Name of the Villages	U.S.P.
1	Drung (District Baramulla)	Adventure
2	Surinsar (District Jammu)	Adventure (Trekking)
3	Gagangir, District Ganderbal)	Adventure
4	Pahalgam, District Anantnag	Pilgrimage
5	Jheri, (District Jammu)	Adventure
6	Akingaam, District Anantnag)	Culture (Folk Dance: Bhand Pathar)
7	Vasaknag (District Kulgam)	Adventure
8	Dori Degair (District Jammu)	Culture
9	Watlab, (District Baramulla)	Adventure (Water Sports)
10	Agar Jitto, (District Udampur)	Culture & Craft
11	Chahel & Sahakote, (District Baramulla)	Gaba Saji Craft
12	Manasbal, (District Ganderbal)	Carpet weaving
13	Rafiabad (District Baramulla)	Craft
14	Nowgam (District Kupwara)	Culture
15	Shar-Shalli (Distract Pulwama	Culture
16	Tegar Semor, (District Leh)	Handloom & Craft
17	Marwari karool, (District Doda)	Pilgrimage
18	Wader Wader Bala, (District Kupwara)	Culture
19	Bhawani (District Rajouri)	Culture
20	Naranag, (District Ganderbal)	Culture & Craft.
21	Hirpora, (District Shopian)	Adventure (trekking)
22	Dandmoh, (District Baramulla)	Kangri and basket making and carpet weaving
23	Gohan, (District Baramulla)	Pilgrimage
24	Litter, (District Pulwama)	Pilgrimage
25	Khag (District Budgam)	Adventure

Source: Ministry of Tourism, GOI

Rural tourism related activities have been widely regarded as a tool for rural development, especially in India and many other developing countries where majority of the people live in rural areas. For this purpose, rural tourism must be considered like a complex plurality of multi -faced activities, contributing both to growth of other activities in rural areas and to the improvement of life quality for local inhabitants as part of an effective rural development integrated system. With downturns in rural economies over the last three decades, it is perhaps understandable that governments have given a great deal of attention to the economic benefits of tourism, particularly for rural areas attempting to keep pace and adapt to the vigorous globalized economy. Rural tourism is increasingly being used for socio-economic regeneration and diversification (Sharpley and Sharpley 1997)

Kashmir province has historically been an important tourist destination in India having many cultural and natural tourist attractions scattered around different districts. Many world-famous destinations like Gulmarg, Pahalgam, Sonamarg, Dal Lake have been the major attraction for tourists visiting the valley. Besides many other secondary destinations attracts a large number of visitors both foreign and domestic to the valley. In a move to diversify tourism and to pave the way towards development of experiential tourism which is sustainable in nature, Ministry of Tourism, Govt. of India in recent years has initiated number of projects. These projects are aimed at providing tourists a unique experience of community life and to ensure that the socio-economic benefits of tourism are received by the people who are supposedly not in the framework of tourism. In this backdrop, the Ministry of Tourism, Government of India started the scheme to promote Rural Tourism in order to popularize not only alternative form of tourism that will attract both domestic and foreign visitors alike, but also to provide opportunities to rural populace to improve their socio-economic condition through the projects. In the erstwhile state of Jammu and Kashmir 25 villages were identified and developed for rural tourism developments (Table 1). In an evaluation study conducted by the ministry in order to evaluate the success of these rural tourism projects Jammu and Kashmir had the maximum number of successful projects. The significance of the study is that Kashmir province where majority of the people live in rural areas possessing rich and unique cultural diversity, can be developed as a world class rural tourism destination inclined towards sustainable development of these areas. Now a day's many tourists are more attentive in comprehending local interactions in order to gain knowledge about the local culture, and to understand the history and heritage, as it is considered as one of the parts of their 'authentic destination experience'. Again, tourists are becoming more responsible and sensitive in behaviour. Therefore, tourists look for places that contribute to conservation and exhibit

harmony tourism and community welfare. Therefore, the tourism development desired by the Kashmir Tourism Authorities, requires a thorough discussion, consultation, proper assessment and planning in order to confer to the needs of tourists and, significantly, to the overall welfare of its local residents.

This study aims to know the local community's perceptions towards rural tourism development impacts in select rural tourist destinations. Having a good understanding of what actually residents perceive could provide valuable insights in drafting rural tourism guidelines specific to local needs and interests. The findings of this study could be very useful to tourism stakeholders and researchers for further improvement in both the conceptual as well as the practical aspects of the rural tourism development.

Review of Literature

Tourism Impacts in Rural Areas

The review of the extant literature indicated that rural tourism has potential to commonly benefit the communities where it is being developed. A comprehensive list of the benefits of rural tourism has been provided by Gannon (1994), Greffe (1994) and Sharpley & Sharpley (1997). The literature suggests that tourism in rural areas acts as a source of employment generation, resulting in a primary source of income for community members or acts as additional income for them (Gannon, 1994; Greffe, 1994; Riberio & Marques, 2002; Sharpley & Sharpley, 1997; MacDonald & Jolliffe, 2003; Liu, 2006); Opperman, 1996). Rural tourism development is said to serve as a lever for a whole chain of activities by providing support for existing and new businesses and services as there becomes an increased need for goods and services to meet tourist demands. This results in more diversified and stable economic base for the local community (Gannon, 1994; Greffe, 1994; Opperman, 1996; Huang & Stewart, 1996; Sharpley & Sharpley, 1997; Riberio & Marques, 2002). The literature also suggests that rural tourism in addition to the economic benefits can also contribute to large number of social benefits to rural communities. These benefits include the creation of recreational opportunities for the local people, facilities, services and amenities that the local people can benefit from which otherwise would have been unavailable (Gannon, 1994; Opperman, 1996; Sharpley & Sharpley, 1997). Rural tourism has the ability to foster pride in the community, to provide an opportunity for cultural exchange and also to create environment for safeguarding and enriching local cultural identities Gannon (1994). Again, Sharpley & Sharpley (1997) argues development of tourism in rural communities will enable the revitalization of local customs, crafts and cultural identities. And finally, it will re-populate the area which is often typified as having a declining and older community. Unique physical

environment is an important component to the success of rural tourism which is often the main draw to attracting tourists to these areas. Therefore, a common notion is that developing tourism in rural areas can play a key role in revitalizing the natural, cultural and historical resources of the area (Gannon, 1994; Sharpley & Sharpley, 1997). It is said that rural tourism has the ability to stimulate the conservation, protection and improvement of these important resources. There is a major gap in the literature and lack of evidence showcasing that the above benefits do in fact materialize on the ground and that they are maintained overtime. Therefore, a need persists to examine if and how these benefits accrue in practice. A number of factors determine the varied level of both the positive and negative impacts of rural tourism, including: how tourism is planned and implemented in an area, who takes part in the process of planning and implementation, the size and importance of the industry to a community, the number of tourists visiting the area and what type of activities they take part in, and the robustness of the local environment and the local community (Sharpley & Sharpley, 1997; Page et al., 2001; Sharpley, 2002). Butler & Hall (1998) figured out that tourism sometimes may not be the most appropriate developmental tool to be introduced in all rural areas. In order to meet the market needs and to sustain tourism for long run, tourism needs specific conditions including current tastes and preferences to succeed effectively in economic, social and environmental terms. Even after offering these specific conditions to tourists, it does not mean the negative impacts may not arise. A rapid growth of tourism initiatives to the point where tourists can outnumber residents may result in a change in dynamics of the community (Reid, Mair & Georg, 2004). A number of negative impacts associated with this changing dynamic of rural communities are congestion, overcrowding, noise, price inflation, pollution, crime, hostility towards tourists and dependence on a single sector of the economy. Academicians in recent times have brought these impacts to light by conducting empirical studies in different rural areas. Riberio & Marques (2002), in their studies found that development of rural tourism had not generated many employment opportunities for the local people, and the job opportunities mostly were seasonal, of low quality and of low pay.

Researchers in different studies have also argued that organizing tourism is costly for rural areas because of lack of local entrepreneurs, capital, service knowledge and expertise (Grefe, 1994; Bramwell 1994; Wilson et al., 2001). This argument is further supported by Dezso (2000) in his study wherein he has examined the impacts of tourism development in one village in Hungary and one in the Slovak Republic and it was revealed that local people were not able to involve in tourism due to the lack of service knowledge and capital. The study concluded by stating that overall, tourism had negative effects on the rural communities and

brought lesser benefits to the local people than claimed by authorities. In conclusion, there is a sense that a dichotomy exists where the literature on tourism development either supports rural tourism as a viable tool for development or denies this notion. Either way, the much of the literature reviewed has assumed “tourism as a pre-existing condition in rural communities” (Lewis, 1996). This means that researchers have not properly examined how tourism was developed, why it was developed, or who played a role in developing it. Researchers have neglected these details and have focused their research towards current state of tourism when entering the field.

Rural Tourism Development and Residents’ Attitude

Residents’ attitude on tourism has been studied from 1960s. The literature began with examining only the positive aspects of tourism impacts, and a decade later the researchers began to study the negative aspects, and then a systematic approach was followed in the 1980s (Jafari, 1986). A wide variety of research has thus been conducted on resident attitudes and perception, including resident support for tourism development, resident characteristics, resident quality of life, and resident attitudes toward sustainable tourism (Dyer, et al., 2007).

The past studies of resident attitudes have focused on tourism impacts and, in many studies, both the terms, resident attitudes and tourism impacts, have been used interchangeably without being clearly differentiated. It should also be noted that the range of resident attitudes that studies address is not restricted to tourism impacts research. By definition, the structure of resident attitudes toward tourism development has been studied within three dimensions: (1) cognitive (perceptions, beliefs, knowledge); (2) affective (likes/dislikes); and (3) behavioural (actions/intentions) (Carmichael, 2006).

Hence, the research on residents’ attitudes toward tourism development should include the perceptions/opinions including perceptions of tourism impacts/quality of life/sustainable tourism development and behavioural intentions relating to support for/opposition to tourism development. Additionally, factors such as resident socio-demographics, distance effect, and dependency on tourism development, should be discussed in the scope of resident attitudes research because these factors influence the resident attitudes toward tourism.

Researchers in various studies have found that resident characteristics may affect residents’ attitudes toward tourism (Andriotis & Vaughan, 2003; Lankford & Howard, 1994; Nunkoo & Ramkissoon, 2007). In this context researchers have addressed mostly the socio-demographic characteristics, place of residence or distance from tourism centre and dependence on tourism (Belisle & Hoy, 1980; Lankford & Howard, 1994; Liu & Var, 1986;

Milman & Pizam, 1988; Harrill, 2004; Gursoy, et al., 2002; Jurowski & Gursoy, 2004; Lankford & Howard, 1994; Pizam, 1978; Williams & Lawson, 2001).

These studies on residents, attitude towards tourism in relation to different resident characteristics have inconclusive and varied results. Although most of these findings are inconsistent and have different results in different contexts, but are at the same time very useful for tourism practioners in identifying the varied interests of community members.

Research Gap

Although a number of studies are available measuring the perceived impact of tourism, support and involvement for tourism development but most of these studies have been conducted in urban context and confined mostly to western countries. Whatever little research has been conducted in rural areas, the focus has been solely to study the impacts without investigating the perceived involvement from the residents. This study will be first of its kind to relate the perceived participation of rural residents with perceived impacts of rural tourism development. Also, the novelty of this study is that it is being conducted in communities at different stages of rural tourism development. There are also no significant studies available in Kashmir region concerning the development of rural tourism. This study attempted to explore the phenomenon of developing rural tourism on environmental, socio- cultural and economic dimensions by delving into the perceptions of the rural residents of Kashmir region along with investigating their anticipated participation.

Research Methodology

Research Design

The study describes and explains the perceptions of rural residents towards rural tourism development. The research purpose is to some extent exploratory, since we explore our purpose in order to gain a deeper understanding of how rural residents respond to tourism development in their areas. However, this study is primarily descriptive, since we intend to describe the patterns discovered in the exploratory stage, the deeper understanding gained helped to describe the research area. Moreover, the purpose of this study was clearly structured and this further justifies the descriptive purpose. Thus, the present study is Exploratory-cum-Descriptive in nature as it endeavours to assess the relationship between the rural tourism development impact factors (economic, socio-cultural, and environmental).

Data Collection

For the present study, the primary data was used to measure the rural resident's perception towards rural tourism development. The primary data was collected through self –

administered questionnaires and were disseminated among the residents of select rural tourism destinations in Kashmir region (J&K), India.

Sampling Design

The sample was selected from all three sub-regions of Kashmir Province i.e. Central Kashmir, South Kashmir and North Kashmir. The primary sampling units (PSU) were the three select villages representing the three different regions and the secondary sampling units (SSU) were chosen as the residents of these villages. Table 2 shows the distribution of selected rural tourism destination for the present study.

Table 2: Villages under study			
Region	Name of the Village	Situated in District	USP
A=Central Kashmir	Manasbal	Ganderbal	Carpet Weaving
B= South Kashmir	Pahalgam	Ananatnag	Pilgrimage
C=North Kashmir	Watlab	Baramulla	Adventure

Sampling Method

The villages under study were randomly selected on the basis of geographic distribution across the valley and stages of tourism development. The method of collecting quantitative data from the respondent’s sample of these identified and independent sampling units has been the convenience sampling where responses were obtained from the people who were most conveniently available (Zikmund, 2003).

Sample Size

Selection of an optimum sample size is the core concern of a researcher to come up with a reliable study. The sample of this research was calculated by using Taro Yamane (Yamane, 1973) formula with 95% confidence level. The calculation formula of Taro Yamane is presented as follows.

$$n = \frac{N}{1 + N(e)^2}$$

Where :

n= sample size required

N = number of people in the population

e = allowable error (%)

The registered population of the select rural tourist destinations was 3391. Thus, on applying the values in the above formula, the required sample size for the present study was 360. However, to increase the reliability of data, sample size was increased to 400.

Number of Villagers selected from Manasbal (A) = 140

Number of Villagers selected from Pahalgam (B) = 130

Number of Villagers selected from Watlab (C) = 130

Total number of Villagers = A + B + C

Hence, total number of villagers selected for the survey (140+130+130) =400

Data Analysis and Interpretation

For the data screening and normality all questionnaires were scanned to check for unanswered or incomplete questions. Accordingly, responses which were incomplete in any respect were eliminated from the analysis. Similarly, where the same answer was provided for most questions, the questionnaire was considered unusable. The data was then entered into an SPSS file and during preliminary analysis no missing values and outliers were reported.

Reliability

The reliability of the instrument was checked through Cronbach Alpha (α) and measured separately for each construct and overall scale. The results of Cronbach Alpha (α), as shown in Table 3, are above the threshold value 0.60, indicating thereby the internal consistency.

Table 3: Reliability of study dimensions

Dimensions	No. of items	Chronbach Alpha (α) Value
Economic Development	09	.767
Environmental Development	05	.853
Socio-cultural Development	05	.749
Overall	19	.803

Profile of Respondents

The demographic characteristics of respondents in this study were measured by gender, age, education, monthly household income, place of residence and economic dependency on tourism. Respondents were asked to provide their answers to questions that were designed on nominal and ordinal scales. The summary of demographic characteristics of respondents is reported below (Table 4).

As could be seen from table 4, the majority of the respondents under study were males (77.06% approximately) and 22.93% females, indicating thereby that females were less willing to participate in the survey. Age groups have been recorded after merging small segments; the results showed that 60.56 % of respondents were aged between 33 and 47 years, followed by age ranges of 18-32 years (20.61%), then 48 years up to 60 years (18.81%). The results indicated that the majority of respondents (41.9%) were middle-aged (between 33 and 47years old). Furthermore, education levels of rural residents showed that 42.78% of the respondents had completed their study up to college level, 33.76% had high

school degree, while 6.44% had advanced degrees and 2.31% respondents had technical school degree and 14.69% have education less than high school or are either uneducated. This implies that the majority of respondents are college graduates (42.78%). From the monthly household income of the respondents, it revealed that 58.76% have income less than Rs20,000, followed by respondents (36.85%) having income level between Rs. 20,000 and Rs. 40,000. Only 4.38% had an income more than Rs. 40,000.

Table 4: Profile of respondents (Demographic)

Variables		Frequency	Percentage
Gender	Male	299	77.06%
	Female	89	22.93 %
Age	18-32Years	80	20.61%
	33-47Years	235	60.56%
	48years &above.	73	18.81%
Education	Less than High School	57	14.69%
	High School	131	33.76%
	College Degree	166	42.78%
	Advanced Degree	25	06.44%
	Technical School Degree	09	02.31%
Income	Less Than 20,000	228	58.76%
	20,000-40,000	143	36.85%
	Morethan40,000	17	4.38%
Place of Residence	Manasbal	129	33.24%
	Pahalgam	131	33.76%
	Watlab	128	32.98%
Economic Dependency	Not at all	79	20.36%
	Partially Dependent	215	55.41%
	Fully Dependent	94	24.22%

In terms of place of residence, almost equal representation was reported from all the three villages under study. Finally, the descriptive for economic dependency on tourism revealed that total 79.63% (309 in number) respondents' income was fully or partially dependent on tourism.

Results of Factor Analysis

In order to examine the underlying dimensions of the perceived Rural Tourism Development Impact, Principal Component Analysis along with Varimax Rotation was used to extract the factors after the data were collected from the respondents.

The 19 items were exposed to factor analysis to identify the underlying factors RTDI and latent root criterion (Eigen value) value of above 1.0 (Pett et al.,2003) and a factor loading of 0.40 was used as a threshold for including items into a factor. EFA was performed on the sample using the 19 statements related to the Rural Tourism Development Impacts. From EFA, three factors namely Impact on Economic Development (ECI), Impact on Socio-Cultural Development (SCI) and Impact on Environmental Development (ENI) were extracted which accounted for 66.687 percent of the total variance explained (Table 7).

The Kaiser-Meyer-Olkin (KMO) test shows the suitability of Factor Analysis and is a measure of sampling adequacy. This measure varies between 0 and 1, if it is close to 1.0 then factor analysis is meaningful for the given data. If the KMO value is less than .50, the results of the factor analysis will not be very useful. In the present study KMO measure is 0.848. The results of KMO and Bartlett's Test of Sphericity are shown in table 5.

Table 5: Kaiser-Meyer-Olkin (KMO) Test

Results of KMO & Bartlett's Test of Sphericity		
		Rural Tourism Development Impact
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.848
Bartlett's Test of Sphericity	Approx. Chi-Square	5132.202
	Df	171
	Sig.	.000

19 items loaded properly on their factors (Factor loadings>0.4) as presented in Table 6. Table 7 illustrate the application of Principal component analysis to Rural Tourism Development Impacts. Only those factors having Eigen Value greater than 1 were retained which are 3 in this case and as is clear from the table 7, 3 factors accounted for 66.687 percent of the total variance.

Table 6: Rotated Component Matrix of RTDI

Item No.	Statements	COMPONENT		
		1	2	3
RTDI_1	Increasing the number of tourists visiting an area improves the local economy.	.864		
RTDI_2	Tourism provides desirable jobs for local residents.	.704		
RTDI_3	Tourism related jobs are low paying.	.753		
RTDI_4	Shopping, restaurants, entertainment options are better as a result of tourism.	.721		
RTDI_5	Tourism encourages more private development (e.g., housing, retail).	.763		
RTDI_6	Tourism encourages more public development (e.g., roads, public facilities).	.747		
RTDI_7	Tourism contributes to income and standard of living.	.740		
RTDI_8	Tourism results in an increase of the cost of living.	.857		
RTDI_9	Tourism can be one of the most important economic developmental options for an area.	.732		
RTDI_10	Tourism development improves the physical appearance of an area.			.916
RTDI_11	Tourism development increases the traffic problems of an area.			.867
RTDI_12	Tourism results in more litter in an area.			.903
RTDI_13	Tourism provides incentives for protection and conservation of natural resources.			.724
RTDI_14	Tourism provides incentives for new park development.			.668
RTDI_15	An increase in tourists in my village will lead to friction between residents and tourists.		.874	
RTDI_16	Tourism development increases the quality of life in an area.		.934	
RTDI_17	Tourism helps to preserve the cultural identity and restoration of historical buildings		.914	
RTDI_28	Tourism development increases the number of recreational opportunities for local residents.		.785	
RTDI_19	Tourism development increases the amount of crime in the area.		.918	

Table 7: Total Variance & Initial Eigen Value (RTDI)

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	5.304	27.915	27.915	5.304	27.915	27.915	5.291	27.850	27.850
2	3.980	20.949	48.864	3.980	20.949	48.864	3.960	20.841	48.690
3	3.386	17.822	66.687	3.386	17.822	66.687	3.419	17.996	66.687
4	.782	4.117	70.803						
5	.763	4.018	74.822						
6	.671	3.534	78.356						
7	.648	3.413	81.768						
8	.542	2.855	84.623						
9	.454	2.387	87.010						
10	.442	2.327	89.337						
11	.376	1.981	91.318						
12	.358	1.883	93.201						
13	.296	1.560	94.761						
14	.238	1.252	96.013						
15	.190	1.002	97.016						
16	.179	.944	97.959						
17	.159	.838	98.797						
18	.123	.646	99.444						
19	.106	.556	100.000						

Extraction Method: Principal Component Analysis.

Descriptive Results of Rural Tourism Development Impact

The results of the descriptive statistics analysis for the rural tourism development impact (RTDI) scale are presented in Table 8. This measurement scale consisted of 19 items reflecting the perceived economic, environmental and socio-cultural impacts of rural tourism development. Residents were asked to provide answers to each item based on a five-point Likert scale ranging from 5=strongly agree to 1=strongly disagree.

Based on the descriptive statistical analysis, the mean score of each item shows that from an economic perspective, respondents tended to agree regarding the statements that tourism improves local economy ($M=3.63$, $S.D= 0.846$) and increase in job opportunities for the local residents ($M=3.68$, $SD=.798$), and they also agreed that tourism contributes to income and standard of living ($M=3.62$, $S.D=.828$). However, the residents slightly disagree with some negative items asked like tourism increase the cost of living ($M=2.79$, $S.D=1.39$) and tourism jobs are low paying ($M=2.65$, $SD=1.25$). The residents also responded positive towards items like tourism increases private development ($M=3.63$, $S.D= 0.848$) and tourism encourages public development ($M= 3.57$, $S.D= 0.840$). Additionally, the respondents are in strong agreement with the statement that tourism can be the most important economic development option for an area ($M=4.05$, $S.D= 0.91$).

From an environmental perspective, respondents strongly agreed with the positive statements such as tourism development improves the physical appearance of an area ($M= 3.85$, $S.D= 0.669$), tourism provides incentives for protection and conservation of natural resources ($M=4.40$, $S.D=1.17$) and for new park development ($M=4.05$, $S.D=0.91$). Residents also agreed with the negative environmental impacts but were relatively rated low; tourism development increases the traffic problems of an area ($M=3.43$, $S.D= 1.107$) and results in more litter in an area ($M=3.54$, $S.D= 0.701$). From a socio-cultural perspective as revealed from 4.2, residents tended to strongly disagree that an increase in tourists in village will lead to friction between residents and tourists. ($M=1.20$, $SD=1.12$), and further disagreed that tourism increases the amount of crime in the area ($M=2.36$, $SD=1.13$). However, the residents agreed with the statements like tourism development increases the quality of life in an area ($M= 3.77$, $S.D=0.782$), tourism helps to preserve the cultural identity and restoration of historical buildings ($M=3.80$, $S.D=0.759$) and tourism development increases the number of recreational opportunities for local residents ($M=3.57$, $S.D=0.893$).

Table 8: Descriptive Analysis of Rural tourism Development Impact

S.No.	Variables	Mean	Std. Dev.
Impact on Economic Development			
1	Increasing the number of tourists visiting an area improves the local economy.	3.63	0.846
2	Tourism provides desirable jobs for local residents.	3.68	0.798
3	Tourism related jobs are low paying.	2.65	1.25
4	Shopping, restaurants, entertainment options are better as a result of tourism.	3.63	0.846
5	Tourism encourages more private development (e.g., housing, retail).	3.57	0.840
6	Tourism encourages more public development (e.g., roads, public facilities).	3.62	0.828
7	Tourism contributes to income and standard of living.	3.62	0.828
8	Tourism results in an increase of the cost of living.	2.79	1.39
9	Tourism can be one of the most important economic developmental options for an area.	4.05	0.91
Impact on Environmental Development			
10	Tourism development improves the physical appearance of an area.	3.85	0.669
11	Tourism development increases the traffic problems of an area.	3.43	1.107
12	Tourism results in more litter in an area.	3.54	0.701
13	Tourism provides incentives for new park development.	4.05	0.91
14	Tourism provides incentives for protection and conservation of natural resources.	4.40	1.17
Impact on Socio-Cultural Development			
15	An increase in tourists in my village will lead to friction between residents and tourists.	1.20	1.12
16	Tourism development increases the quality of life in an area.	3.77	0.782
17	Tourism helps to preserve the cultural identity and restoration of historical buildings.	3.80	0.759
18	Tourism development increases the number of recreational opportunities for local residents.	3.57	0.893
19	Tourism development increases the amount of crime in the area.	2.36	1.13

Discussion and Implications

This study revealed that residents were not satisfied with their involvement in decision making and blaming Government not consulting them properly in tourism development process. It is pertinent that if not directly involved, but being given the trainings by the authorities, the residents gain knowledge and awareness of the value of tourism, the role it plays in the development of their communities, and they also contribute valuable ideas in finding solutions to improve the overall tourism impact. These residents would then educate the remaining residents through the words of mouth. This will result in a more positive perception of tourism by the informed community.

Therefore, the findings of this study have implications for policy makers that will help them make better policy of rural tourism development. Government policy determines how tourism is developed, managed, budgets allocated, organized, administered, and enforced. This study is first of its kind to serve as a guide to local leaders, professional experts, and policy makers which will help them to evaluate the residents' attitude, formulate strategies to address them. This will eventually contribute to solving the problems, especially problems concerning to minimize the negative impact of the tourism development. This finding is corroborated by most of the previous studies stating that public input and involvement of the local community is must to increase the added value of both public services and policies.

Finally, from the locality perspective, the findings of this study have implications for local government, its agencies, and authorities in Kashmir region as the results could help them to develop rural tourism aimed at providing better service to the residents, who play an important role in determining the success and failure of the local tourism industry. This will increase the resident participation and involvement in tourism especially concerning to the problem-solving issues of tourism.

For the government, this means more emphasis should be laid on educating residents about tourism in rural communities. This finding supported the findings by Murphy (1985), Haywood (1988) and Pearce & Butler (1999). These results will be helpful to stakeholders to collect information and plan appropriate strategies based on the tourism attractions they intend to develop before the implementation stage. For the local communities, rural local official entities, public and private service providers, the anticipated outcomes of this study would offer an insight into the potential for rural tourism development in order to help them to provide a good rural tourism experience. The ultimate aim is to develop a knowledgeable society that will advocate the protection of the phenomenon of tourism.

Based on the findings of this study the researchers therefore, propose the following specific suggestions pertaining to effective rural tourism development.

- 1) In order to build local awareness of the impacts of tourism Government must gather more input by consulting the local residents and establish education programs at community level.
- 2) Increased women participation in tourism development will yield better results in developing rural tourism. Government should start specific schemes to encourage women folk to participate in tourism activities.
- 3) Government authorities should provide an opportunity for local residents to participate in at the preparation stage of tourism development rather than having them to participate after the planning is completed.
- 4) For balanced development of rural tourism, local communities should be encouraged to take part in control, and should therefore be involved in planning how a tourism development in an area should be controlled.
- 5) Sustainable rural tourism development can be attained by collaborative approach and forming of partnerships among all the stakeholders involved in management, operation, implementation, monitoring of rural tourism projects.
- 6) For any successful tourism project forming of regulations is necessary. Formulating the policies is easy, but to implement policy is not easy unless it is supported by the local people. All the stakeholders should collaborate together in an attempt to build consensus about tourism policies.
- 7) The authorities should also focus on promoting the local products and resources at the rural destinations making it a unique attraction for the tourists.
- 8) The success of rural tourism projects totally depends on the quality of service provided to the tourist. In order to develop the manpower, various short training courses and capacity building programs should be organized at the local level for imparting skill and knowledge, so that so that service is delivered effectively to the tourists.

Limitations and Directions for Future Research

There were few limitations in trying to interpret the results of this study. First, the findings of this study are limited by the nature of the sampling process. Sampling design is an important issue in monitoring the communities. The analysis of this study is based on smaller sample. The results reported in this study might not be generalized to the population at large due to sampling biases that might have existed, although certain attributes are generalizable to

other areas with similar characteristics. A relatively large sample is recommended for future research to test any differences in results.

The research scope and boundaries of this research are limited to Kashmir region. The study investigated respondents from only three villages of the whole region. This geographically limited survey may not produce same results and conclusions in terms of the magnitude and directions of relationships among the constructs studied in this research. Therefore, the findings cannot be generalized to all rural tourism destinations in India, since residents differ with respect to perceptions toward sustainable tourism development. Residents in other rural tourism destinations may have different perceptions, attitudes and behaviours in regard to tourism impacts, perceived participation, development approaches and strategies. The research scope should be extended to other rural tourism destinations and to see if similar findings and results could be addressed. Thus, it is suggested that data be collected from other rural tourism villages of Kashmir to compare the obtained results.

Lastly, the study only studied perception of local residents. It is recommended for future research to study the perception of other stakeholders such as tourists, and people who are involved in organizations, associations related to tourism.

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Emotional Dissonance: A Study among Healthcare Professionals during Covid-19

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Abstract

The COVID-19 pandemic is having a dramatic impact on societies and economies around the world. The virus is affecting millions of lives worldwide, not only physically but also emotionally in the form of panic attacks, obsessional behaviour, anxiety, stress and fear. Health care professionals are also exposed to coronavirus disease 2019 (COVID-19) and are facing high levels of stress, anxiety, poor sleep, emotional disorder. The aim of this exploratory study was to analyze the level of emotional dissonance among healthcare professionals during COVID-19 and study the impact of demographics on the variable under study. The data collected through both primary and secondary sources were analyzed using descriptive and inferential statistics. The measuring items used for the study were sourced from existing validated scales and literature. Descriptive statistics was employed to know the descriptive information across various demographic variables on a total sample of 135. The results revealed that the healthcare professionals perceived their emotional dissonance at an above-average level in the present pandemic, that is, COVID-19. The results also revealed that the perception of the health care professionals towards their emotional dissonance when related with their demographic variables is more or less the same. Besides, having theoretical implications that open pathways for conducting further research, the findings of the study may serve as a reference for service practitioners in designing strategies that could ensure superior performance of health care professionals in hospitals in such eventualities. The major burden of health care professionals, treating infected patients during the COVID-19 pandemic demands psychological support which in turn is expected to help in prevention of burnout and distress in the workplace of healthcare professionals.

Keywords: Covid-19, Emotional Dissonance, Healthcare Professionals, India

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Introduction

Corona-virus appeared in Wuhan, China, at the beginning of December 2019. The World Health Organization (WHO) named the disease caused by the virus COVID-19, which references the type of virus and the year it emerged. The WHO has declared that the virus is a pandemic. In March 2020, a novel infective COVID-19 was first reported in Union Territory of Jammu and Kashmir (J&K), India after becoming a global health emergency. Series of restrictive measures were introduced by the administration, and one of them was the overall organization of work in the form of ‘Work from Home’, which could not be applied to health care professionals. The COVID-19 pandemic is having a dramatic impact on societies and economies around the world. The virus is affecting millions of lives worldwide, not only physically but also emotionally in the form of panic attacks, obsessional behaviour, anxiety, stress and fear. COVID-19 spreads quickly, is highly contagious and can be fatal in severe cases and there are no specific medicines; it poses a huge threat to the life and has a large impact on the emotional responses of individuals (Huang, Xu, & Liu, 2020).

Healthcare professionals are frequently exposed to working environment stressors that can influence their psychological, physical wellbeing, and diminishing the nature of care, treatment results and clinical security. Frontline health care workers against COVID-19 are considered particularly susceptible to developing psychiatric disorders (Lai et al., 2020). Healthcare professionals have suffered an increase in mental pressure due to the heavy workloads they have taken, as well as being exposed to a deadly virus for extended periods. In addition, having to stay away from their families has compounded this mental strain, as fear of infecting loved ones has posed another psychological burden to the health care workers (Lai et al., 2020; Xiang et al., 2020). According to a study on health care workers in China, roughly 50% of the respondents (50.4%) gave indications of sadness, 44.6% of uneasiness, 34% of sleep deprivation and 71.5% have demonstrated side effects of expanded pressure (Lai et al., 2020). Lai et al. (2020) report has further confirmed that health professionals during the COVID-19 outbreak have reported higher levels of stress, sleep deprivation, depression and anxiety (Lai et al., 2020). Healthcare experts revealed having the good commitment to treat patients and spare lives (Greenberg et al., 2020). The way they adapt to pandemic decides not just their physical wellbeing, yet additionally their emotional wellness. Fear, anxiety, and depression are emotions that arise in response to stress. Different sources (for example, rules, organizational norms, national norms, superiors, colleagues,

subordinates and personal experience) are used in varying degrees to manage stress (Waddar & Aminabhavi, 2012). Healthcare professionals are oftentimes presented to chronic working environment stressors that can unfavourably influence their mental and physical wellbeing, and lessening the nature of care, treatment results and clinical security (Fiabane et al., 2013; Poghosyan et al., 2010). In particular, emotional labour, which refers to the requirement for overseeing feelings, demonstrating compassion and worry, rather than negative sentiments, while collaborating with patients, is a significant stressor in healthcare professions.

Occupations that require significant emotional labour are at risk of being psychologically demanding because of the emotionally charged interactions at work (e.g., patients, colleagues); therefore, workers in high emotional labour occupations are likely to display emotions that may be in contrast with what they really feel (Castanheira & Chambel, 2013) and may perceive themselves as providing low-quality patient care. Emotional labour refers to the management of emotions at work in order to meet the expectations of an organization irrespective of what one actually feels (Cheng et al., 2013). In this context, particular attention has been given to the concept of “emotional dissonance,” which is a key component of emotional labour. Emotional dissonance is the conflict between emotion rules that employees are required to show at work and emotions they actually feel (Holman et al., 2008). In other words, it is a state of tension that occurs when an individual perceives an internal role conflict and must display feelings that are discrepant from his/her actual emotions (Andela et al., 2015). Previous studies have shown that emotional dissonance has detrimental consequences for workers’ mental health and organizational performance (Mroz & Kaleta, 2016), and it may enhance workers’ burnout (Andela et al., 2015), with particular regard for healthcare professionals (Cheng et al., 2013). Emotional dissonance is the structural discrepancy between felt emotions on the one hand and the emotional display that is required and appropriate in the working context on the other (Zapf et al., 1999). Thus, emotional dissonance is the discrepancy between authentic and displayed emotions as part of the job.

Healthcare professionals are required to express a wide variety of emotions during their interactions with patients. They have to switch between keeping a certain emotional distance towards their patients to secure a professional attitude on the one hand, and showing a caring, compassionate attitude on the other. This is also known as “detached concern” (Lief & Fox, 1963). Previous studies report that health care professionals feared of being infected felt stigmatized, experienced high levels of anxiety and symptoms of depression, and had sleep

problems (Lai et al., 2020). Nurses and Doctors are faced with situations, such as death, illness, and violence that trigger emotional reactions, while their professions require them to inhibit or suppress the emotions that normally occur in reaction to these situations.

In this light, the present study investigates how the healthcare professionals are using their emotional dissonance skills to overcome the various disorders associated with COVID-19. As far as researcher's knowledge is concerned, there has been no systematic assessment of the effects of COVID-19 on healthcare professional's emotional dissonance. Based on this, the purpose of this study was to explore the current status of emotional dissonance of healthcare professionals working in different hospitals of district Srinagar in Jammu & Kashmir (J&K), India. The first section contains the literature review, identification of gaps and development of objectives. The methodology is discussed in the second section, including sample, instruments and data collection design. The third section contains the analysis, conclusions and implications of the study. The study attempted to answer the following research questions:

RQ1: What is the level of emotional dissonance among healthcare professionals during COVID-19?

RQ2: What is the impact of demographic variable on emotional dissonance during COVID-19?

Review of Literature

Emotional Dissonance

Emotional dissonance is the conflict that an individual experiences among expressed emotions and experienced emotions (Abraham, 1998). This conflict among the emotions arises when an employee shows emotions which abide by the organizational rules but do not comply with his actual feelings (Rafaeli & Sutton, 1987). It is the clash among emotions that a person feels and those that are supposed to be displayed according to the organizational norms (Ashfort and Humphrey, 1993). This difference between the felt and displayed emotions results in tension (Hoshchild, 1983). It also results in employee burnout and exhaustion (Abraham, 2000).

Organizations continuously control and direct employees as to how they should present themselves to others while on their job (Morris and Feldman, 1996). They also have high expectations and are very demanding as to how employees present themselves and how they perform emotionally. Emotional dissonance can be a cause of strain that impacts the well being of employees (Hoshchild, 1983). The requirement of displaying certain emotions at work irrespective of how one actually feels is called emotional labour or emotion work (Rafaeli and Sutton, 1987).

For example, criminal investigators need to display negative emotions (Rafaeli and Sutton, 1987) and employees in the service sector need to display pleasant emotions. Employees mainly use two different strategies to show organizationally accepted emotions which are surface acting and deep acting (Pugh, Groth & Hennig-Thurau, 2011). Surface acting happens when a person hides felt emotions and displays required emotions while as deep acting happens when felt emotion is shifted to the required emotion which makes the required emotion authentic.

COVID-19

The virus originated in bats and was transmitted to humans through yet unknown intermediary animals in Wuhan, Hubei province, China, in December 2019. In December 2019, adults in Wuhan, capital city of Hubei province and a major transportation hub of China, started presenting to local hospitals with severe pneumonia of unknown cause. Many of the initial cases had a common exposure to the Huanan wholesale seafood market that also traded live animals. The surveillance system (put into place after the severe acute respiratory syndrome (SARS) outbreak) was activated, and respiratory samples of patients were sent to reference labs for etiologic investigations. On 31 December 2019, China notified the outbreak to the WHO, and on 1 January, the Huanan seafood market was closed. On 7 January, the virus was identified as a coronavirus that had >95% homology with the bat coronavirus and >70% similarity with the SARS-CoV (severe acute respiratory syndrome–related coronavirus). Environmental samples from the Huanan seafood market also tested positive, signifying that the virus originated from there (Xinhua, 2020). The number of cases started increasing exponentially, some of which did not have exposure to the live animal market, suggestive of the fact that human-to-human transmission was occurring (Huang et al., 2020). Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness. The best way to prevent and slow down transmission is be well informed about the COVID-19 virus, the disease it causes and how it spreads. The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes. At this time, there are no specific vaccines or treatments for COVID-19. However, there are many ongoing clinical trials evaluating potential treatments.

Rationale

The study is significant in the field of emotional dissonance and is expected to add new knowledge during COVID-19. The study will assist in design and development of emotional

dissonance programmes in the health sector of India keeping in view that the healthcare professionals are working day and night since the outbreak of COVID-19. The study will also help healthcare professionals in using their emotional dissonance skills while interacting with their COVID patients.

Research Methodology

The present study is exploratory-cum-descriptive in nature, and the sample comprised of healthcare professionals (doctors and nurses). The healthcare professionals comprised of doctors and nurses from hospitals located in Srinagar district of Jammu and Kashmir, India. The study has been conducted in the Union Territory of Jammu & Kashmir, India. The healthcare professionals included in the study were from different hospitals of the district Srinagar who were catering to COVID-19 patients. The sample size was calculated according to the number of items in the study. Every item requires minimum 5 respondents and maximum 10 respondents for the determination of the representative sample size (Hair et al., 1998). Keeping in view the sampling error, it was proposed to take the sample of 200. In return, 135 questionnaires were received. The data for the study were collected through both the primary and secondary sources. Online questionnaires were used to gather the primary data because of COVID-19. Data was collected between June 20 and July 5, 2020. Healthcare professionals agreeing to participate were asked to complete the questionnaire through mail and social media (WhatsApp, Twitter and Facebook). The measuring items used for the study were sourced from existing validated scales and literature. The questionnaire consisted of two sections. Section ‘A’ included demographic information of respondents, while Section ‘B’ included statements of emotional dissonance. The demographic characteristics were gender, occupation and contact with COVID patients. A likert scale was used to measure workers’ emotional dissonance. The scale was derived from the Emotional Dissonance subscale of the Frankfurt Emotional Work Scale(Zapf, 1999; Zapf & Holz,2006). The notion of emotional dissonance was captured by administering questionnaire with modifications keeping in view COVID-19 on healthcare professionals(table 1).

Table 1: Modifications in Emotional Dissonance scale

Original item	Revised item
During your work, how often do you have to suppress your own feelings	During your work at hospital, how often do you have to suppress your own feelings while dealing with COVID-19 patients

Source: The Author

The respondents were briefly instructed as to the purpose of the study, and consent was taken from the respondents after mentioning the study objectives, methods, risks and benefits associated with the research. It was also ensured that confidentiality and independent responding were maintained. Participation was anonymous and treated according to American Psychological Association ethical guidelines in conformance with the guidelines in the Declaration of Helsinki. To capture the responses of the sample elements, a 5-point Likert-type scale (ranging from 1 = *never* to 5 = *always*) was used throughout the study. All the items were framed keeping in view the context of the study. The healthcare professionals included from hospitals were governed by the principle of simple random sampling. It was an endeavor of the scholar that each possible category, that is, gender, occupation and contact with COVID patients, would represent the final sample. Reliability of the questionnaire during pilot study was assessed by overall Cronbach's alpha. The overall 'Cronbach Alpha' calculated using SPSS is .732, which is much higher than the acceptable level in social science research (Hair et al., 1998).

Analysis

Sample Characteristics of the Respondents

Descriptive statistics was employed to know the descriptive information across various demographic variables on a total sample of 135. The various demographic variables which were considered for the study were gender, occupation and contact with COVID patients. The analysis of the sample revealed the characteristics as indicated in the table 2.

Table 2: Sample Characteristics

Demographic Variable	Overall		
	Particulars	Frequency	%age
Gender	Male	92	68.14%
	Female	43	31.85%
Occupation	Doctors	102	75.55%
	Nurses	33	24.44%
Contact with COVID patients	Yes	69	51.11%
	No	66	48.88%

Source: The Author

Level of Emotional Dissonance during COVID-19

The perception of healthcare professionals about their emotional dissonance during COVID-19 is provided in table 3. A mean score of 4.35 or percentage score of 87% indicates that an above average level of emotional dissonance is perceived by healthcare professionals during COVID-19. The standard deviation of 0.748 also supports that the results are reasonably trustworthy.

Table 3: Emotional Dissonance during COVID-19

S.No.	Dimension	Mean score	Percentage of Mean score	Standard Deviation
1.	ED	4.35	87.0%	.748

Source: The Author

Note: COVID-19: Coronavirus disease 2019; ED: Emotional Dissonance

Perceptual Gap

The differences in the perception of healthcare professionals related to the variable under study that has been examined in this study is considered quite relevant irrespective of their statistical significance. Thus, the following section inspects the differences in perceptions of healthcare professionals during COVID-19 about the variable under study.

Emotional Dissonance and Gender

The table 4 shows a comparison of male and female group of respondents. Z-test was used because it compares emotional dissonance variable as a whole between the male and female respondents. It becomes clear from the table that the overall mean score of male respondents was high as compared to female respondents. Overall, the mean score observed from emotional dissonance as a whole from the male respondents is 4.47 and from female respondents is 4.23.

Further, Z-test was utilized to ascertain whether the difference in the mean scores of the respondent male and the female healthcare professionals with respect to their perception about their emotional dissonance is statistically significant or merely an outcome of a random variation. The results indicate that the perceptual differences of healthcare professionals are statistically significant when the differences are evaluated on the basis of gender as the *p* value is less than .05 as a whole indicating that the male healthcare professionals are showing more emotional dissonance during COVID-19 as compared to the female healthcare professionals. (table 4).

Table 4: Emotional Dissonance and Gender

Group Statistics (N=135); Male=92, Female=43						
Variables	Gender	Mean	Overall Mean score	Std. Deviation	Z-value	Sig.*
EMOTIONAL DISSONANCE	Male	4.47	4.35	.715	2.445	.002
	Female	4.23		.613		

Source: The Author

Note: * $p < .05$

Emotional Dissonance and Occupation

The table 5 shows a comparison between the mean scores of respondents across type of occupation. The overall highest mean score for variable emotional dissonance was for doctors (4.63) and lowest was for nurses (4.07).

In order to analyze the perception of healthcare professionals towards the emotional dissonance variable as a whole across type of occupation, independent samples test was used and z-value was computed. The results of emotional dissonance variable as a whole revealed that there is significant difference in the perception of healthcare professionals during COVID-19 across type of occupation towards the variable as its calculated p-value is less than 0.05.

Table 5: Emotional Dissonance and Occupation

Group Statistics (N=135); Doctors=102, Nurses=33						
Variables	Occupation	Mean	Overall Mean score	Std. Deviation	Z-value	Sig.*
EMOTIONAL DISSONANCE	Doctors	4.63	4.35	.735	2.017	.037
	Nurses	4.07		.651		

Source: The Author

Note: * $p < .05$

Emotional Dissonance and Contact with COVID Patients

Comparison was also made between the mean scores of respondents based on their contact with COVID patients. The overall highest mean score for variable emotional dissonance considering the contact of healthcare professionals was from professionals who were in contact

with COVID patients and less mean score came from professionals who were not having any contact with COVID patients (table 6).

In order to analyze the perception of healthcare professionals towards the emotional dissonance variable as a whole across type of occupation, z-value was computed. The results of Emotional dissonance variable as a whole revealed that there is significant difference in the perception of healthcare professionals during COVID-19 based on the contact with patients.

Table 6: Emotional Dissonance and Contact with COVID Patients

Group Statistics (N=135); Yes=69, No=66						
Variables	Contact with COVID patients	Mean	Overall Mean score	Std. Deviation	Z-value	Sig.*
EMOTIONAL DISSONANCE	Yes	4.75	4.35	.588	2.089	.031
	No	3.95		.542		

Source: The Author

Note: * $p < .05$

Discussion, Conclusion and Implications

The results revealed that an above average level of emotional dissonance is perceived by healthcare professionals during COVID-19. The discrepancy between the emotions actually felt and those required to be displayed, i.e., emotional dissonance (Holman et al., 2008), produces a state of unpleasant tension which, in turn, may be emotionally exhausting in the long run. The results indicate that the perceptual differences of healthcare professionals are statistically significant when the differences are evaluated on the basis of gender indicating that the male healthcare professionals are showing more emotional dissonance during COVID-19 as compared to the female healthcare professionals. The results of Emotional dissonance variable as a whole revealed that there is significant difference in the perception of healthcare professionals during COVID-19 across type of occupation towards the variable. Comparison was also made between the mean scores of respondents based on their contact with COVID patients. The overall highest mean score for variable Emotional dissonance considering the contact of healthcare professionals was from professionals who were in contact with COVID patients and less mean score came from professionals who were not having any contact with COVID patients.

The results obtained from the present study have certain significant implications. First, it contributes to the body of existing literature as the variable emotional dissonance has not been studied in relation to COVID-19. Second, if the authorities want to take overall control of the crisis, attention must also be given in developing programs for emotional management of healthcare professionals.

Limitations

One of the limitations is that the research was conducted through an online questionnaire. It was cross-sectional and could not be pursued longitudinally due to the social isolation rules of the healthcare professionals. Another limitation of the present research is that the study was carried out in only one district of Jammu & Kashmir. Including all the districts will help us in generalizing the results. The study focused on health sector only. The scope of the research could be widened by conducting the study in other sectors as well. Larger sample size is needed to verify the results and also in future studies; other healthcare professionals can also be included.

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Consequences of Workplace Ostracism: A Review

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Abstract

Ostracism is ubiquitous and inevitable part of personal and professional human lives. Workplace ostracism is a kind of cold violence which has received widespread attention of researchers in the recent past having negative consequences on a number of organizational outcomes. In tone with this, the current review of literature synthesizes consequences of workplace ostracism on employees' psychology, work attitudes and work behaviors as documented in the literature. In our discussion of the three aspects, relevant empirical findings and theoretical perspectives of each are mentioned. The managerial implications and future directions for research form the concluding part of the paper.

Keywords: Workplace Ostracism, Workplace Exclusion, Literature Review, Negative Consequences

Introduction

Workplace ostracism is pervasive phenomenon across organizations (Ferris, Berry, Brown & Lian, 2008) and is reflected in behaviors such as ignoring one's greetings, exclusion from invitations, conversations and the like. When individuals perceive ostracism, they experience stress which in extreme cases can contribute to cognitive and functional impairment (Williams & Sommer, 1997). Ostracism at work can adversely affect interpersonal behavior and harm job performance (Ferris, Brown, Berry & Lian, 2008;). Robinson et al. (2012) defined it as an individual or group neglecting to act in order to engage another organizational employee when it is appropriate to do so. In the last decade, workplace ostracism has been extensively studied in the organizational context. Workplace ostracism was explored by Ferris et al. (2008), who developed the workplace ostracism scale and described it as the extent to which individuals perceive that they are ignored or excluded by other employees in the workplace.

Ostracism need not be intentional or punitive. In many instances coworkers may ignore one another because they are engrossed in their own work (Williams, 2007). Indeed, one of the

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aversive aspects of ostracism is that it is often ambiguous whether one is actually being purposefully ostracized (Williams & Sommer, 1997). Regardless of the motives underlying ostracism, it is a painful and aversive experience. In studies with functional magnetic resonance imaging, the same brain structures activated after the individual experienced social rejection; the findings suggest that ostracism causes a sense of “social pain” (Eisenberger, Lieberman & Williams, 2003; MacDonald & Leary, 2005). Alongside this, research reports that ostracism can attract severe consequences for employees and organizations. For example, experiencing ostracism at work thwarts employees’ self-esteem and worsens their health (Ferris et al., 2008; Scott, Tams, Schippers & Lee, 2014). Likewise, it instigates employee turnover (Renn, Allen & Huning, 2013), workplace deviance (Ferris et al., 2008), unethical behaviours (Kouchaki & Wareham, 2015), and sabotage behaviours (Sarwar, Abdullah, Hafeez & Chughtai, 2020) that are likely to attract high organizational costs.

A survey of 262 full time employees indicates that over a period of five years 66% of the participants received the silent treatment from their coworkers (Fox & Stallworth, 2005). Similarly, in another study 71% of employees reported themselves as targets of workplace ostracism (O’Reilly, Robinson, Berdahl & Banki, 2015). Given the prevalence of ostracism at work, it can lead to social isolation and can threaten social support. Based on a collection of relevant workplace ostracism literature, the current review attempts to explore consequences of workplace ostracism.

The study begins by brief historical overview of workplace ostracism, followed by the search strategy used. Next, we identify and summarize articles to explore three research questions which are (a) What can be the impact of workplace ostracism on employee psychology? (b) What can be the impact of workplace ostracism on employee work attitudes? (c) What can be the impact of workplace ostracism on employees work behaviors? Managerial implications and future research directions are presented in the last section of the paper.

Historical Overview

Ostracism has been part of human life since the beginnings of recorded history when the ancient Greeks would vote to ostracize individuals from the communities as a form of punishment (Williams & Sommer, 1997). Exile and banishment represent extreme and complete forms of ostracism, but the phenomenon is also represented by less dramatic behaviors (e.g., using the silent treatment or avoiding eye contact); the more the individual perceives that he or she is being subjected to such behaviors, the more the individual feels that he or she is being ostracized. In the organizational sciences, behaviors that serve to socially exclude colleagues have traditionally been studied in conjunction with number of other

behaviors that capture negative workplace interactions (Rospenda & Richman, 2004). However, organizational scholars have recognized that ostracism is distinct from other forms of harmful social behaviors at work (Balliet & Ferris, 2013). Ferris et al. (2008) conceptually and empirically distinguished workplace ostracism from a wide range of other mistreatment constructs, echoing decades of psychological research that has established the importance of understanding ostracism as a unique form of social mistreatment (Williams, 2007).

Since then, several other researchers have explored ostracism in work settings too (Jahanzeb, Fatima, & Malik, 2018; Choi, 2019; Wu, Yim, Kwan, & Zhang, 2011). Research suggest that ostracism is prevalent in organizations and can have a negative impact on employees (O'Reilly & Robinson, 2009; Wu, Wei & Hui, 2011). Although workplace ostracism is closely associated with other interpersonal psychological mistreatments (interpersonal deviance, abuse against others, and bullying), they are different forms of aggression (Leung, Wu, Chen & Young, 2011).

Methodology

We identified theoretical and empirical papers for our review through keyword searches in Google Scholar and Web of Science databases. The keywords used were “workplace ostracism’ and “workplace exclusion”. The articles included in this review were mainly published in academically refereed journals in organizational behavior, human resource management and applied psychology.

Research on Consequences of Workplace Ostracism

In this section we summarized the empirical research on consequences of workplace ostracism on the basis of its effect on employee psychology, employee work attitudes and employee work behaviors.

Workplace Ostracism and Employee Psychology

Almost all of the empirical evidences have shown ostracism to have adverse psychological effects. For example, workplace ostracism is found to instigate negative emotions such as psychological distress (Wu, Yim, Kwan & Zhang, 2011), anger (Bilal, Fatima, & Imran, 2020), anxiety (Ferris et al., 2008), emotional exhaustion (Jahanzeb, Fatima, & Malik, 2018; Choi, 2019), stress (Sarwar, Ibrahim Abdullah, Sarfraz & Kashif Imran, 2019), poor psychological health (Hitlan, Clifton, & DeSoto, 2006), sleep quality (Chen & Li, 2019), job tension, depressed mood at work (Choi, 2019), and burn-out among target employees (Qian, Yang, Wang, Huang, & Song, 2019). Moreover, Liu et al. (2013) found that employees who feel ostracized at work have negative consequences on their family life. Likewise, as ostracism hinders achievement of desired outcomes, pressure and anxiety at work

increases (Williams, 2007). When organizational member feel ostracized emotions with others would break out. As a kind of “social pain” (Eisenberger et al., 2003), studies’ have shown that workplace ostracism worsens target employees’ physical health (O’Reilly et al., 2014). For instance, Pereira, Meier, and Elfering (2013) showed that daily encounters with ostracism at work cause sleep fragmentation the following night. Likewise, workplace ostracism is also shown to impair targets’ sleep quality due to cognitive arousal (Waldeck, Banerjee, Jenks, & Tyndall, 2020).

Workplace Ostracism and Employee Work Attitudes

Several scholars have used the need threat theory and conservation of resources theory to explain the negative relationship between workplace ostracism and employee work-related attitudes (Wesselmann, Bagg, & Williams, 2009; Wu et al., 2012). These scholars suggest that humans are motivated by a variety of psychological needs and, therefore, they seek environments and situations that help satisfy these needs. Because humans are social animals, they fulfil most of their needs through interactions with other humans (Williams & Sommer, 1997). According to the need theory, individuals are motivated by four basic needs, namely, the need to belong, control, self-esteem, and meaningful existence. When people are ostracized, they are unable to establish positive interpersonal relationships at work. Such limited access to other individuals may result in feelings of frustration as the employee is unable to collaborate with others and achieve work goals (Zhu, Lyu, Deng & Ye, 2017). For example, Hartgerink et al. (2015) conducted a meta-analysis of the effects of ostracism on players of a virtual ball tossing game and found that even a few minutes of ostracism resulted in negative feelings and decreased levels of self-esteem, belonging, and meaning. Similarly, conservation of resources theory proposes that exposure to workplace ostracism depletes the resources necessary to motivate individuals (Hobfoll, 1989). Victims of ostracism are likely to respond to such threat and preserve the remaining valued resources through reduced work engagement and commitment (Leung et al., 2011).

Positive workplace attitudes are thought to be critical for organisational effectiveness (Ostroff, 1992). However, studies have demonstrated that workplace ostracism damages employees' attitudes. Ostracized employees have been shown to have low job satisfaction, affective commitment, and overall organisational commitment (Ferris et al., 2008; O'Reilly et al., 2014), which is likely to reduce their contribution to their organisations. Employees' negative emotions are said to be exacerbated by workplace ostracism, leading to strong intents to disrupt organisations' services (Abubakar, Yazdian, & Behraves, 2018). It has also been observed to encourage employees' non-attendance by inducing job tension, which causes them

to arrive late or depart early (Hsieh & Karatepe, 2019). Moreover, employees' psychological disengagement and intentions to quit their jobs have also been linked to workplace ostracism (O'Reilly et al., 2014; Zheng, Yang, Ngo, Liu, & Jiao, 2016; Vui-Yee & Yen-Hwa, 2020).

Workplace Ostracism and Employee Work Behaviors

The influence of workplace ostracism on employees' professional relationships has been studied extensively. Research has shown that if ostracism exists, relational damages are likely to occur. Indeed, previous research suggest, that workplace ostracism is a painful and unpleasant experience that can threaten the personal resources of its victims (O'Reilly & Robinson, 2009; Leung et al., 2011; Robinson et al., 2013). When ostracized individuals are ignored and excluded by others, they are unable to interact and build useful social connections. Ostracism thus, can impede an individual's ability to build relationships, support others, or engage in OCBs, and meet work performance expectations, since social ties are required to access information and resources at work. Workplace ostracism, for example, has been proven to inspire interpersonal counterproductive and deviant behavior toward others, such as being disrespectful to co-workers or making fun of them (Zhao, Peng, & Sheard, 2013; Peng & Zeng, 2017). It has also been found to lower targets' satisfaction with co-workers and supervisors (Hitlan, Clifton, & DeSoto, 2006), reduce their commitment to management, and spark malicious gossip about managers (Chang et al., 2019).

Although, the majority of evidence suggests that workplace ostracism affects employees' favorable interpersonal behaviours, however, few researchers have suggested that it has either no effect (Ferris et al., 2008) or a positive effect (under particular situations) on employees' interpersonal citizenship and helping behaviours (Scott et al., 2015; Xu, Huang, & Robinson, 2017; Bilal, Fatima, Imran & Iqbal, 2020). Mao et al. (2017) in their narrative review observed that workplace ostracism could have both a negative and positive impact on employee behaviors. According to the need-threat/need-fortification model, when individuals perceive a threat to their psychological needs, they engage in behaviors to preserve and fortify those needs. For instance, when individuals perceive a threat to their need for belongingness and self-esteem, they will engage in pro-social behaviors to win favors and gain inclusion into the group (Williams, 2009). Conversely, when individuals perceive a threat to their need for meaningful existence and control, they are more likely to engage in aggression and other counterproductive work behaviors to gain control over the situation (Williams, 2007, 2009).

Managerial Implications and Future Research Directions

Based on the review of literature following implications are provided to practitioners. As workplace ostracism is difficult to prevent, organizations may benefit by increasing managerial awareness of the issue and by offering timely support to its victims. Research established that workplace ostracism is harmful and is associated with a variety of negative consequences such as reduced psychological well-being and organizational citizenship behaviours besides increased deviant behaviors. As such, organizations can benefit by promoting an inclusive culture that discourages ostracism and encourages open and transparent communication. Personnel development workshops and training plans should be designed for employees, to help them handle and control stressful events. In addition, organizations can adopt a proactive approach to prevent ostracism. This may include offering conflict management skills training, communication enhancement workshops, and training managers and employees to recognize the warning signs of ostracism. In order to foster cooperation among employees, organizations should increase task complexity and interdependence. Apart from this, managers could develop team-oriented reward systems instead of single-oriented ones to signal the importance of cooperation and prevent ostracism at work. Importantly, managers should reinforce trust and transparency within the team, thereby, eliminating ostracism by creating practices encouraging trust and transparency and discouraging the use of ostracism as a punishment. It is important to be wary of forming biases against members within work teams, as the quality of the relationships between the manager and in-group and out-group members may cause feelings of exclusion and dissimilarity. Also, managers should exert effort to maximize the degree of self-determination and autonomy of employee's jobs.

The present review on workplace ostracism reveals that future research could focus on following aspects. First, majority of the early studies collected data using self-reports and non-experimental and/or cross-sectional research designs. Thus, it is difficult to draw any causal conclusion. Therefore, future studies should use other ratings (e.g., peers and subordinates) to measure ostracism and conduct longitudinal research to understand how ostracism unfolds over time. Second, all empirical studies included in this study measured ostracism from the perspective of the victim. Studies should investigate ostracism from the viewpoint of the perpetrator and bystanders to provide a more complete picture of ostracism. Moreover, very few scholars have investigated the personality characteristics of perpetrators and how they perceive and justify their ostracizing behaviors. More research in this area will provide a deeper insight into the detection and prevention of workplace ostracism.

Conclusion

This review summarized scholarly articles on the consequences of workplace ostracism on its vital aspects. The academic studies related to consequences of workplace ostracism have been examined as a basis for an overview of the current state of knowledge of this research domain. We discussed consequences of workplace ostracism on employee psychology, work-attitudes and work-behaviors. In addition to managerial implications, this paper also highlights some important research gaps in the workplace ostracism literature and provides new and promising directions for future research endeavours. The present review is expected to provide guidance for future research on workplace ostracism and promote meaningful conversation and examinations of this important workplace phenomenon.

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Fiscal Policy: An Antecedent to Economic Development

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Abstract

Economic development is the imperative of every nation and more specifically developing ones. Various chronicles are recounted in the literature available on the subject pertaining to realisation of same. This paper peeks through the prism of fiscal policy which is widely recognised as means to the end. It is found that to a large extent empirical studies are consistent with the theoretical underpinnings. Pertinent to mention, the literature concerning the linkage between public expenditure and development is found digressed along the standard effects. Development is found varyingly influenced by fiscal policy due to the fact that subject variable is mediated by several other variables.

Keywords: Development, Fiscal Policy, Public Expenditure, Taxation, Economic Growth.

Introduction

Development is a dynamic, holistic and multidimensional concept whose significance varies across the time and space. Although not certified, “development” is implicitly intended as something positive or desirable. Connecting the same with the socio-economic system, development generally means betterment or improvement either in the general situation of the system, or in any of the part of which system is composed. It is a phenomenon which traverses through various sciences and several disciplines. The concept of development dates back to 19th century and has been used in several fields including natural sciences, social sciences and physical sciences (Abercrombie, Hill & Turner, 1994; Cliché, 2005). However, in the field of social sciences, the concept of development emerged during the 1950’s and 1960’s following the end of World War II (Harris, 2000; Hettne, 2002). Accordingly, the concept has been associated with

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many disciplines such as economic development (Schumpeter, 1911; Romer, 1986; Todaro, 2000), social development (Seers, 1969), human development (UNDP, 1990), Sustainable development (Brundtland Report, 1987; Adams, 2006), Territorial development (FAO, 2005) and development as freedom (Sen, 1999).

Post-World War II, the concept of economic development was initially confined to economic growth per se measured by increase in national per capita income. National income was taken as a proxy for other indicators of development. Among the early theorists of 1950's and 1960's, Rostow believed that development process followed a sequence of historical stages (Ingham, 1995) and investment was considered a prerequisite to the growth oriented economic development (Rostow, 1960). This growth-oriented approach of development was based on the premise that *ceteris paribus*, economic growth could benefit the entire society either by market driven 'trickle down' effects, or by state driven social policy (Sant' Ana, 2008). However, Harris (2000) came out with contradicting findings and challenged the trickle-down effects of growth-based development on the pretext that the benefits of development had been unevenly distributed. The income inequalities gap didn't shrink but remained persistent and sometimes stretched more over time. This approach of measuring economic development was very narrow in scope as it ignored all other important non materialistic indicators. Welfare measures such as better health care, education, shelter, eradication of poverty and inequality couldn't find any legroom in the horizon of development.

Visualizing development in terms of economic growth as a quantitative concept depicts more than that. This wave emerged in early 60's. Theorists like Lewis and Chenery at that time conceptualized development process as a structural shift. According to them, economy will grow only when there will be shift of labour from the agricultural sector to those times modern sector i.e., industrial sector. Kuznets in 1966 defined economic development as growth accompanied by qualitative changes in the structure of production and employment, generally referred to as structural change. Based on the convention of structural transformation, regarded as key to development, most developing countries were seen engaged in the reallocation of labour and diverted their full attention towards industrial sector and in consequence neglected the primary sector. The fatalities of this reckless attitude has been widely recognized (World Development Report, 2000). In late 60's, Chenery, Taylor and Syrquin acknowledged that development is possible through structural shifts but raised an important question that the underlying is itself

dependent upon various factors which vary across the countries as a result of which there can't be same pattern of development throughout the globe (Todaro & Smith 2009). Later on, this shift oriented concept of development was severely criticized by Seers, 1979; Myrdal, 1971; Streeten, 1972; Chenery et al., 1974; ulHaq, 1976 on the fact that developing countries' huge population was still seen in the poverty trap, as they didn't have enough resources to fulfil their basic needs.

In 1970's the emphasis of development was angled towards the fulfilment of basic needs besides economic growth and structural shifts. This compassionate approach was proposed by Seers, Haq, Streeten and others. Eradication of poverty and malnutrition, growing income equality and increasing employment besides economic growth and structural shifts emphasized the development of a particular country (Seers, 1979). So, fulfilment of basic needs like education, nutrition, health, and sanitation were regarded as the key factors of development in addition to growth (Harris, 2000; Seers, 1969).

The Latin American financial crisis of 1980's marked a new paradigm in the history of development. Although preceding course of the concept being holistic and humanistic in nature, the debt crisis of 1980's turned away the focus of development theorist from need-based approach towards market-oriented approach, resulting into liberalizing reforms, thus integrating the national economies with the world. This structural adjustment program was undertaken in order to correct the distortions made in the past in many areas like exchange rate, prices and burgeoning Sovereign debt. This market-oriented approach was severely criticized by many theorists on the ground that although being efficient, but it doesn't address plight of the poor (Seers, 1969; Harris, 2000).

The last decade of the 20th century witnessed a new global realization of the construct development. At this time the attention of the economists diverted towards human capital from physical capital. A country was deemed to be developing if it was making any endeavor towards garnering human capital. Development was perceived as a process which created congenial environment for people, individually and collectively, to develop their full potential and to have a reasonable chance of leading productive and creative lives in accord with their needs and interests (HDR, 1990). It is the capability to function that really matters for who is poor and non-poor, logically economic growth can't be treated as an end in itself rather development has to be more concerned with enhancing the lives we lead and the freedoms we enjoy (Sen).

At the dawn of the new millennium, a new developmental wave surfaced which crafted more holistic view of development. It was for the first time that all the 189 member nations of

United Nations in September 2000 recognized, in addition to their individual responsibilities, collective responsibility to uphold the principles of human dignity, equality and equity at the global level. This new version of development acknowledged the multi-dimensional nature of development and it was also unanimously accepted that only increasing the monetary benefits will not result in poverty alleviation. Development composed of eight Millennium Development Goals (MDG's) with 21-time bound targets to be achieved by September 2015.

2015 has been vowed as the landmark year for global development with big implications for international cooperation in poverty reduction, promoting prosperity and wellbeing for all, protecting the environment and addressing the climate change. On the side-lines of development, United Nations Sustainable Development Summit 2015 was held at Paris on 25th September 2015, attended by 193 UN members. Since Millennium Development Goals (MDG's) were intended to be achieved by September 2015, whose targets were deemed to be ambiguous, which couldn't materialize significantly as a result of which further process was needed to achieve the unaccomplished targets, clear the ambiguity in targets and even new goals and targets were inserted to make development all-inclusive and broad based, by addressing to the recent global issues related to climate change and environmental degradation, gender equality, increasing gaps between rich and poor, poverty and hunger etc. It was resolved and mutually agreed by all member countries to switch over to Sustainable Development Goals (SDG's) which replaced earlier Millennium Development Goals (MDG's) due to former being more collaborative globally and inclusive in targets; to harness global efforts towards all-inclusive global development. With the adoption of SDG's the theme has been now shifted from development to sustainable development. It can be reached by achieving 17 Sustainable Development Goals through 169 associated targets.

Thus, to conclude the developmental debate, it is evident from the previous paragraphs that development has become a holistic phenomenon, dealing with multidimensional issues pertaining to economy, society and environment. There are various policies which are used by the government to tread on the path of development, fiscal policy being one among them.

Fiscal Policy Instruments

Fiscal policy is the deliberate alteration of government spending or taxation to help achieve desirable macro-economic objectives by changing the level and composition of aggregate demand (AD). These alterations are carried out by the instruments which are used differently in different scenarios. First among them is the public expenditure. Public or government expenditure is that

expenditure which is incurred by the public authorities i.e., central, state and local governments to satisfy those common wants which the people in their individual capacity are unable to satisfy efficiently. Public expenditure is used to satisfy collective social wants. It reflects the decisions of legislative and executive bodies as to the field and scope of public activities and expenses. In the fiscal architecture, public expenditure serves an effective fiscal device to be used by the government to accomplish desired socio-economic goals. Much of the quality of socio-economic life enjoyed in a market-oriented but mixed political economy depends, by and large, on how the government behaves in its spending activity under the fiscal framework of the country. In the contemporary era, all economies, whether developed or developing are mixed political economies with varying degrees of government intervention in the system. As such, public expenditure is crucial in a modern fiscal framework. In fact, the government expenditure constitutes the edifice of fiscal management framework of the budgetary exercise in an economy. In the budgetary processes, the level of public expenditure is determined first and then the sources of public revenue and need for public borrowing is traced. The basic problems of developed and developing nations are however, different. The role of public expenditure, therefore, tends to differ widely in these nations. In general, public spending in developed nations is basically undertaken to check fluctuations in effective demand. In developing economies, on the other hand, public spending reflects government's aspirations, efforts, and intentions to promote economic development and accelerate economic growth, to reduce income disparities, improve overall standards of living and eradicate abject poverty in the shortest duration possible. Ostensibly, in a developing country it is the composition and pattern of public expenditure, as well as pattern of financing, rather than its mere growth in the expanding fiscal framework that is important in achieving the socially desirable objectives. In short, government expenditure has a unique role to play in developing economies such as India, which has a vision for socio-economic transformation and positioning a leading big emerging economy in the global setting into a developed country status.

Any public authority or government needs income for the performance of variety of functions and meeting its expenditure. The income of the government through all sources is called public income or public revenue which is second vital instrument of the fiscal policy. The necessity of public revenue is of course, due to the needs of public expenditure as already mentioned above. The size of public revenues is thus determined by the volume of public expenditure. The size of public revenue and the methods of obtaining it have serious repercussions on the productions and

distributions of national income and wealth as well as on the level of employment and economic activity in the country. Raising of more public revenue implies creating disutility for tax payers and thus reducing the aggregate demand which in turn pulls down the inflation, production and employment etc. The process in total thus tends to affect the social welfare adversely.

Last but not the least instrument of fiscal policy is the public debt. Public debt or public borrowing as an instrument of fiscal policy is of recent origin. As mentioned in encyclopaedia Britannica, public debt refers to “obligation of government particularly those evidenced by securities, to pay certain sums to the holders at some future date.” In fact, public debt is considered when the government floats its loans and borrows from the public. Government needs to borrow at times when current revenue falls short of public expenditure. Public debt is an important source of revenue to a modern government. It is, however, an instrument for temporarily augmenting revenue of purchasing power in exchange for an obligation on the part of government to repay the principal sum borrowed plus a stipulated rate of interest on it, at a specified future date. Public debt creation is considered very significant to remedy a depression as it enables government to take up public investments without increasing taxes. It also acts as the tool to relieve the economy from the inflationary spiral.

Thus, it is evident from above that fiscal policy instruments exert a strong influence on the economy and can be used in multifarious settings to achieve macroeconomic stability and progressive growth. Now let us peek into the literature in order to assess whether empirical studies corroborate the above philosophy or not.

Review of literature

At the very outset literature concerning the linkages between fiscal policy and economic development has been segregated into two groups. First one is of theoretical nature put forward by various economists, policy makers and theorists mainly since the dawn of eighteenth century initially by classical economists like Adam Smith, David Ricardo, Jean Baptiste Say, Thomas Robert Malthus, and Thomas Stuart Mill and later on by John Maynard Keynes and others. This literature can be further categorized into two strands, one defending the free-market economy and other contending the same and endorsing interventionist policies of government. Another body of knowledge which sheds light on the association between fiscal policy and macroeconomic development is purely empirical one in the form of research papers, policy notes, working papers accomplished by various researchers, organizations and institutions across time and space. This

set of literature has its own advantages over the former one, as it addresses the practical scenarios which are different from the theoretical underpinnings besides addressing the more intricate problems. Furthermore, such body of knowledge is comparatively very precise in addressing the various macroeconomic concerns facing the society.

Theoretical Literature

On the basis of the role played by market or state in the development process, the whole literature since its inception can be broadly classified into two different and opposite divisions/classes or factions. One of the factions believes that economy can ascend to new heights of development if the market forces are allowed to work smoothly and freely without any curbs or constraints from the state. This faction is commonly known as having the capitalistic thoughts. The forerunners of this thought were Adam Smith followed by, David Ricardo, Thomas Malthus and others in the queue. These are prominently known as classical economists. Contrary to this, another faction which believes that state plays a dominant role in shaping the developmental architecture of the nation. Karl Marx is the pioneer of such faction followed by John Maynard Keynes and others in the row.

Having a brief discussion on the theoretical literature concerning economy and the role of public authorities, we shift to another body of knowledge which expounds as to how reliable these theoretical underpinnings have been in practical scenarios across the globe.

Empirical Literature

Owing to the implications of fiscal policy on macroeconomic variables, it has remained focal point for economists, academicians, researchers and policy makers. Number of studies have been steered on this important instrument of public finance worldwide. The important studies include Jouini, Lustig, Moumami and Shimeles (2018), Salotti and Trecroci (2018), Flores (2017), Odusola (2017), Lustig (2017), R. Sasmal and Sasmal (2016), Abbasali (2016), Schneider, Kinsella and Godin (2015), Bose and Bhanumurthy (2015), Hooda (2015), Bhakta (2014), Toledo and Vinieris (2014), Panizza and Presbyter (2014), Jha et al. (2014), Atenas and Klemm (2014), Arauco, Molina, Aguilar and Pozo (2014), Agasisti (2014), Jaramillo (2014), Tang et al. (2013), Gallo & Sagales (2013), Patricia and Ichikawa (2013), Grigoli and Kapsoli (2013), Simian and Ozan (2012), Surakarta (2012), Cicchetti et al. (2011), Dauda (2011), Afonso and Furceri (2010), Romer (2010), Kumar and Woo (2010), Rajkumar and Swaroop (2008), Karaitiana and Sabinene (2009), Mitchell (2005), Baldacci, Guin-Siu and Mello (2003), Verhoeven and Tiongson (2002),

Folster and Henrekson (2001), Filmer and Pritchett (1999), Mandle (1999), Miller and Russek (1993), Landau (1983) and Robinson (1977). They have analyzed different aspects of fiscal policy empirically and more importantly the impact of different fiscal policy instruments on macroeconomic variables. A brief review is presented here as under

Public expenditure and economic growth

Public expenditure deals with the principles relating to the allocation of public spending to be used by the government to accomplish desired socio-economic goals. The debate over the role played by public expenditure in the form of government consumption, public spending and transfers and subsidies in the economic growth is very contentious. R. Sasmal and Sasmal (2016) in a panel regression studied the linkage between public expenditure and economic growth by employing state level data and found that public expenditure have a significant positive impact on the growth rate of states in India measured in terms of per capita net state domestic product. Srinivasan (2013) also analyzed the causal relationship between public expenditure and economic growth in India for a period from 1973-2012 by using co-integration approach and error correction model. The co-integration results expound long run as well as short run relationship between the two thus confirming the Wagner's law of public expenditure. Furthermore, error correction model signifies one way relationship between public expenditure and economic growth, running from later to former. However, bi-directional causality was found among economic growth and public expenditure in both short and long run by Ayo, Ifeakachukwu and Ditimi (2012) while investigating connection among economic growth, public expenditure and inflation in Nigeria from 1970-2010. Besides presence of co-integration among all the three variables was also documented (Ayo, Ifeakachukwu and Ditimi, 2012). Robinson (1977) in order to unmask the channels through which economic growth of the nation is negatively affected due to economic dependence(dependence theory), carried out a longitudinal study from 1955 to 1970, comprising of both developed and underdeveloped countries of world aggregating 45 in total, which discerned positive effects of government (measured in terms of government's revenue as a proportion of GNP) on economic growth (GNP) with amplified effect found in case of underdeveloped countries. Another study was conducted by Ram (1986) to show the relationship between government size and economic growth for 115 countries over a period of two decades from 1960 to 1980 which revealed a positive effect of government size (measured as government's share of GDP) on the economic growth across time and space. Differentiating from the studies conducted

by others, Miller and Russek (1993) examined the effect of fiscal policy changes on economic growth in a systematic manner by considering the budget constraint in the cross country regression equations for developed and developing nations and concluded that generally effect of Public expenditure on economic growth was found conditioned with the financing mechanism. Tax financed expenditure was found to have positive effect on growth while as adverse was the case of debt financed expenditure (Miller and Russek, 1993). More specifically public expenditure on education, health, defense, social security and other welfare expenditures were found to have negative effect while as same was not true in case of transportation and communication (Miller and Russek, 1993). Bose & Bhanu Murthy (2015) in an attempt to estimate fiscal multipliers for the Indian economy concluded with the finding which favors the active role of government in the economy. Multiplier effect of 2.5, 0.98 and 0.99 was reported for capital expenditure, transfer payments and other revenue expenditures, which is a testimony to the positive impact of public expenditure on the economic output, capital expenditure being more productive than other revenue expenditures and transfer payments (Bose & Bhanu Murthy, 2015). To gauge the validity of proposition of irrelevance of public policies as posit by new classical school of thought, Aschauer (1989) conducted a study with respect to United States economy over a period 1949 -1985 and reported productive nature of public expenditure specifically public infrastructure of non-military nature thus signifying the importance of the presence of public sector even in such an economy with highly privatized economy. Another effort in the same direction was made by Ebaidalla (2013) for the case of Sudan over a period from 1970 – 2008 which employed granger causality test and revealed unidirectional causality among the variables running from public expenditure to Sudan's national income, thus signifying the importance of public sector in Sudan. Another investigation was carried out to shed light on various issues hovering around fiscal expansions and adjustments vis-à-vis 20 OECD countries during 1960 to 1992 which reported that increase in taxes was mostly causing adjustments whereas increase in expenditure resulted expansions quite often with the later episode mainly characterized by comparatively large increase in transfers and government wages than the decrease in the corresponding items during the former phase (Alesina & Perotti, 1995). Ducanes, Cagas, Qin and Razzaque (2006) in an empirical investigation on macroeconomic effects of fiscal policies for four Asian countries from 2006 -2010, analyzed the impact of public expenditure and taxation on their economic behavior, testified that public expenditure multipliers were positive although less than unity for both the cases of targeted as well

as untargeted category but in case of former one it was observed to be higher than the later. Furthermore, smoothing behavior of automatic expenditure stabilizers was experienced in half of the sample countries (Ducanes, Cagas, Qin and Razzaque 2006). Aarle and Garretsen (2002) in an expedition to verify the macroeconomic effects of fiscal policy in view of the fiscal adjustments employed Giavazzi and Pagano (1996) specification, in 14 countries of the EU block and reported mainly no evidence for non-standard effect of fiscal policy adjustments.

In a cross country study encompassing 104 countries, Landau (1983) analyzed the relationship between average government expenditure and average economic growth for four long periods viz, 1961-70, 1961-72, 1961-74, 1961-76 and two short periods viz, 1961-68, 1970-76, considering share of government consumption in GDP as a proxy for government expenditure rate of real per capita GDP for economic growth, illustrated significant negative impact of former on later for all countries and for all the periods except for bottom income group of 48 countries to which results were contrary. Another attempt was made by Landau (1985) in the same direction but with many developments over his earlier work like instead of taking only government consumption as a proxy for entire government expenditure, all the three components were tried for viz, government consumption, government transfers and government investment. The study was also specified in terms of its scope encompassing over 16 developed countries only for the period 1952-76 and data was analyzed by using regression technique which clearly expound significant negative relationship between government expenditure and economic growth; however causality tests were not employed due to which cause and effect link cannot be exemplified. Guseh (1997) in detour from the vast amount of literature on public expenditure and economic growth mediated the relationship through inclusion of political and economic setup prevalent in developing countries and found both the variables negatively related to each other. While including the mediating variables it was found that in non-democratic socialist countries, the association among the variables was highly negative as much as three times than in democratic socialist countries. Abizadeh and Yousefi (1998) while verifying the nature of relationship for South Korea tested for both Wagnerian and Keynesian hypothesis and established support for Wagnerian hypothesis at both two- and three-year lags. Folster and Henrekson (2001), in an econometric panel study to verify the relation between government size (measured by total government expenditure as a percentage of GDP) and economic growth for a sample of rich countries over the period 1970–1995, concluded with a robust negative relationship between the two to the extent that a 10

percentage point increase in public expenditure ensued a decline in the growth rate by 0.7–0.8 percentage points. To appraise the linkage between government size (measured as GDP's share of government spending) and economic growth, Afonso and Furceri (2010) examined behavior of both the variables for a set of OECD and a subset of EU countries from 1970 to 2004 by employing regression technique and highlighted a negative relation between the two in both cases with a coefficient of -0.13 and -0.09 respectively. To investigate the government led growth hypothesis, Chandra (2004) examined the hypothesis with respect to Indian economy from 1950-1996, using both co-integration and causality testing, and realized non-standard effects of government in capital formation both in the short and long run and exhibited short term causality running from progression in income to public investment growth thus confirming Wagner's Law. Government consumption and economic growth were reported to be disassociated in both short run and long run (Chandra, 2004). Gallo & Sagales (2013) while probing joint determinants of fiscal policy, income inequality and economic growth, analyzed 21 high income OECD countries over a period 1972-2006, highlighted a significant negative impact of distributive expenditure on economic growth when financed by a cut in non-distributive expenditure, however, non-distributive expenditure were found having significant negative impact on the economic growth irrespective of source of financing. In order to explore the nature and direction of relationship between the increasing public expenditure and national income for the case of Indian economy over a period from 1980 to 2013, another study was carried out by Ahmad in 2014 by employing co-integration and causality tools which exhibited co-integration among the subject variables and existence of unidirectional causality running from national income to public expenditure and not the other way round, thus doesn't lend any support to the Keynesian fiscal activism rather ratifies Wagnerian income-expenditure hypothesis. In a similar fashion, another study was conducted by Olomola (2004) for the case of Nigeria over a period 1970 – 2001, using co-integration and causality test, which corroborated Wagnerian hypothesis thus indicating endogenous nature of public expenditure while as feedback loop was not recognized which implies that public sector was not having any impact on the economic growth of Nigeria. Crowding out of private investment was registered to the extent that for each additional \$1 of public expenditure, private investment declined by about \$0.32 and in addition to this negative externality was documented at 0.33% for each 1% increase in public expenditure (Fuente 1997).

In an attempt to ascertain the productivity of various services provided by the government, including educational services, Karras (1996) employed government size (government consumption as a percentage of GDP) as a mediating variable in the linkage and highlighted the productive nature of government services generally across the world, but specifically for the case of 43 African countries whose marginal productivity was less than 1, indicating that services are being provided over the optimal range, while the opposite was found for the case of 23 Asian countries, where the marginal productivity of government services was found to be greater than unity. Furthermore, public sector productivity was found to be negatively associated with the size of government (Karras 1996). An empirical analysis concerning effects of fiscal shocks was effected in the context of nineteen OECD countries by Perotti (1999) which highlighted the important role played by initial conditions in the nature and magnitude of effects on the economy due to fiscal shocks and also reported that expenditure shocks exhibit Keynesian effects at low levels of debt or deficit while as reverse was the case when economy was burdened by debt or deficit. Giavazzi and Pagano (1995) in an empirical study attempted to validate appropriateness of non-standard effects of fiscal policy changes in a sample of 19 OECD countries during 1970 to 1994 and exposed that fiscal policy adjustments through reduction in public investments as well as taxes and transfers can result in non-standard effects, due to expectations of future income from labour and capital in addition to changes in interest rates and assets values, provided that such changes are large enough and enduring.

A study on the direction of causality between government expenditure and gross domestic product of Canada over a period of 1947-1986 was carried out by Afxentiou and Serletis in 1991 which neither favored Wagnerian hypothesis nor Keynesian fiscal activism. In a similar vein yet another endeavor was made by Ansari, Gordon & Akuamoah (1997) to test the income-expenditure hypothesis for three African countries which didn't discern any relationship between public expenditure and national income in the long run for all the three countries, however Wagnerian hypothesis was confirmed only in case of Ghana for a short run period indicating endogenous nature of public expenditure. Bagdigen and Cetintas (2003) in an attempt to examine whether the Wagner's law holds true for the Turkish case for a period of 1965-2000, found no relationship between the two as neither public expenditure was found to have any effect on the output growth and nor was the former found to be effected by the later. Fuente (1997) investigated influence of fiscal policy instruments (public expenditure and taxes) on economic growth in a

group of OECD countries and documented influence of fiscal policy on growth through three conduits. Public investment enhanced factor accumulation besides public expenditure crowded out private investment and finally government size (represented by public expenditure) was negatively associated with the level of productivity (Fuente 1997). Alesina and Ardagna (1998) in their magnum opus narrated an account of fiscal adjustment emanating from spending cuts and/or taxation increase, for the matter of OECD countries, effected over the period 1960 -1994 and investigated both the expansionary and contractionary behavior of fiscal consolidation, thereby found composition of consolidation significant in explaining the behavior and expansionary nature of expenditure driven consolidation notwithstanding initial level of debt.

Public expenditure and educational outcomes

In comparison to the foregoing literature, literature pertaining to spending on education is not digressed. Nonetheless, there is still a large body of literature which have examined the same due to its significance in nation building. Some of the studies reviewed follows the suit. Baldacci, Guin-Siu and Mello (2003) conducted an empirical investigation on the nature and type of relationship between public spending and education which encompassed 94 developing and transition economies over a period of 1996 to 1998 and established on the basis of the results derived from covariance structural model that there was a significant positive association between the two variables with elasticity of 20 percent. To explore the linkage between social spending and human capital, Baldacci, Clements, Gupta and Cui (2008) studied the subject matter in 118 developing countries covering the period 1971 – 2000 and concluded with the significant positive relationship between the two to the extent that increase in education spending by 1 percentage point of GDP was associated with 6 percentage point increase in enrolment rates in the current five year period and another 3 percentage points in the following period. In a similar vein Gupta, Verhoeven and Tiongson (2002) conducted a cross sectional study comprising of 50 developing and transition economies and on the basis of regression results it was established that both the level as well as the composition of public spending matters for educational attainment. More precisely, a 5 percentage point increase in the share of primary and secondary education expenditure in total public spending on education was coupled with increase in gross secondary enrolment rate by over 1 percentage point and an increase in total spending on education by 1 percentage point of GDP was linked with more than 3 percentage point increase in gross secondary enrolment (Gupta, Verhoeven & Tiongson, 2002). Dauda (2011) studied the subject matter in the Nigerian state over

a period 1975-2007 and found significant positive impact of public spending on educational outcomes measured by adult literacy rate thus signifying the importance of role of government in developing human capital. In a similar fashion, Bhakta (2014) researched influence of public spending on educational achievement by employing Gross Enrolment rate, Net Enrolment rate, Dropout rate as proxies for educational achievement and developed simultaneous equation model to exhibit the linkage between educational attainment and public spending. Public spending on education has been found to have a significant impact on all the proxies of educational attainment and in addition to this, bad health status surrogated by infant mortality rate made the linkage between public spending and educational attainment fragile in terms of lower enrolment and dropout rates (Bhakta, 2014). Whether allocation pattern of government education spending in early and late childhood has any relation with the outcome variable or not, a study to this effect was conducted by Abington and Blankenau (2013) by including the agents properties (only income). High and balanced spending across the hierarchy (early and late childhood) was found instrumental in maximizing output globally with government expenditure crowding out private expenditure (Abington & Blankenau, 2013). In 2005, Herrera and Pang conducted similar study using Free Disposable Hull (FDA) and Data Envelopment Analysis (DEA) techniques for a sample of 140 countries, employed both the single input output and multiple input output models, their results characterised the efficient nature of spending in both models ranging on an average from 0.7 to 0.9. Similar arguments were made by Afonso and Aubyn (2005) while analyzing the efficiency of education for a sample of OECD countries using quantity inputs like total intended instruction time in public institutions in hours per year for the 12 – 14 years old and number of teachers per student in public and private institutions for secondary education, while as output for the same was quantified in terms of Performance by 15 years old on PISA reading, mathematics and science literary scales (simple average of three). The education efficiency scores derived from two non-parametric techniques namely Data Envelopment Analysis (DEA) and Free Disposal Hull analysis varied from 0.844 to 1.000 under FDH technique and 0.841 to 1.000 under DEA technique signifying the compatibility among the techniques (Afonso and Aubyn 2005). Applying result-oriented approach for the management of budgetary resources by using amount spent in 2008 per six- to fifteen-year-old learner as input variable and learners' achievement in terms of their PISA (Programme for International Student Assessment) scores in 2009 as output variable, Batatare

(2012) probed the European Union states and proposed positive correlation between the above variables to the tune of 71%.

Rajkumar and Swaroop (2008) outlined imperative nature of governance in the linkage between public spending and education outcomes by elucidating that one percentage point increase in share of public education spending in GDP resulted into decrease in primary education failure rate by .70 in countries with good governance, while as no visible impact was noticed in their counter parts (countries with weaker governance). Similar attempt was made by Suryadarma (2012) in the context of Indonesia which also reported a strong meddling of corruption in the linkage between the spending and outcomes in education sector. Hanushek (1995) argued that across the globe, inefficient policies have been chased which are aimed at employing more and more inputs in order to derive the desired outputs. He retorted that policies oriented towards performance incentives rather than inputs appear to be viable alternatives. While addressing the problem of raising quality of education in developing nations, Fuller (1985) contended that education expenditure should be prioritized first towards the maintenance of quality, besides enrolment score should also be targeted but not at the cost of quality education, resulting into inefficient utilization of funds, which has been the past trend as demonstrated in the reviewed literature.

In order to address important question that whether social spending by public authorities really helps in improving the human capital of the nation, Iheoma (2012) solved mystery for the case of three developing countries of West Africa namely Nigeria, Ghana and Senegal, revealed that education expenditure doesn't prove worthwhile in improving human development index across the sample. Another study in the same direction was carried out by Iheoma (2014), although wider in scope than earlier one encompassing twenty Sub-Saharan African countries, which signified weak link between primary and secondary education expenditure and human capital development, however, one percentage increase in tertiary education expenditure was associated with an improvement of 0.2 percentages in human development. Abbasali (2016) in an attempt to gauge out the effectiveness of public education expenditure for the case of Azerbaijan government failed to find any connection between public expenditure and educational outcome measured by school enrolment rate. Similarly attempt was made by Jayasuria and Wodon (2007) in twenty-four provinces and thirty-two states of Argentina and Mexico where they found that time and adult literacy rate were statistically significant while as per capita GDP and per capita spending did not

have statistically significant impact on net primary enrolment rates and net secondary enrolment rates however, significant impact of per capita GDP and adult literacy on test scores was reported. Afonso, Schuknecht and Tanzi (2004) also joined the race, comparing performance and efficiency of public sector for 23 industrialized countries, reported significant differences in public sector efficiency, drawn by weighing performance with the resources utilized, across countries and small governments (based on percentage of GDP spending) leading in efficiency scores, thereby suggested diminishing marginal products of higher public spending. To uncover the nexus between money employed on education and the relative outcomes, an endeavor was also made by Flores (2017) in the context of European countries which failed to discern any solid relationship between the subject variables rather some countries were found efficient (Poland, Slovenia and Czech Republic), while others were found inefficient in using the education resources (Norway and Sweden) and in between them some countries (Denmark, Germany, Finland, Belgium, Netherland, Ireland and Switzerland) qualified as effective only implying garnering the results and the high usage of inputs. Another effort was made in the same direction by Agasisti (2014) for 20 countries of European Union during the period 2006 to 2009 which unmasked that efficiency scores were not associated with the spending as few countries were found more efficient despite little spending and some others were found inefficient although much was spend on the education.

Public expenditure and health outcomes

Akin to literature of education spending, present dispensation is also found relatively cohesive in its prescription, although these probes are heterogeneous in their structure, methodology, time and space. Moreover, sample space across the whole strand mostly underscores the significance attached to health factor by the advanced nations. Let's explore the same. Baldacci, Clements, Gupta and Cui (2008) in an attempt to explore the linkage between social spending and human capital investigated the matter for the case of 118 developing countries and exhibited the significant positive relationship among the two to the extent that increase in health spending by 1 percentage point of GDP was associated with 0.2 percentage point rise in the under-5 child survival rate. Similarly, Gupta, Verhoeven, and Tiongson (2002) conducted a cross-sectional study of 50 developing and transitioning economies and discovered that the level of public spending matters significantly for health status, whereas the share of primary health care spending is statistically insignificant in explaining the change in the endogenous variable. Precisely speaking, one percentage point increase in the total public health expenditure was linked with decrease in infant

and child mortality rates by about three per thousand live births (Gupta, Verhoeven & Tiongson, 2002). Another expedition was led by Iheoma (2012) to address the important issue, whether social spending by public authorities really aids in improving the human capital, for the case of three developing countries of West Africa namely Nigeria, Ghana and Senegal which substantiated human capital theory as one percent increase in current health spending was associated with an average one-third increase in human development while as lagged effect was found to be 0.4 respectively for both in short and long run. Again Iheoma (2014) experimented the human capital theory with a wider sample consisting of twenty Sub-Saharan African countries and confirmed efficacy of social spending on human capital development with one percentage increase in health expenditure, human development improved by one by fifth times on an average. In 2005 Herrera and Pang conducted an inquiry to measure the efficiency of public spending for a sample of 140 countries by employing both the single input output and multiple input output models which discerned that spending was efficient in both the models ranging on an average from 0.7 to 0.9. Unlike using monetary inputs, Afonso and Aubyn (2005) employed quantity inputs like number of doctors, nurses and inpatient beds per thousand habitants to measure its effect on output measured in terms of infant survival rate and life expectancy and revealed that health output efficiency scores ranging across the sample from 0.946 to 1.000 under FDH technique and 0.892 to 1.000 under DEA technique.

While unmasking the hopes and fears of policy changes towards health for the Indian state, Hooda (2015) analyzed the change in health spending viz a viz level, composition and variation, as a result of change in health policies and macroeconomic conditions of India and concluded with the fascinating outcome that health spending was found dominated by out of pocket costs to the extent of 71 percent of total spending thereby indicative of the fact that better health outcomes can't be bargained at lower public health spending. While departing from the existing literature by considering private health expenditure, Aisa, Clemente and Peso explored the relationship between the public health spending and longevity in a panel study, settled on a positive note although not homogenous, with superior effect of spending on longevity when the former hovers around 7 percent of GDP and highest influence was evidenced till the ratio of private public expenditure remains below 50 percent. In 1999 a cross national study was carried out by Filmer and Pritchett which suggested that public spending was marginally effecting health outcome while as socio economic factors like income, female education, inequality, ethno linguistic differences and

Muslim predominant population were found to have profound impact on the health outcome. Abbasali (2016) in an attempt to gauge out the effectiveness of public expenditure on health in Azerbaijan carried out an investigation which revealed negative connection between public expenditure and health outcome, measured in terms of life expectancy and mortality rates (under 5 as well as infant), but income level was supporting the health sector outcomes. While analyzing the efficiency of public health care system in 30 European Countries by using inputs as number of radiotherapy units per 100000 inhabitants, public expenditure as a percentage of Gross Domestic Product (GDP), and number of hospital beds for 1000 inhabitants while as incidence of tuberculosis, the number of deaths by ischemic diseases per 100000 inhabitants and health adjusted life expectancy (HALE) were used as output variables, Asandului, Popescu and Fatulescu (2015) identified eight countries on the efficiency frontier while as for the rest of the cases, inefficient health system was observed. According to Asandului et al. (2015) an increase in education achievement measured by literacy reduces the inefficiency score by 6.5% thereby endorsing an increase in spending on education, directed at the uneducated segment of the society, for the purpose of higher efficiency in public health.

In detour from the vast amount of related literature, Baldacci, Guin-Siu and Mello (2003) conducted an empirical investigation on the nature and type relationship between public spending and health, encompassing 94 developing and transition economies over a period of 1996 to 1998, using latent variable model, which explicated positive impact of public spending on health outcomes but was found statistically insignificant. In a panel study encompassing 20 Indian States over a period 2003-2011, Bhakta (2014) researched influence of public spending on health status proxied by Infant Mortality rate concluded that public spending on health does not prove to be significant to ameliorate health condition of the children in terms of decreasing their infant mortality rate. Besides increased expenditure through the channel of Supplementary Nutritional Programme (SNP) was found statistically significant as it facilitated basic nutritional requirements of the children which drastically reduced the infant mortality rate (Bhakta, 2014). An empirical investigation was carried out by Rajkumar and Swaroop (2008) to eloquently ascertain the role of governance over the efficacy of public spending, which discerned critical character of governance as one percentage point increase in the share of public health spending in GDP was associated with a decrease in under-5 mortality rate by 0.32% in countries with good governance, 0.20% in countries with average governance, and had no impact in countries with weak governance.

Filmer and Pritchett (1999), in an empirical cross-national investigation explored the factors which have bearing on the health outcomes measured by infant and under-5 mortality rates concluded that public spending on health has a positive impact on health outcomes but the magnitude of impact is negligible as income, education and social factors account for 95% of under-5 mortality rate across 104 countries. In detour from most of the studies, that have employed non parametric techniques, an analysis on the efficiency of public spending for a sample of 80 developing economies across the globe spread over the first decade of twenty first century i.e., 2001-2010 was endeavored by Grigoli and Kapsoli (2013) wherein they acknowledged the fact that health sector output is a function of various socioeconomic determinants besides public expenditure. At the current spending levels, by virtue of shifting form the existing poor practices to the best practices for the case of lowest quartile of the sample, efficiency in terms of life expectancy could be increased up to almost five years, besides at the existing practices life expectancy would only increase by two months provided spending on health is accelerated by 10 percent (Grigoli & Kapsoli, 2013). To gauge out the efficiency in health outcomes measured in terms of infant mortality rates and child mortality rates, a study encompassing 24 provinces and 32 states of Argentine and Mexico respectively was conducted by using the input variables as per capita GDP alone, (proxy for level of income) and with per capita health expenditure (proxy for state/provincial level of supply of services), Adult literacy (proxy for willingness, knowledge and ability of parents to provide adequate nutrition and health care to their children), access to public hospitals, vaccinations, portable water, and time; it was found that per capita GDP, time, adult literacy rate, access to vaccination, public hospitals and portable water have statistically significant impact on both the outcome variables for at least one country or both of these (Jayasuria & Wodon, 2007). To compare the performance and efficiency of public sector for 23 industrialized countries, Afonso, Schuknecht and Tanzi (2004) conducted a cross country study, by using Infant mortality and life expectancy proxy for health indicator, explicated significant differences in public sector efficiency, drawn by weighing performance with the resources utilized , across countries and small governments (based on percentage of GDP spending) leading in efficiency scores than the rest of the industrialized countries thus suggesting diminishing marginal products of higher public spending.

Public revenue and economic growth

In an econometric panel study Folster and Henrekson (2001) verified the connection between government size (measured by total taxes as a percentage of GDP) and economic growth for a sample of rich countries using OLS and weighted regression concluded with highly significant negative effect of former on later. Romer and Romer (2010) in an empirical study while investigating the reasons of tax changes and their impact on output growth in the United States, identified two types of tax changes viz., endogenous and exogenous, former ones being characterized by tax actions brought to offset developments that would cause output growth to differ from normal while as others were taken to raise the normal growth, examined only the later set and found to have negative large effect on growth to the extent that one percent increase in taxes was having consequential effect of decline in GDP by nearly three percent and the effect was found to be robust for various checks. To characterize the dynamic effect of government taxes on output, Blanchard and Perotti (2002) employed structural VAR approach in the United States postwar period and stated results in confirmation with the Keynesian thesis that government taxes exert a negative influence on the output. An empirical analysis highlighting the effect of fiscal shocks on the economy in the context of nineteen OECD countries was crafted by Perotti (1999) which reported that at low levels of debt or deficit, revenue shocks exhibited Keynesian effects while as reverse was the case when economy was burdened by debt or deficit. Ducanes, Cagas, Qin and Razzaque (2006) in an empirical investigation on macroeconomic effects of fiscal policies for four Asian countries from 2006 -2010 found that tax multiplier was positive albeit lesser than public expenditure Furthermore, smoothing behavior of automatic tax stabilizers was experienced only in one case out of the four. Aarle and Garretsen (2002) in an expedition to verify the macroeconomic effects of fiscal policy, employed Giavazzi and Pagano (1996) specification, in 14 countries of the Economic and Monetary Union block reported mainly no evidence for non-standard effect of fiscal policy adjustments. With the exception of government consumption that too in short run, all other changes viz., taxation and transfers evidenced absence of non-linear effects on private spending. Deliberating on the chronicles of fiscal adjustment that took place in OECD counties during 1960 – 1994, Alesina and Ardagna (1998) probed both the expansionary and contractionary behavior of fiscal consolidation and found the composition of consolidation focal in explaining the behavior, besides tax driven consolidation was found to be non-expansionary

Miller and Russek (1993) examined the effect of fiscal policy structures on economic growth, considering the budget constraint in the cross-country regression equations, and revealed that corporate income tax, other tax and non-tax revenues were stimulating growth while as individual income tax, social security tax, domestic goods and services tax and international trade tax were impeding the national growth. In an attempt to validate appropriateness of non-standard effects of fiscal policy in a sample of 19 OECD countries during 1970 to 1994, Giavazzi and Pagano (1995) established on the basis of regression results that fiscal policy changes can result in non-standard effects provided that such changes are large enough and enduring. Moreover, fiscal adjustments exhibited such effects through reduction in public investments as well as taxes and transfers and were routed through expectations of future income from labor and capital in addition to changes in interest rates and assets values (Giavazzi and Pagano, 1995). A comprehensive survey of the existing literature on the nexus between fiscal policy and long run growth, based on the conceptual framework endorsed by Musgrave in 1959, was carried out by Tanzi and Lee (1997) which reported a fragile relationship what the theory argues for i.e. negative relationship between taxation and growth. To shed light on various issues hovering around fiscal expansions and adjustments vis-à-vis to 20 OECD countries during 1960 to 1992 wherein only those actions were investigated which qualified as discretionary changes, study reported that increase in taxes was mostly causing adjustments, besides asymmetrical behavior of taxes was observed in adjustments and expansions as personal and corporate income taxes increased largely during adjustments while as expansions were characterized largely by decrease in indirect taxes and corporate income taxes. (Alesina & Perotti, 1995)

Public revenue and income inequality

Gallo and Sagales (2013) while probing joint determinants of fiscal policy, income inequality and economic growth analyzed 21 high income OECD countries over a period 1972-2006 and exhibited a negative effect of direct taxes on the income inequality thus reflecting the presence of progressive tax structure in the observed countries, however, in case of indirect taxes, no significant effect was observed. Friedl, Gorlich, Horn, Krieger-Boden and Lucke (2015) addressed various challenges of European welfare system including inequality in disposable income, compared inequality before welfare measures, taxes and transfers etc. with post operation scenario and realized Inequality, measured through Gini Index, was largely controlled through progressive taxes, transfers and public provision of goods, besides Sweden's Nordic type welfare system,

characterized by active stance of fiscal policy, had outperformed other countries by bridging the inequality gap from 0.43 to 0.26 on Gini index. Journard, Pisu and Bloch (2012) also analyzed the role of taxes and transfers in tackling income inequality for OECD countries, documented redistributive impact of taxes and transfers, in so far as inequality after taxes and transfers was observed to be on average 25% lesser than the inequality existing before advocating taxes and transfers, moreover cash transfers accounted for three quarter of the redistributive impact while as remaining quarter impact was caused by taxes. In a bid to evidence the redistributive behavior of fiscal policy in developed and developing countries IMF (2014) characterized the active role of fiscal policy in achieving the redistributive dividends and increased coverage of personal income taxes was associated with more efficient in re-distribution. Addressing the inequality concerns in developed and emerging economies IMF (2017) found direct taxes and transfers effective in tackling income inequality in developed states, with an average reduction of one third, inclusive of three quarter decline attributed to transfers besides little scope for such fiscal distribution was observed for emerging economies, thereby indicating lower progressive taxation and little spending along with the greater footing on indirect taxation mainly consumption taxes. Bastagli, Coady and Gupta (2012) also reported that fiscal policy measures, comprising of progressive taxation and highly redistributive transfers, were instrumental in getting the rid of income inequality to a larger extent although the pace has slowed due to narrowing of redistributive spending and waning progressivity of income taxes since mid-1990's. Another study appraising the effect of social spending and taxes on the economic redistribution in Uruguay carried out by Bucheli, Lustig, Rossi and Amabile (2014) concluded that inequality was largely bridged, together by direct taxes and social spending, however inequality was no way affected by imposing indirect taxes but it duly increased moderate and extreme poverty. Jaramillo (2014) also found fiscal policy instrumental in curbing the inequality and poverty although the effect was found small in the instant case not due to its inherent nature rather because of lower level of instrumentation via spending and taxes and moreover, progressive nature of direct taxes was evidenced, having more equalizing effect in urban areas than in rural ones, with little effect in inequality but indirect taxes were found neutral due to informality assumption. Investigating the role of taxes in reducing the income inequality for the case of US, Burman (2013) concluded that inequality was significantly curtailed by the federal taxes although degree of progressivity has varied over time. In a similar vein, Scott (2014), while investigating the redistributive impact of the fiscal system in Mexico,

revealed that inequality was reduced by around 15–16 percentage points jointly by taxes, transfers, and subsidies, besides direct taxes and direct transfers, which were found to be accommodative in reducing inequality only by around a quarter of the total documented effect. Arauco, Molina, Aguilar and Pozo (2014) also acknowledged the redistributive role of fiscal policy although the effect was found fragile due to peculiar revenue structure of Bolivian economy characterized by indirect taxes only. Salotti and Trecroci (2018) also reported the impact of tax revenues in bridging income inequality however, the effect observed was benign. Comparing tax contributions of the affluent class with the modest ones, Wanjagi and Ondabu (2018) also reported that taxation has bridged the gap between the rich and poor in Kenya and observed that the contribution of former class has increased from three times to hundred times from 1988 to 2017 although still a need to be done. In an attempt to measure the effect of fiscal policy on income redistribution in 29 low- and middle-income countries Lustig (2017) also explicated that direct taxes were equalizing across the sample while as net indirect taxes were found equalizing in 19 out of 29 countries. Using fiscal incidence approach, Jouini, Lustig, Moumami and Shimeles (2018) found that personal income taxes and social security contributions have profound impact in attenuating inequality in Tunisia. Another study conducted by Lustig, Pessino and Scott (2014) in six Latin American countries also revealed equalizing effect of direct taxes and cash transfers although in former case impact is subtle due to undersized nature of direct taxes as a percentage of GDP.

In a bid to verify the redistributive character of income tax in developing countries, Bird and Zolt (2005) explored the matter and concluded that inequality has been least affected by taxes and besides this there are various efficiency costs attached to later because of which broad based VAT was recommended to fund the government programs. Odusola (2017) also examined the distributive character of fiscal policy in African countries wherein most of the African countries with fiscal space (revenue to GDP ratio) of 20 percent and above were found trapped in inequality with a Gini coefficient of 0.5 or more because of misdirected spending, despite the regressive nature of taxes. Paulus et al. (2009) also analyzed the distributional impact of fiscal policies in 19 countries of European Union and found that Income inequality was substantially affected due to taxes and social benefits although heterogeneity in impact was observed across the sample. OECD (2012) examined the role of taxes and transfers in reducing income inequality and growth in its member states and established that across the sample attenuation in income inequality to the tune of three quarters was attributed to cash transfers viz. pensions, unemployment and child benefits

and the remaining quarter was effected by taxes lead by personal income tax. Cevik and Correa-Caro (2015) also deliberated on the growing income inequality in China and thirty other emerging market economies from 1980 to 2013 and reported significant effect of taxation on income inequality despite the fact that Chinese tax system was dominated by indirect taxes. While exploring chicken-and-egg ruminations with reference to income inequality and tax progressivity, Slemrod and Bakija (2000) found, public choice models inconclusive as surge in taxes was not attributed to amplification of income disparities besides it was argued that inequality was fired up in 1980's and augmented in mid-1990s due to globalization and skill based technological change and to arrest the same increase in tax progressivity was advocated on the basis of standard models reviewed. In a bid to test the effectiveness of monetary and tax policy in combating Japans growing inequality since first quarter of 2001 till third quarter of 2017, an empirical study was carried out by Taghizadeh-Hesary, Yoshino and Shimizu (2018) which acknowledged that Japan's growing inequality has been controlled and curtailed by the progressive tax system prevailing in Japan. Avi-Yonah (2014) while addressing inequality scenario for American economy established that despite the progressive nature of income tax it was having subtle effect in creating egalitarian economy and to arrest the same VAT was advocated with exempting the basic necessities, rather than increase in tax progressivity due to fear of tax avoidance, trading off labor with leisure and emigration to low tax jurisdictions. Schneider, Kinsella and Godin (2015) in an empirical analysis to verify the association between fiscal consolidation, materialized in 12 European countries as a remedial measure to cure ills of financial crisis of 2008, and income inequality expounded positive association between the two-implying surge in inequality as result of growing taxes and slashing welfare measures.

Conclusion

From the above it can be drawn that by and large empirical findings are consistent with the theoretical underpinnings. Barring few studies; fiscal policy proves to be a versatile tool for spurting the development process in the country if used sensibly. Comparatively public revenue elicited standard effects of fiscal policy more often than public expenditure. Pertinent to mention here that literature concerning the linkage between public expenditure and development was found digressed along the standard effects. Furthermore, development was found varyingly influenced by fiscal policy due to the fact that subject variable was mediated by several other variables.

Moreover, generalization about the prescriptions of fiscal policy cannot be made rather each scenario/ problem requires specialized background check before prescribing the policy capsule.

Research Gaps/ Future Research

It is explicitly clear that various issues related with fiscal policy has been extensively and intensively debated, discussed and analyzed. More specifically the linkage between various instruments of fiscal policy and measures of economic development has been explored. Notwithstanding, the large chunk of literature, there is still a scope to carry out investigation in the same direction. The main driving forces in this regard are as under:

1. Most of the studies reviewed were carried out in cross country setting. However, it is pertinent to mention that countries differ in their structure; be it political, economic or social. This view of heterogeneity is also endorsed by Miller and Russek (1993). Following this one may assume that either these differences, factor in the growth determination, are randomly distributed and set off with total effect size of zero or they do not enter into regression equation of growth. This assumption was taken as a base by Feder (1983), Landau (1983, 1985, 1986), Kormendi and Meguire (1985), Ram (1986), Grier and Tullock (1989), Edwards (1989), Barro (1990, 1991, 1992), Barth and Bradley (1988), Romer (1990), Levine and Renelt (1992) and Karras (1996). However, in case variations among countries are not randomly distributed, all the studies so carried run out of order. With this background, it is wise to account for structural differences in case of cross country study. Moreover, from the practical point of view, one may endorse that policy specifications cannot be generalized given the presence of structural variations in countries rather a prudent view will be to go for time series study individually for different countries.
2. For the most part of the literature, it has been observed that researchers have taken disaggregated view of the relationship between fiscal policy instruments and measures of economic development as a result of which the overall impact of fiscal policy on economic development remains unexplored which was also reinforced by landau (1985). Therefore, an aggregated study is required to plug the gap.
3. Despite the fact that economic development is the central issue for all economies rather than developed ones (which worry for economic growth only), almost all of the studies which have explained ways and means of achieving economic development are centered towards developed states (Alesina & Perotti 1995; Landau 1983, 1985; Afonso & Furceri,

2010; Gallo & Sagales, 2013; Perotti 1999; Giavazzi & Pagano, 1995; Afxentiou & Serletis, 1991; Fuente 1997; Aschauer 1989; Ebaidalla 2013; Alesina & Ardagna, 1998; Folster & Henrekson, 2001; Bagdigen & Cetintas, 2003; Afonso & Aubyn, 2005; Rajkumar & Swarop, 2008; Jayasuria & Wodon, 2007; Afonso, Schuknecht & Tanzi, 2004; Batare 2012; Flores 2017; Agasisti 2014; Aisa, Clemente & Pueyo, n.d; Filmer & Pritchett, 1999; Asandului, Popescu & Fatulescu, 2015) leaving almost negligible studies addressing the issue with reference to developing nations and among whom a few pertain to the Indian economy (Bhakta 2014; Sasmal & Sasmal, 2016; Srinivasan 2013; Bose & Bhanumurthy, 2015 Chandra 2004). Same concerns were also expressed by Ducanes, Cagas, Qin and Razzaque (2006). In view of this, more efforts should be focused towards developing nations.

4. Given the fact that fiscal policy instruments have bearing on the overall development of a nation rather than economic growth only, much of the literature reviewed is aimed at verifying the relationship between public expenditure and economic growth only (Sasmal & Sasmal, 2016; Srinivasan 2013; Ayo, Ifeakachukwu & Ditimi, 2012; Rubinson 1977; Ram 1986; Miller & Russek, 1993; Landau 1983, 1985; Guseh 1997; Abizadeh & Yousefi, 1998; Folster & Henrekson, 2001). Furthermore, in many of the cases public consumption is taken as a proxy for overall public expenditure leaving behind other two components viz, public investments and transfer payments.
5. Besides this most of the studies conducted assumed data to be stationary and employed regression technique for data analysis. Under such circumstances it becomes very hard to rely on results of such studies as there are chances of spurious regressions.

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Use of Modern Technology in Trip Planning for Enhancing visitors' Experience

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(Abstract)

The Geographic Information System (GIS) is a cutting-edge scientific instrument that improves tourists' vacation planning and overall experience of a place. Use of Geographical Information Systems (GIS) take help of coordinates to uniquely identify certain locations both in terms of latitude and longitude. Tourists need detailed information to prepare for their upcoming trips. But the geospatial data could be used to make a geoportal that helps people before, during, and after their trip. When geographic coordinates are included, the datasets are categorized as geospatial. The "facilities under one roof" concept is popular with visitors, and GIS is utilized in many developed countries to facilitate this. Indian tourism has partially adopted GIS technology in several niches, but a comprehensive system based on geoportal is yet to be launched. This investigation, conducted using ArcGIS 2.0, elucidates the conceptual framework of geoportal and delves into the possibilities of cutting-edge technology, which might revolutionize the Indian tourist industry. Sikkim, a tiny, mountainous state in Eastern India, has been chosen as the research region due to perennial infrastructural problems. GIS may be utilized more effectively, allowing India to provide its domestic and foreign visitors with cutting-edge facilities to improve their experience.

Keywords: Geographic Information System, Geospatial Technology, Geoportal, Trip-Planning using GIS.

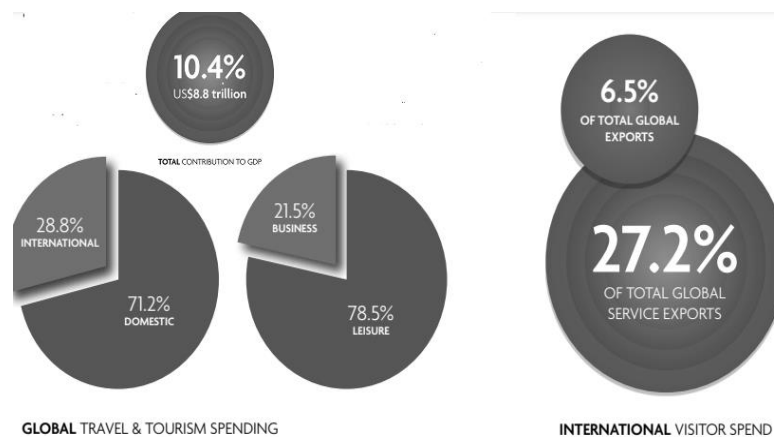
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Introduction

The latest technological advancement in tourism planning, the Geographic Information System (GIS), uses satellite imagery to provide tourists with a more complete picture of the area. Coordinates are the backbone of geographic information systems (GIS) both in terms of its latitude and longitude. When geographic information is added to a database, it is considered geospatial data. Travellers need detailed information to plan their trips in the future, including where to stay, what to visit, how far one attraction is from another, how long it will take to go from one to another, the locations of shopping centres, artisan markets, and entertainment districts, and so on. These



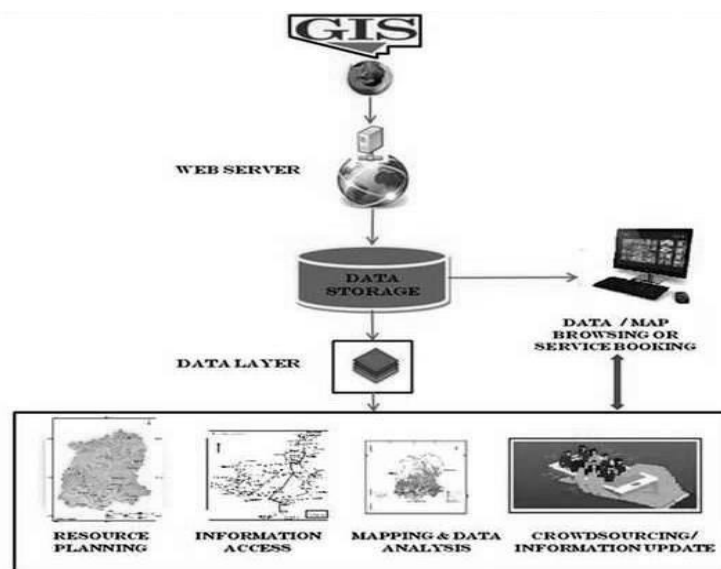
Source: <https://www.wttc.org/publications/2018/domestic-tourism/>

things are essential for the journey to go successfully once we get there. If this data is gathered one by one and kept in a spreadsheet, it cannot be termed comprehensive. However, the aforementioned data may be used to build a geoportal that will be of use to visitors at every stage of their journey. When a geographical component is included in the datasets, they are referred to be geospatial. The "facilities under one roof" concept are something that travellers from all over the world appreciate, and GIS is commonly utilised to facilitate this. In particular, Switzerland, Canada, and the United States have used GIS technology to advertise, expand, and improve their respective travel and tourist industries. Despite some scattered uses of geographic information system (GIS) tools in the Indian tourist industry, no fully integrated system based on a geoportal has yet been launched. Well-known hotel and travel companies are beginning to use GPS and other geospatial technologies because of the positive effects they have seen in the transportation industry (GPS). The fast global spread of the COVID virus has had a devastating impact on the tourism industry. Many individuals see tourism as a collection of actions that benefit everyone involved. Therefore, most nations went from "Over tourism to Zero Tourism" as a result of the lockdown,

travel rustications, and suspension of interstate and international transit. The World Travel and Tourism Council (WTTC) surveyed the tourism sector in 185 nations and 25 regions to determine the industry's employment and economic effect. The results of the poll showed that the tourism industry was the fastest-growing industry overall. In 2018, the sector generated 10.4% of the global GDP and employed 319 million people.(Economic Impact Report - World Travel & Tourism Council, 2019).

Background of the Study

To access and utilise geographic data and resources, users may visit a geo-portal, which is a collection of web portals (display, editing, research, etc; (Mathys, Boulos, &Kamel, 2011). 'Single window information for visitors" is the goal of this system, which integrates Geographic Information Systems (GIS) with Spatial Data Infrastructure (SDI). Geoportal also makes it easy for travellers to get a wide variety of digital resources in one convenient location. Through its public access point, it allows users to both download and upload data. There are several online tools for analysing maps and other spatial data; a geo-portal must stand out. Online mapping services like Google Maps and Yahoo Maps rely heavily on geographic data (Resch& Zimmer,2013). However, Geoportal is useful for extracting spatial data for further study of the data representation. Official geodata, such as land use classifications or population density zones, are not required for specialised mapping (Zeiler, 1999). Unfortunately, this doesn't allow users to retrieve spatial data using Web Map Services (WMS) or other Web-based standard software interfaces (Li, Li, Goodchild, &Anselin, 2013).



Source: Workflow. Created by the authors

Building a geoportal requires little effort. In the first stage, layer data (the digital map's foundation) is added to a server running ArcGIS 2.0. (Newton, Gittings, & Stuart, 1997). The coordinates of desired places, such as hotels, highways, and tourist attractions, are entered into the server. The primary administrator is provided with off-site access to input and update data in real time (Rigaux, Scholl, &Voisard, 2002). At last, the programme is told to generate a wide range of digital maps (layer maps that don't overlap) (Wang & Adelson, 1994). The final consumer may then access the file when it has been posted to the internet. Features like crowdsourcing are also available to users via the site. In crowd-sourcing, users are given the freedom to contribute to a project by posting their ideas, opinions, and other content online (Wu, Tsai, & Li, 2013). In addition, they are provided with a forum via which their feedback may be shared with prospective guests. Customers may see how others have rated the establishment and make an informed choice about whether or not to visit.

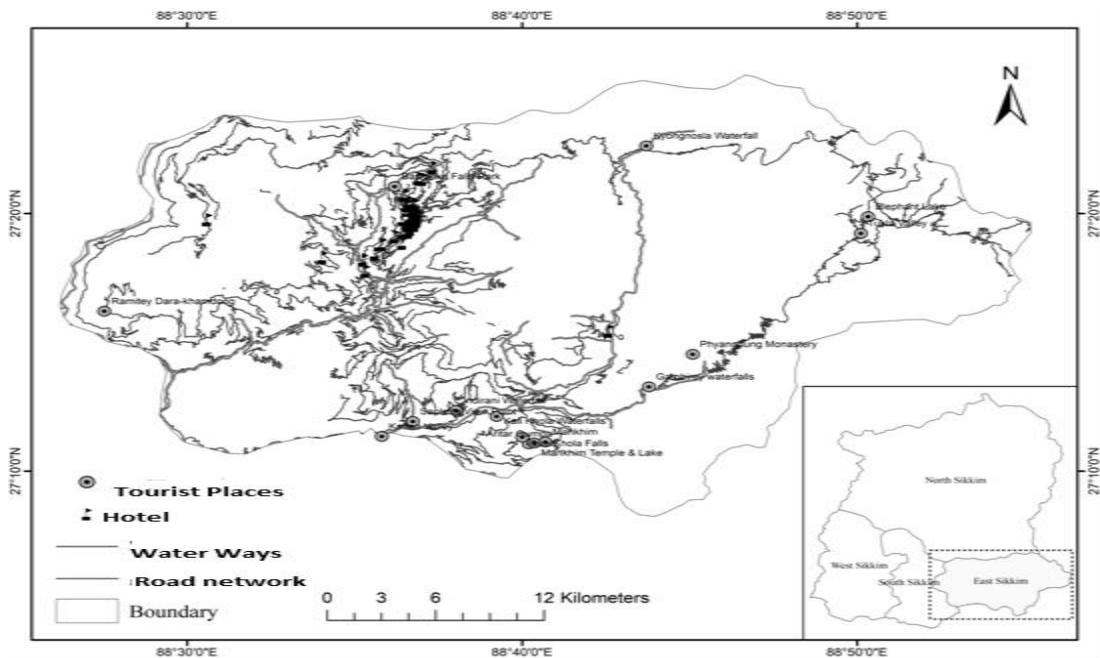
Products sold in the tourism industry include both naturally occurring and artificial components (Turtureanu & Anca, 2005). All of these items may be managed in one place on a digital map, which is made available via the Geo Portal (Resch & Zimmer, User experience design in professional map-based geo-portals, 2013). On this map, you'll find depictions of all the various types of tourism infrastructure, such as hotels, malls, highways, hospitals, visitor centres, and more. Using a smartphone app, a huge number of visitors may access the facility's information quickly and easily (Beedasy & Whyatt, 1999). It helps make decisions more quickly, which saves money and time, (O'Looney, 2000). As a result, the relevant tourist agencies in India need to decide on creating a web-based geo-portal to boost tourism in the country (Resch & Zimmer, 2013). The goal is to create a geoportal that accurately defines tourist attractions and related facilities, such as hotels and restaurants, in one convenient location. Travellers may get over their fears and start making plans for their next trip after they have a clear mental picture of the recommended vacation place.

Result and Discussion

India's tourism industry has to decide on whether or not to build a geo-portal on the internet to streamline its processes. The goal is to create a geoportal that consolidates information about the destinations and their amenities into a single location for easy access by tourists. It speeds up the decision-making process, which saves both time and money when compared to other options. The idea of a geoportal is utilised for the all-encompassing development, management, control,

and monitoring of services linked to tourism due to its capacity to build, manage, and analyse tourist datasets. Recent developments in geoportal technology provide several potentials to streamline and improve the effectiveness, interactivity, cooperation, and enjoyment of the travel planning process for visitors. These days, it's not uncommon to see a web-based tourism geoportal and the provision of online map services on a travel blog or an e-tourism app. Through the use of online map services, vacationers may plan their vacations with more efficiency, precision, and correctness. This will allow them to get over their fears and start making plans for their next trip.

Display of Layers in a Geo-portal



Source: Created by the authors using ArcGIS 10.2 version

The geoportal serves as a hub for accessing and analysing Web GIS data from several sources. The new geospatial tools and route planning data they provide are accessible through these fast, cheap, interactive, multi-layer internet mapping services. On top of that, a geoportal compiles information from several resources and presents it in a visual format, such as a map. The map might be static or dynamic. In the tourism sector, maps are often used for deciding on destinations and organising trips. Potential tourists use maps to navigate on or before their journeys and plan their holidays. The dynamic online maps on Geoportal make use of the two-dimensional nature of human vision to provide data in a style that is useful, accurate, and simple to read. A web-based geoportal may also enhance the visitor experience. To attract customers, a site must first attractively showcase its offerings. Only if all tourist-related information is posted online and

freely accessible to users can this be achieved. For example, if a traveller wants to know about picturesque areas in a city as well as the location of neighbouring five-star hotels and multi-cuisine restaurants, or if they want to visit a wildlife refuge and stay in jungle huts, they may access all of that information on a single digital map. With the aid of geoportal, this information may be presented on a single-layer map. One further benefit of using a geoportal is the speed with which you may get the data you need. A traveller who, say, wishes to see a popular landmark and eat at an authentic Indian restaurant on the way there would benefit greatly from having a digital map at their disposal. The geoportal may also get numerous bits of information from a single online platform. For instance, a tourist can look up and see on a single digital map the most promising tourist spots in a city, the best quality hotels, super-speciality dining arrangements, travel time between all points of interest, entertainment facilities at the destination, climatic conditions, and the location of the nearest airport, railway station, bus stand, authorised tour operators, and government tourist information centres. Concern about one's safety ranks high on the list of priorities while planning a trip.

Vacation plans are put on hold if potential guests have doubts about the area's security. Convincing curious onlookers to book a trip is crucial to the tourist industry. Instilling trust in the destination is aided by geoportal data showing how things are right now. For instance, Sikkim is quite susceptible. The occurrence of numerous landslides is typical across the state. Many areas have not had landslides in recent years, and a geoportal can reveal this fact with complete certainty. It is also obvious that Sikkim is in an earthquake zone, having a history of earthquakes in numerous regions. The webpage can provide a digitalized map showing significant earthquake-prone regions close to popular tourist destinations for those who are curious about such things. As soon as the locations are revealed, tourists may avoid visiting those in high-risk areas. Geoportals in the tourism industry have the potential to be a catalytic factor in elevating public trust in a place and opening up new doors for the industry.

Being outside in the cold and watching it snow is a popular pastime for many. To attract more visitors to a state, it is possible to create a digital map that displays all of the state's tourist attractions overlaid with the climate zones in which they are located. As a result, geoportal may be useful for helping people find places that fit them. Geoportals can help vacationers plan their travel by delivering correct information about how long their journey will be. If a couple is planning a trip to a state but isn't sure how long it will take, a geoportal can provide them with

information about the distances between cities, the amount of time needed to see all the major attractions, and the locations that are off the beaten path and thus require more time to reach. This transforms geoportal into an informative and user-friendly resource for visitors. Creating and developing custom circuits is unlikely on a generic travel website. Tourists report feeling uneasy about the limited number of routes shown on official tourism websites. A geoportal allows users to create a unique itinerary for a trip. Tourists may find out about the state's history and culture, locate points of interest, and map up an entirely personalised itinerary. The portal includes the display, storage, and print options for the same. Eco-tours, adventure travel itineraries, and Buddhist pilgrimages are just a few of the options available to visitors.

The selling of supplementary goods like souvenirs, local specialities, and eco-friendly provisions is often tied to tourist destinations. Because of this, the community's revenue is boosted while also being able to provide for itself. Visitors may choose a path through an organic company using an interactive geoportal and get a taste of the goods first hand. Geoportal, which may be accessed through a web-based application, may help solve this issue by alerting visitors to any incidents as they happen. Furthermore, geoportal may assist offer travellers' up-to-date disaster-related information, which can make them feel safer and save them time before or during their journey. In addition, during travel between cities or during sightseeing, visitors may locate escape routes in case of an emergency. Planners and travellers alike may benefit from geoportals because of the streamlined data management they provide. By using the portal, guests may see how many people visited the attraction on a given day, month, or year. Visitors' traffic counts at a particular landmark might be recorded and shown on a map. The attraction's profile among visitors will rise in this manner. The planned geoportal will make registration available online, enabling visitors to Sikkim from the mainland to save time and effort before they ever arrive. Geoportal may also be used to show daily visitor counts to authorities or curious sightseers.

Most popular vacation spots are restricted in some way by local, state, or national authorities (Crouch & Ritchie, 1999). While a standard website could compile all relevant legislation into a single page, a geoportal is more suited to presenting information relevant to a certain geographic area (Peterson, 2020). Tourists may see the same details, including the place where they can get the appropriate permission, by clicking on Tsomgo Lake on the interactive portal geoportal. They may see driving directions, distance, and time spent in transit from their present location, such as a hotel, to the permit-issuing authority's office, all on one digital map.

The promotion and development of tourist sites are also crucial to the tourism sector. The web-based geoportal allows for the exhibition of all fairs, festivals, and special events alongside tourist attractions, complete with images and detailed descriptions.

Conclusion

The current research shows that different websites offer different kinds of travel information that is useful for planning a vacation. Tourists usually have to spend a lot of time perusing them to get all the information they need. In addition, they have no idea whether sites are legitimate. Tourists will often use a variety of search engines and a wide variety of terms to get this information. Google searches for "religious tourism places in Sikkim" often result in results on Buddhist monasteries. All you have to do is follow the same steps to find the most suitable hotels in Sikkim. Due to the prevalence of "paid hotel service providers" in Google, the search engine may not deliver accurate and up-to-date results in either scenario. In this way, the truth might be skewed. A search engine can use GPS to display the distance between two points of interest, but it can't provide many possibilities in a unified digital environment. Digital maps on most websites, for instance, can't show everything at once, such as hotels, travel agencies, hospitals, restaurants, weather, and population density. However, if the geoportal shows the same, it is feasible. The vast majority of site visitors either don't make a selection at all or waste their time making one because they lack the necessary details. Because of this, it becomes more difficult for planning authorities to monitor the volume of people who visit a certain location. People's schedules these days are jam-packed. Inevitably, they have a hard time setting aside a substantial amount of time to arrange details for a future vacation. As a result, people come to rely on tour guides and ask them for advice. Therefore, travel agencies often push their most popular packages, regardless of whether or not they are a good fit for the customer's preferences. Furthermore, new places to visit are not advertised as often as might be desirable. Visitors' experiences may vary from the idealised versions painted by tour companies. It may lead to discontent, which in turn might reflect poorly on the destination. An additional value proposition of geoportal is the opportunity to generate income. If a website is popular with visitors, other businesses will pay to have their ads shown there. It's a way that popular websites like Google, Yahoo, and others make money. It stands to reason that if a government agency builds a geoportal, the site will attract a large number of users, and therefore, other businesses may want to advertise on it. There is an opportunity for tourism boards to develop and market mobile applications to tourists at a fair price,

intending to facilitate their needs while they are in the area. Tourists' ability to make informed decisions and the amount of time they spend preparing for their trips are both enhanced by Geoportal. Additionally, it is simple to use and can guarantee client happiness by delivering timely and accurate information. A one-time investment is required, but the potential income boost might significantly alter the travel sector.

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India on the Long Road to World-Class Higher Education System

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Abstract

The Covid -19 pandemic has created challenges that have further degraded India's quality of higher education. Analyzing historical trends and current data together, the authors warn that there is an urgent need for attention to higher education quality, poor infrastructure, lack of skilled human resources, methods or procedures of financial regulations, and specific regulations. The government needs to take urgent steps to boost educational spending and halt brain drain as lack of qualitative higher education cause brain drain and non-returning Indians.

Keywords: Quality Higher Education, Brain Drain, Covid-19, India

Higher Education worldwide has plenty of challenges with COVID-19 and the extended campus closures. Despite being the third-largest in the world, behind the United States and China, India does not have a world-class higher education system. According to the Education Department of MHRD, Higher Education can be defined in two ways; Education, which is gained after 12 years of formal education and followed for at least nine months. Education is pursued for at least three years after finishing ten years of schooling. It helps people ponder the fundamental economic, social, cultural, moral, and spiritual issues humanity is confronted with. It aids the country's development by disseminating specialized knowledge and skills. As a result, it is acknowledged as an essential survival component, and therefore it is at the top of the educational pyramid.

The genesis of the Indian higher education system may be linked to the British period. The Charter Act of 1813 was the very first step toward education being made an aim of the government and developing scientific knowledge in British India. The inaugural higher education institution

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was established in Calcutta during 1817, which eventually became a presidency college in 1855 and a presidential university in 2010. The earliest university, formed in 1818 and granted university status in 1829, which is still in operation, is the Senate of Serampore College. The Wood dispatch in 1854 was the first governmental move addressing higher Education, and Lord Curzon was the first person to form a commission on university education in 1902. In 1913, there was an agreement on education policy, and the Sandler Commission (Calcutta University Commission) supported the separation of intermediate Education from colleges in 1917. It was an antecedent to the 10+2+3 system, which began in India in 1975 with the Central Advisory Board of Education (CABE). The Abbot Wood Report (1937) suggested English as a medium of education at the tertiary level. The Sargent Report (1944), also known as the Post War Educational Development Scheme in India, advised setting up the University Grant Commission. The level of literacy was abysmally low during British control. After India's freedom, education was viewed as a vital aspect of the new environment's socio-cultural, technological, political, and economic advances.

The Indian government took various steps to strengthen and promote higher education post-independence. Over the course of seven decades after Independence, the education system of India has evolved gradually yet phenomenally. It can be seen from Table 1 that there was a literacy rate of 18% in 1951 and 77.7% in 2021. According to the report published by the National Survey of India, the Literacy Rate of India in 2011 was 69.30%, and in 2021 is 77.7 percent. There has been an increase of just 8.4% in the last decade compared to the previous census data.

Table 1. Literacy rates in India.

Year	Literacy rate
1951	18
1981	40.76359
1991	48.22207
2001	61.01456
2006	62.75447
2011	69.30256
2018	74.37299
2021	77.7

Source: data.worldbank.org.

Thus, the higher education system in post-independence India has evolved tremendously, with a national commitment to creating multiple universities, technical institutes, research institutions, and professional and non-professional colleges around the country to disseminate knowledge. Over the last 70 years, higher education in India has grown tremendously, with the Indian higher education system currently ranked third among the world's largest. Unfortunately, the Indian experience has shown that the expansion in the quantity of higher education has outpaced the increase in higher education quality. There has recently been a storm of criticism from many well-meaning sources criticizing the declining quality of higher education. India's over-regulated and under-funded higher education industry cannot provide the globally relevant and world-class higher education that the country so urgently requires.

India could not make the top 25 in the QS Higher Education System Strength Ranking still 2018. The USA topped the list with a score of 100 followed by the UK with 98.6. India ranked 26 with a score of 58.1. The QS Higher Education System Strength Rankings highlight the nations with the world's strongest higher education systems. Comparing national performance in four areas, the ranking is based on system strength, access, flagship institution performance, and economic context.

These four categories are outlined below.

System strength: How strong the higher education system is compared to the rest of the world. Each country is awarded a score based on the number of its institutions that are ranked 700 or above in the QS World University Rankings, divided by the average position of those institutions. The aim is to give an overall indication of each country's standing in the global ranking tables. India scored 62.7 in this category.

Access: Scores in this category are calculated based on the number of places available at universities ranked within the global top 500, divided by an indicator of population size. The specific figures used in this calculation are the total number of full-time equivalent students at universities in the top 500 of the QS World University Rankings, divided by the square root of the population. The aim is to give an indication of the chances of gaining a place at a world-class university for residents of the country in question. India scored 2.7 in this.

Flagship institution: The 'flagship' category assesses the performance of the country's leading institution within the global rankings. This is a normalized score based on the place each nation's top university occupies in the QS World University Rankings. This indicator is based on the

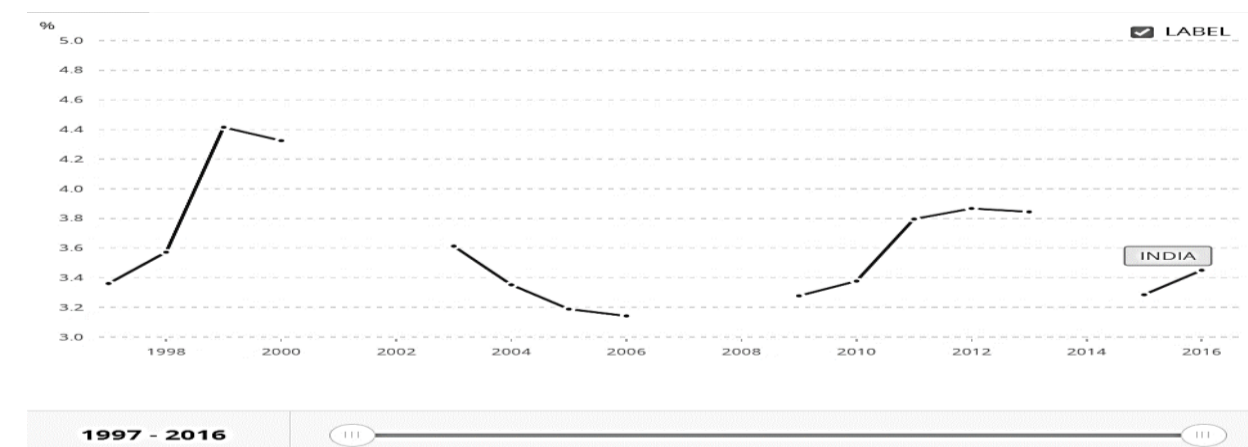
premise that the performance of a country's leading institution is a credit to the overall system, often resulting from national investment in developing a flagship institution to lead the way. In this category, India scored 68.8.

Economic context: The fourth and final indicator aims to assess the impact of national investment in higher Education by comparing each nation's financial situation to its performance in the international rankings. An indexed score is awarded for each university featured in the rankings (7 points for a university in the top 100, 6 points for 101-200, 5 points for 201-300, 4 for 301-400, 3 for 401-500, 2 for 501-600 and 1 for 601-700), and this is then factored against the GDP per capita for the country in question. India scored 98.4 in this.

"Voicing for the need of radical transformation in the Indian education system, Rohit Gajbhiye, Founder, Finance Peer, at World Economic Forum 2020, Davos, said India needs to address issues like quality higher education, poor infrastructure, lack of skilled manpower, and certain regulations."

These issues can be addressed by boosting educational spending and halting brain drain as Lack of qualitative higher education leads to brain drain and non-returning Indians. Even though the National Education Policy 2020 was an important document, it received very little attention in the Budget. The Kothari Commission's "Education and National Development" report (1964–1966) was a very progressive report that the NPEs of 1968 and 1986 followed. These emphasized the need to improve the quality of higher education and suggested allocating 6% of national income to Education. It's ironic, despite the fact that a 6% outlay was proposed nearly 50 years ago, India is still a long way from attaining that target, with current outlays not even touching 4% of GDP.

Figure 1. India's expenditure on Education as a percentage of GDP.



Source: data.worldbank.org

Figure 1 reveals that India's education spending has never touched 6 percent. For the last 70 years, it has averaged 3.5 percent spending on education. To meet the 6% GDP threshold, the education budget for 2022–23 should be double than that of the previous year.

As of 22.11.2021, India has 54 central universities, 442 state universities, 126 Deemed to be Universities, and 397 private universities, with a total of 1019 Universities, but among these, not a single university comes in the top 100 universities list of Times Higher Education World Reputation Rankings and QS World University Rankings.

QS World University Rankings – Methodology: The QS World University Rankings continue to enjoy a remarkably consistent methodological framework; compiled using six simple metrics that they believe effectively capture university performance. Thus, universities continue to be evaluated according to the following six metrics:

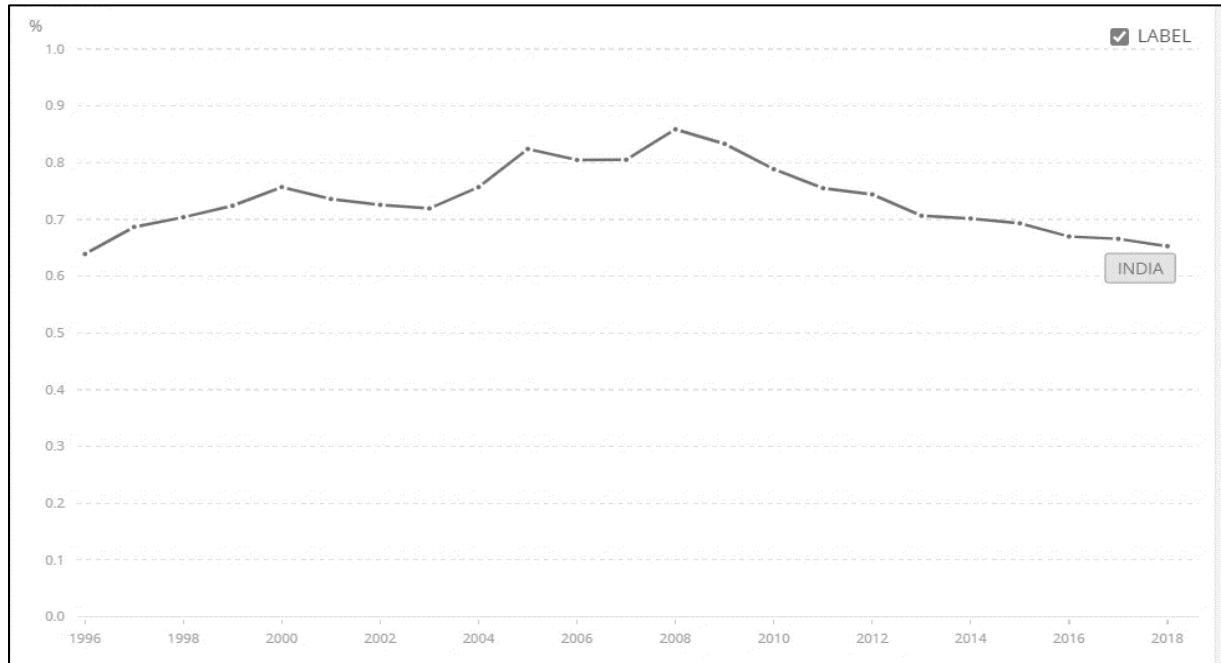
1. Academic Reputation (40%)
2. Employer Reputation (10%)
3. Faculty/Student Ratio (20%)
4. Citations per faculty (20%)
5. International Faculty Ratio (5%)
6. International Student Ratio (5%)

Indian universities lag behind in these metrics and could not even make a place among the top 100 universities for just once.

Thus, India has failed to develop world-class universities in both the private and public sectors. There isn't a single Indian university among the world's top 100 Times Higher Education World Reputation Rankings and QS World University Rankings. Aside from prestigious universities, India is home to many institutions established simply for the aim of profit. Quality assurance mechanisms in higher education have failed to prevent malpractice. Higher education enrolment is not sustainable. Aiming for a 50 percent gross enrolment ratio in higher Education is a desirable goal compared to the current rate of 25.8 percent in higher education. The most widely used statistic to quantify country-level R&D investments is gross domestic expenditure on R&D (GERD) as a proportion of GDP (GDP). India is a low spender compared to the developed countries and emerging economic powers of East Asia. It is also the lowest spender among BRICS nations. It can be seen from figure 2 that Total investment in research & innovation in India declined from 0.84% of GDP in 2008 to 0.6% in 2018. Nearly 0.7 percent of the GDP was spent

every year on research and development, including strengthening science and technology infrastructure and this graph shows a downward trend. A brief assessment of the funding to important R&D entities in the recently proposed budgets show persistent stagnation. This does not speak well for the future. All these issues necessitate a prompt response.

Figure 2. India's R&D expenditure (% of GDP)



Source: *data.worldbank.org*

The authors believe that GOI should focus on improving the quality of higher education by focusing on areas where they scored very low. Also, National spending on public higher education must be increased, and new methods or procedures of financial regulations should be devised. The changes and modifications that NEP 2020 demands certainly require additional resources. In the absence of a credible quality assurance process, institutions must step up and adopt stricter self-regulation criteria. Greater autonomy is required for Indian universities as the university's administrative system which was built prior to Independence, appears to be in place.

Conclusion

Higher education allows people to think about the world's most pressing economic, social, cultural, moral, and spiritual issues. It aids in the country's development by disseminating specialized knowledge and skills. Literacy was at an all-time low during British rule. Education was seen as a critical component of the new environment's socio-cultural, technological, political, and economic advancements shortly after India's independence. The Indian government took

several steps after independence to strengthen and promote higher education. In the last decade, there has only been an increase of 8.4 percent when compared to previous census data (2011-2021). India's higher education system has grown tremendously over the last 70 years, and it now ranks third among the world's largest. Unfortunately, the expansion of higher education quantity has outpaced the progress in higher education quality in India. India's over-regulated and under-funded higher education industry is incapable of providing the globally relevant and world-class higher education that the country so desperately needs. Quality higher education, poor infrastructure, a lack of skilled manpower, and certain regulations are all issues that India must address. These problems can be addressed by increasing educational spending and halting brain drain and other measures. Brain drain and non-returning Indians are caused by a lack of high-quality higher education. These emphasized the importance of improving higher education quality and the authors suggested allocating 6% of national income to education. Even though a 6 percent outlay was proposed nearly 50 years ago, India is still a long way from meeting that goal, with current outlays barely exceeding 4% of GDP. The education budget for the 2022–23 is expected to double from the previous year to meet the 6% GDP target. It is ironical to not to see any Indian university among the world's top 100 Times Higher Education World Reputation Rankings and QS World University Rankings. India is a low spender compared to the developed countries and emerging economic powers of East Asia. It is also the lowest spender among BRICS nations. National spending on public higher education must be increased, and new methods or procedures of financial regulations should be devised.

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Trade Balance and Exchange Rate Nexus: Evidence from India

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Abstract

The present paper attempts to study the impact of exchange rate fluctuations on India's trade balance from 2000 to 2020. The main objective of this paper is to test the validity of the J-Curve and examine the impact of other related variables on trade balance as well. An estimation strategy based on bounds tests and an error correction model in a symmetrical framework was employed to do so. The results do not show any evidence of 'J-Curve' phenomenon in India. In addition, the results reveal that domestic GDP negatively impacts the trade balance, while foreign income and exchange rate have a positive impact on the balance of trade in the long run.

Keywords: Exchange rate, Balance of Trade, J-curve, ARDL

Introduction:

The fluctuations in exchanges rate have long been identified as apprehension for an economy's macroeconomic stability. However, with the onset of the generalized floating period, the area of attention has shifted significantly. Exchange rate fluctuations affect both exports and imports of a country, therefore affecting its trade balance. According to international trade theories, a currency devaluation or depreciation in a country would make imports expensive and exports cheaper and, thus improve the trade balance. However, improvement in the country's trade balance does not take place immediately after devaluation or depreciation. Because prior contracts or purchases for export and import quantities stay unaltered during the period of depreciation, while as price adjustments have an immediate effect. As a result, a decline in the value of export profits results in an increase in the value of import payments, worsening the trade balance in the short term. However, when modifications to quantity and pricing are made over time, an improvement is shown. This brief worsening in a country's trade balance followed by an improvement resulting from currency depreciation/ devaluation is commonly referred to as the "J-curve" effect in the economic literature.

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Exchange rate theoretically impacts the balance of trade that may be examined with regard to the condition of Marshall-Lerner (M-L) and the “J-curve” effect. As stated by Marshall and Abba Learner, the former says that if the summation of demand elasticity for imports and exports is greater than one currency, depreciation/ devaluation will improve the trade balance. On the one hand, if the amount is exactly equal to one, the trade balance will remain unchanged in the case of depreciation (devaluation). On the other hand, if the demand elasticities of imports and exports are less than one, meaning that the Marshall Learner condition does not hold, depreciation (devaluation) will worsen the trade balance. However, scholars (Arize, 1990; Warner and Kreinin., 1983) have consistently demonstrated that the Marshall-Lerner requirement is easily fulfilled; hence, depreciation or devaluation improves an economy's trade balance in the long run. Additionally, the “J-curve” effect posits that, due to the intrinsic character of individuals, there will be an initial deterioration of the balance of trade in the short run following currency devaluation (depreciation), but will show improvement in the long-run.

In this context, this study examines the movements of the exchange rate on the balance of trade in India from 2000 to 2020. The Auto-regressive distributed lag model (ARDL) will be used. The existing paper will not confine the potential of a symmetric relationship to exchange rates and trade balances only but will also investigate the influence of other factors such as domestic and foreign income growth symmetrically.

Literature Review

Professionals in international finance agree that actual exchange rate fluctuations affect the trade balance over the long run (Bahmani-oskooee, Parray et al., (1992, 2001); Himarios (1989); Rawlins and Praveen, (2000); Hasan and Khan, (1994); Bahmanii-oskooe and Ratha, (2004); Waliullah et al., (2010); Bhat and Bhat (2020) and Shahbaz et al. (2011). In particular, evidence implies that currency devaluation/depreciation improves the trade balance in the long run, Baharumshah (2001,2002), Bahmani-oskooee (2001), Lal and Lowinger (2003), Tochitskaya (2005) and Onafowora (2003).

Linda and Daniel (2019) examine the trade balance in post-liberalization Ghana using symmetric and asymmetric models to analyze data from 1984 to 2015. Both specifications demonstrate the absenteeism of the “J-curve” effect and the M-L condition. However, after applying the asymmetric model, Sajad and Javed (2020) presented no evidence of “J-curve” in the Indian case. Moses et al. (2020) investigated the symmetric and asymmetric effect of real exchange

rate on Kenya's balance of trade by using quarterly data from 2006(Q1) to 2018 (Q4) with its 30 major trading partners. The results showed that the "J-curve" effect was evident in 13 cases.

Doojav (2018) used a VECM model to investigate the impact of the currency exchange rate on Mongolia's trade surplus or deficit. The results were consistent with the Marshal-Lerner condition, suggesting that a depreciation or devaluation of the Mongolian tugrik could lead to a net gain in trade surplus in the long run. The research indicates that a flexible exchange rate can effectively manage exchange rate risk and current account deficits. Additionally, Asteriou et al. (2016) used monthly data from 1995-2012 to examine the impact of exchange rate fluctuations on international trade for Indonesia, Mexico, Nigeria, and Turkey, employing the GARCH and ARDL techniques for short-run and long-run analysis, respectively. Except for Turkey, the findings indicated no long-term relationship between the studied nations' exchange rate volatility and foreign trade. On the other hand, in the short run, a robust causal correlation between volatility and international trade for Indonesia and Mexico was found, while for Nigeria, just a one-way causal relationship, from export demand to volatility was witnessed.

Data and Econometric Methodology

The Autoregressive distributed lag model (ARDL) framework proposed by Shin et al., (2001) has been implemented in this investigation. It was decided to use this method due to a number of factors. No matter what order variables are integrated in, the method always yields the consistent findings, but not orders greater than one, either I(0) or I(1) or a mix of both. Although some regressors may be endogenous, it generates unbiased estimates and stable t-statistics across time. The estimating method ARDL works quite well in investigations with small samples, like the one used here. This method also permits the determination of optimal lags between dependent and explanatory variables, which in turn permits the establishment of optimal lags between the rates at which dependent and explanatory variables are balanced by means of individual adjustments to the various variables. The general ARDL model is represented as follows:

$$\Delta E = \alpha_0 + \delta_1 t + \delta_2 E_{t-1} + \delta_3 M_{t-1} + \sum_{t=1}^n \beta_i \Delta E_{t-1} + \sum_{t=1}^n \theta_i \Delta M_{t-1} + \mu_t \quad (5)$$

In this equation, E is the explanatory variable, M is a vector of independent variables, t is time, and μ_t is the disturbance term. F-test statistics is used to check the long-run association between the variables. The absence of cointegration among the variables is represented by the null hypothesis $H_0: \delta_1 = \delta_2 = \delta_3 = 0$ against $H_1: \delta_1 \neq \delta_2 \neq \delta_3 \neq 0$. In this case, we use a critical value bounds test, which relies on the specific sequence in which the variables are integrated. If

the F-statistic value is greater than the critical values we say that cointegration does not exist. If it is below the critical values, we say that long run cointegration exists among the variables. If the value is in between the critical values then no conclusion can be drawn. After that we estimate the parameters that describe the long run association between the variables. The error correction model (ECM) is the next step in the estimating process since it estimates the short-run and long-run connections between parameters inside the ARDL framework.

Data Description

This analysis used the annual time series data collected from 2000 to 2020. The data on the exchange rate was extracted from the international monetary fund (IMF) and all other variables were extracted from the World Development Indicators (WDI). The ratio of exports to imports was used as a proxy for trade balance (Bhat and Bhat 2020, Bahmani-Oskooee, 1991, 2001; Akoto & Sakyi, 2019).

Results and Discussions:

Stationarity tests:

Both the Augmented Dickey-Fuller (ADF) and the Phillips-Perron (PP) tests were employed to ensure that the variables in this analysis were stationary. It is evident from Table 1 that all variables are stationary at 1(0) and 1(1), which justifies the use of the ARDL approach in this study.

Table 1: Unit Root Test, ADF and PP Test

Variables	ADF Test		PP Test	
	T-Statistics	P-Value	T-Statistics	P-Value
LTB	-1.48	0.391	-1.49	0.438
D.LTB	-6.98	0.000	-6.47	0.000
LGDP	-3.01	0.005	-3.67	0.000
D.GDP	-11.01	0.001	-11.00	0.005
LE	-2.98	0.028	-3.21	0.023
D.LE	-9.11	0.001	-8.11	0.025
LFI	-1.10	0.610	-1.19	0.689
D.LFI	-2.94	0.000	-3.82	0.037

Source: Authors own calculations based on secondary data extracted from (IMF) and (WDI).

Note: D denoted the first difference.

Cointegration test

The ARDL model is based on Akaike Info Criterion (AIC). The F-statistics exceeds the critical values for 10, 5, 2.5, and 1 percent significance levels as shown in table 2. Thus, there is long run relationship among the model variables.

Table 2: Result of Cointegration Relationship

Model	F-statistic	I(0)	I(1)	Decision
LTB (LE, LGDP, LFI)	9.32			Cointegration Exists
Critical Values				
10%		3.13	4.15	
5%		3.56	4.48	
2.5%		3.96	5.16	
1%		4.39	5.69	

Source: Authors Calculations based on secondary data extracted from (IMF) and (WDI).

Discussion of Results

Having established the presence of Cointegration, as depicted in table 2, there exists a long-run relationship among the variables since Phillips-Perron-t and Augmented Dickey-Fuller t are statistically significant either at level or at first difference.

ARDL results from table 3, shows the short-run and long-run effects of E, GDP, and FI on the country's trade balance. To begin with the impact of exchange rate changes on the trade balance in the short-run, it is found that that the exchange rate exerts a negative but insignificant effect on TB. The negative sign shows a deterioration of the trade balance followed by an increase in the exchange rate. The impact of domestic GDP is statistically significant, implying that an increase in domestic GDP will improve the trade balance in the short run i.e., increase in GDP will encourage exports more than imports. However, the impact of foreign income is insignificant. A significant error correction term (-0.446) with a negative sign indicates a stable long-run relationship, suggesting that disequilibrium is corrected by 44.6% per year.

The results further reveal that in the long run, the exchange rate's impact is positive and significant. The positive sign on the exchange rate variables indicates that currency depreciation improves the trade balance and appreciation deteriorates it in the long run. This is consistent with the findings of (Aziz, 2008; Sund Chu, 2010 and Bhat and Bhat 2020). The outcome of this study does not provide an indication of the 'J-curve' phenomena in India. The impact of domestic GDP

is negative and statistically significant. This implies that as the economy grows, the demand for imported goods increases, as predicted by the theory. The easing of import restrictions has resulted in the emergence of a new generation of domestic customers. Import demand responds far more positively to GDP growth than export demand does to exchange rate depreciation. Thus, the net effect on the trade balance is negative. This conclusion is consistent with the Keynesian idea that as income rises, imported products' consumption grows, affecting the trade balance. Finally, the impact of foreign income is positive and significant. A 1% increase in FI will improve the trade balance by 0.175%. The positive reaction of the trade balance to a growth in international GDP is consistent with Keynesian theory, in which an increase in later stimulates exports to the rest of the world, assuming that import demand remains the same. The results of present study show that exchange rate depreciation and an increase in foreign income enhance the trade balance in the long run.

Table 3: Results of ARDL

Variable	Coefficient	Standard Error	P-Value
Long-run results			
LE	0.801	0.032	0.000
LGDP	-0.258	0.036	0.001
LFI	0.164	0.039	0.003
Short-run results			
D.LE	-1.124	0.795	0.153
D.LGDP	0.479	0.183	0.013
D.FI	-0.387	0.489	0.512
Constant	1.432	0.426	0.000
ECM	-0.454	0.119	0.001

Source: Authors own calculations based on secondary data extracted from (IMF) and (WDI).

Table 4: Diagnostic Tests

Tests	ARDL
Serial Correlation LM Test	2.32 (0.09)
Heteroskedasticity Test	2.23 (0.16)
Normality	0.29 (0.79)
Ramsey RESET Test	1.23 (0.41)

Source: Authors own calculations based on secondary data extracted from (IMF) and (WDI).

In this study, diagnostic tests like serial correlation using the Breusch Godfrey serial correlation LM test, heteroskedasticity via Breusch-Pagan-Godfrey test, normality of residuals by Jerque-Bera test have been performed to check the precision of the estimated model, and the results are reported in table 5. It is evident from the table that the model is free from all the issues mentioned above.

Conclusion

A plethora of studies have been conducted to enlighten the association between exchange rate and trade balance. This study discusses the symmetrical influence of exchange rate movements on the trade balance in India from 2000 to 2020. The results of our estimated model demonstrate clear long run cointegration. Using ARDL, exchange rate is statistically insignificant but is having an appropriate sign in the short-run. However, currency depreciation improves while as appreciation deteriorates the balance of trade in the long-run. The outcome of this reflects no evidence of the J-Curve phenomena in India. Similarly, the impact of domestic GDP is negative and statistically significant in short run but is positive in the long run, implying that an increase in domestic GDP will improve the trade balance in the long-run. Finally, the short-run impact of foreign income is negative and statistically insignificant. However, an increase in foreign GDP will improve the trade balance in the long run.

The findings of this paper suggest some crucial policy implications. It is imperative that countries should prioritize export promotion and implement policies that will increase exports. It is also important to increase exports and reduce reliance on foreign markets by substituting

imported goods with domestically produced ones, a strategy that can be accomplished through expanding domestic production capacity and boosting productivity. Finally, excessive exchange rate fluctuations should be limited to prevent exchange rate misalignments and an unfavourable position in the balance of trade account.

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