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PJMTR

Presidency Journal of Management Thought & Research

Vol. IX No. 2 July - December 2019 ISSN 2229-5275

Research Papers

Case Study

Presidency Journal of Management Thought & Research

A Peer-reviewed Biannual

Vol. IX No. 2, 2019

Editorial Information

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Published by: Centre for Management Studies, Presidency College, Kempapura, Hebbal, Bangalore -560 024, India.

Printed at: Shree Vishnu Printers, Bangalore.

From the Editor's Desk ...

The 18th PJMTR issue welcomes you once more. This journal was launched in 2011 with an intention to promote and exchange management information among budding researchers.

This issue holds a varied content and know-how related to the research and at the same time presents a case study to reckon your values.

The first paper takes you into the era of financial liberalization where non-interest income is surfing as an alternative avenue for commercial banks. This paper explores the various non-interest sources of revenue to the banks and justifies it to be a mixed blessing for banks.

The second paper has investigated the determinants of the capital structure of selected refineries in India. As refineries serve an important role in the production of transportation and other fuels, this paper gives insights about variables used in determining the capital structure ratios of refineries.

Everyone heads to the Mall on the weekends!! Be it for window shopping or the loads of bag you purchase. The third paper discusses the interior and exterior design presentation of shopping malls in Bangalore. This paper attempts to find out the effectiveness of interior and exterior design presentation on customer satisfaction.

Research published in the university is a significant indicator of academic productivity. The fourth paper talks about the contribution of Veer Narmad South Gujarat University (VNSGU) towards higher education. This paper provides a detailed analysis of doctoral research under faculty of Commerce and Faculty of Management in VNSGU during the year 2006 to 2015.

Today everyone talks about organic and eco-friendly products, so the next paper deals with Green economy and environmental sustainability. As the green economy leads to "improved human well-being and social equity", this paper is an interesting read as it highlights the measures that can be undertaken for a green economy.

A case study on character competence and role of leadership in faith-inspired social enterprise is the last captivating story. This paper examines Shri Kshethra Dharmasthala Rural Development Project (SKDRDP) which gives valuable inputs for other mainstream organizations.

I hope you enjoy this issue of PJMTR and we look forward to your articles & research papers.

Happy reading and good luck!

Chief Editor

Dr. R. Venkataraman

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Vol. IX, No.2 **July – December 2019** **ISSN 2229-5275**

Research Papers

Case Study

Shifting Marketing Focus of Indian Commercial Banks towards Non-Interest Income and its Consequences

Subrato Bhadury*

Abstract

Liberalization of our financial sector ushered new economic order and opened its expanding frontiers to our commercial banks. However, this move brought the profitability of business at the centre stage and compelled the Indian commercial banks to desperately explore new avenues of marketing for their sustainability. In this process, non-interest income surfaced as a lucrative alternative avenue. During this era commercial banks partly because of their strategic marketing shift and partly due to investment management and volatility reduction effort gradually inclined towards non-interest source of revenue in the form of fee-based income and earnings from currency, exchange, brokerage and miscellaneous income. However, unlike interest income, large heterogeneity prevails in non-interest income. Moreover although this diversification effort is welcome in view of stringent Basel II norms coupled with fiercely competitive global scenario, but there is always a hidden danger that its over-emphasis as a marketing tool may lead to higher volatility in bank revenue and lower risk-adjusted profits while bank's bread and butter earning (interest income) may remain grossly neglected.

Introduction

The Indian banking system, working in a protective enclave of Reserve Bank of India (RBI) and Ministry of Finance (MOF) and deeply engaged in branch expansion and meeting social obligations for economic development, realized that prudent bank business with financial soundness to reach the international benchmark in operational excellence was the urgent need of the liberalized economy. Commercial banks came to be recognized as a corporate body, the efficiency of which is not to be rated only by the branch expansion or rise in deposits and advances and adherence to social welfare norms but by outstretch of services marketing activities at par with international standards generating a comfortable profit margin.

The gradual business expansion of private and foreign banks contributed towards a more competitive scenario in which both higher efficiency and comfortable profit margin surfaced as the basic business requirements of the banks. With deregulation and gradual financial sector development, various other financial organizations also made their existence felt in the liquidity market with their cutting edge technology thereby posing a stiff challenge for our commercial banks, which

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were gradually losing their monopoly power as the sole supplier of liquidity in the financial market. The traditional bread-butter earning market (mainly related to interest income) thus faded in its significance creating difficulties of sustainability for the banks predominantly dependant on this single source of income. Financial liberalization compelled the Indian commercial banks to desperately explore new avenues of earning and non-interest income surfaced as a lucrative source for the purpose. It is in this backdrop that the present study focuses on this unexplored but highly contextual and relevant area of banking operation on non-interest income activities.

Thus opening up of the economy created widest opportunities of profitability but survival strategies had also to be altered by the Indian commercial banks so that the system could sustain itself in the new international financial threats. In this endeavor, greater reliance on the non-conventional sources of generating profit had to be placed as a new banking strategy. It was observed that shifting focus towards non-interest income and using it as a diversification marketing tool received far less attention by our banking sector so far. Idea was to make our commercial banks more resilient to the upheavals of the market economy.

However this avenue of revenue generation was not new, and all banks have been doing these activities either overtly or covertly even before liberalization but what is new is their occupying the pivotal position in a profitability oriented atmosphere and many cases they are helping weak banks to move towards a come-back from loss-making situation which we call a turnaround.

Literature Review

Here the effect of diversification into other income activities on the revenue stream of the commercial banks is examined. Studies related to uncertainty and aggravations of fluctuations of the revenue stream are also considered. Moreover, the issues on diversification related additional activities involving increased cost and accounting implications are also observed. Since other income is generated from a diverse combination of activities and since most of its components are non-traditional activities of the bank, so there may be varied impact across individual banks. Under each of these studies, there are categorizations for advanced countries and emerging countries with further sub-classification of theoretical and empirical studies for each of the bank groups.

Rose (1989) studied the diversification benefits of banks and bank holding firms. The study revealed that diversification of U.S banks in non-interest lines (insurance, securities, real estate investment, etc) may reduce uncertainty vis-a-vis augment return and cash flows if appropriate portfolio conditions are met. He suggested that these non-conventional product and service lines could act as an uncertainty reduction strategy.

In a similar study undertaken later, Kwan (1998) examined the uncertainty, profitability, and potential diversification benefits of securities activities of US banks under the Federal Reserve. The sample period is from the second quarter of 1990. In his opinion activities leading to primary dealers' securities tend to provide potential diversification benefits with off-balance-sheet earnings in banking activities, thereby increasing the chance of higher profit.

Nelson and Owen (1997) opined that other income/operating income percentage for US megabanks increased from 7% in 1979 to 20.9%

in 1994 while for small banks it increased from 3.5% in 1979 to 8.3% in 1994. The figures reflected that megabanks have increased their use of derivatives and increased their 'other income' remarkably.

Acharya, Hasan, and Saunders (2002) made a study on Italian banks for the period 1993-1999 and observed that diversification does not specifically improve either the performance of the bank (profit, return on investment, earning per share) or reduce uncertainty. Hence off-balance-sheet earnings even if increasing is not a dependable source of revenue and profit for banks.

Stiroh (2002) also had almost the same type of opinion and in his research on Federal Reserve System observed that, steadily increasing reliance on non-interest income is associated with higher uncertainty but gradually lower profits in the U.S. This is done by a cross-sectional correlation (which shows how the correlation between non interest income and net interest income changed over time) and a bank-specific correlation (which shows how the correlation differs across different types of banks) and jointly these correlations provide the complete understanding of the risk-return trade-off from an increasing non-interest income stream.

Spillenkothen (2003) opined that the rapid growth in the financial derivative product markets has pushed the global banking companies to move to nontraditional banking exposures either by indulging in off-balance-sheet activities or derivatives. However, boosting these activities may invite legal and reputational risk to the center stage. The Latin American, The Far Eastern and the Russian financial crisis are typical examples of not so sound risk management practices to insulate global banking organizations from external shocks that might affect their viability.

Lehar (2005) used the sample of international banks for the period 1988-2002 and the methodology adopted by the author allowed a comparison of subsamples from different countries. The study showed that larger banks with higher profitability have lesser uncertainty in revenue stream and they are depending more on off-balance-sheet transactions.

According to Patnaik and Shah (2003) interest rate related uncertainty is a challenge as well as an opportunity for Indian banks. Authors made a study with forty-two banks' balance sheets in India and found that the two largest banks (SBI and ICICI) faced relatively little risk while other small banks faced high risks. Now interest rate movement having mixed outcome, depending on the bank's degree of exposure and this calls for the judicious application of derivatives and finding out an alternative source of revenue stream especially non-interest earnings for stable profit.

Umakrishnan and Bandopadhaya (2005) also in a later study observed that, apart from the level of profits and earnings, the source of profit or income is also crucial, since different types of bank activities give rise to different levels of uncertainties. Their panel fixed effect regression results based on a study of seventy-seven Indian banks for 1999 to 2004 shows that banks in India can improve risk-adjusted performance through diversification by shifting priority more towards non-interest sources of income.

Almost the same view is expressed much later by Jagtiani et al (2000). They found the tremendous growth of off-balance-sheet activities may be the result of avoidance of the capital adequacy requirement related to stringent conditions in interest-earning. Their findings have revealed that changes in the

capital requirements had no consistent effect on the speed of diffusion across off-balance sheet activities, which helps profitability.

Literature survey thus revealed that diversification in terms of non-interest income emerged as an important additional revenue-generating tool never received much prominence vis-a-vis interest income earning. Correspondingly, a dearth of study in this area for a developing country like India is felt very badly. It had become imperative to investigate how the prospect of non-interest income works in building up profitable income and can help cushion for the Indian banking system.

Hypotheses of the Study

To address the above research issues the study hypothesizes the following:

1. There is an appreciable increase in other income components of our commercial banks vis-a-vis interest income as a source of earnings after financial sector liberalization.
2. There exists variation among the different bank groups (by ownership category) in

   their operational and marketing strategy towards reliance on non-interest income for enhancing profitability in the post-liberalization period.

Research Methodology

The present study is empirical by nature and is based on the Indian banking data for the period 1991-2016. It attempts to capture both the time perspective and the cross-sectional bank-specific and component-specific aspects of non-interest income. Initially, time trend of non-interest income as a proportion of total income is studied and then each of the elements of the non-interest income component as a proportion of total non-interest income for each of the banks under relevant groups understudy is examined.

Next, panel regression technique is applied to examine the difference between different bank groups about the importance of other income-related activity. This difference is shown group-wise, individual bank-wise and component-wise (for other income). For analyzing this Eviews10 software is used. Next, the contribution of the other income component along with their subcategories towards bank profitability over time and their asymmetries are studied by the panel regression technique for banks both at individual and at the group level.

The secondary data needed for the study is collected from Reserve Bank of India's official web site "Annual accounts data of commercial banks (1991-2017) (www.rbi.org.in)," We have selected our sample of 54 commercial banks as 4 independent sample groups according to their ownership status. The data selected for all commercial banks and financial variables for the period 1991-2016 are:

a) Total income of commercial banks
b) Other income and its different components.
c) Interest income of the commercial banks
d) Profit of the commercial banks
e) Assets of the commercial banks
f) Reserves of the commercial banks.

Six different components of the other income of the commercial banks which are independent variables in this study are:

1. Commission Exchange and Brokerage (OICEB)
2. Net Sale Investment (NETSI)
3. Net Revaluation of Investment (NETRI)
4. Net Land (NETLD)

5. Net Exchange (NETEX)
6. Miscellaneous Income (MISC)

The dependent variable in the study is profitability which is taken as (profit/total assets) x 100 because this measure of profitability perfectly matches Return on Assets (ROA), which is accepted as a yardstick of performance of the bank concerned. To make the study less biased we also introduced 2 control variables in the study namely-assets (C1) and reserves (C2).

The purpose of the present study is to examine the existence of any difference among banks concerning other income-related activities. While time-series and cross-sectional data are both one-dimensional, panel data sets are two-dimensional. According to Chamberlain (1984) "by combining time-series cross-section observations panel data can provide more informative data, more variability, less collinearity among variables, more degrees of freedom and more efficiency". Panel data can study the dynamics of change by studying repeated cross-section observations. Hence we have applied panel-based data analysis.

Panel regression technique is used to find how different components of other income affect the profitability of the concerned bank or the group of banks differently. Initially, the Lagrange multiplier test (LM test) is used to identify whether ordinary least squares estimates without group dummy variables are appropriate or Fixed Effect Model((FFM) / Random Effect Model(REM) is more suitable and significant LM values indicated that the Houseman test to be performed to justify whether the panel dataset follows the fixed effect or the random effect model. The basic question behind this testing is whether there is a significant correlation between the unobserved (unit of observation) specific random effects and the regressors. The test for this correlation is a comparison of the coefficient of the covariance matrix of the regressors of the pooled least square with those of random effect model obtained through GLS. The fixed effect allows arbitrary correlation between ai and Xitj, while random effect does not, so fixed effect is more widely accepted for estimating ceteris paribus effects, Stock (2005). The null hypothesis in this case is:

Ho= there is no correlation between the unobserved (unit of observation) specific random effects and the regressors, hence both OLS (LSDV model specifically) and GLS are consistent but OLS is inefficient, hence REM is selected.

H1= OLS is consistent and GLS is not.

With the understanding above we perform Hauseman test on four panels representing four

Different bank groups and the test results which has an asymptotic χ^2 distribution with the

formula:

$$\chi^2 = (\hat{A}FE - \hat{A}RE)'(Var\ FE - Var\ RE)^{-1} X (\hat{A}FE - \hat{A}RE),$$

the chi-squared test is based on Wald criterion

$$W = \chi^2 (K-1) = (\hat{A}FE - \hat{A}RE)' \Psi^{-1} X (\hat{A}FE - \hat{A}RE)$$

Where Ψ = (Var FE- Var RE)

For Ψ, we use the estimated covariance matrices of the slope estimator in the LSDV model and the estimated covariance matrix in the random effect model, excluding the constant term©.

The Indian commercial banking system comprises of four different types of banks: SBI group of banks, nationalized banks, private sector banks and foreign banks. The bank groups are inherently different in their approach to business, financial operations, and management policy and technological backup,

due to the difference in their ownership. This is mostly because public sector units (including public and nationalized banks), private and foreign ownerships have different goals, business missions and strategic intent and so they pursue different business practices. Moreover, their core competencies are also different.

Public sector banks, both under SBI group and nationalized group(18 banks) have biggest banking network even in rural areas, which leads to high market coverage and as a consequence they have a better knowledge of local markets and rich experience in niche market segments. In contrast, foreign banks and new private banks possess superior knowledge in technology and automation, prompt decision-making capability, well-established risk management system, advanced product innovation and customized service and better human resource policy framework. Among private bank group, old private banks have the advantage of a fairly good branch network, knowledge of the local market environment, speedy decision-making, customized service, and reasonably good technology up-gradation. These are similar to that of public sector banks in terms of many vital attributes.

The public sector banks are often found less efficient in terms of delay in vital decision-making, outdated human resource practices and poor risk management framework. Foreign banks and private banks, on the other hand, have a very narrow branch banking network, centered market coverage, limited knowledge of Indian market environment. The problematic areas of old private banks relate to an age-old traditional management system, lack of product innovation and less public patronage as many of them showed signs of going red in the past.

Private commercial banks studied here are

1) Bank of Madura(merged with ICICI)
2) Catholic Syrian Bank
3) Sangli Bank(merged with ICICI bank)
4) Tamilnadu Mercantile Bank
5) Nainital Bank
6) Bharat Overseas Bank
7) Lord Krishna Bank
8) Jammu & Kashmir Bank
9) Bank of Rajasthan(now ICICI)
10) Laxmi Vilas Bank
11) Federal Bank
12) Dhanalaxmi Bank
13) HDFC Bank
14) ICICI Bank
15) Axis bank
16) IDBI Bank *[privatized from January 2019].*

Foreign banks studied are

1) ABN AMRO Bank
2) Bank of America
3) BNP Paribus Bank
4) Standard Chartered Bank
5) CITI Bank
6) Hongkong and Shanghai Bank
7) Sonali Bank
8) Deutsche Bank
9) American Express Bank
10) Barclays Bank
11) Abu Dhabi Commercial Bank
12) Bank of Nova Scotia
13) Oman International Bank

Data Analysis

1) Panel data set representing the SBI Group of banks come under the random effect model

(REM) after Hauseman test. For that reason, we prepare Generalized Least Square (GLS) model for our subsequent analysis. So the functional form takes the form of

$$Yit = \beta 1i + \beta 2\, X2it + \beta 3X3it + uit$$

Here instead of treating β1i as fixed, we assume it is a random variable with a mean value β1. Hence the intercept value of an individual bank can be expressed as

$$\beta 1i = \beta 1 + \varepsilon i \qquad i=1, 2, \ldots\ldots\ldots N.$$

Where N is the number of cross-sectional units (here 8 banks till 2017) and εi is a random error term with a mean value of zero and variance of $\sigma^2\varepsilon$.

2) Panel data set representing the nationalized bank group come under the fixed-effect model after Hauseman test. After analyzing the total set of trend equations we find that, although their intercepts vary across different banks each banks intercept does not vary over time (time-invariant), hence we have chosen Least Square Dummy Variable model (LSDV) for our subsequent analysis. So, here we have used the fixed effects panel model, which has constant slopes but intercepts that differ according to the cross-sectional unit: across banks and bank groups.

It takes the form:

$$Y = [X\, d1 \quad d2 \quad d3 \ldots\ldots\ldots dn\,]\ [\beta\alpha] \ + e$$

Where di is a dummy variable indicating the ith unit. Let the nT x n matrix D = [d1 d2 d3 …… dn], αi is the coefficient of the dummy variable (intercept part of the equation) and β (slope vector) is the coefficient of explanatory variables. Then, assembling all nT rows gives $Y = X\beta + D\alpha + e$

In this case, i-1 dummy variables are used to designate the particular bank.

3) Panel data set representing the private bank groups comprising 12 come under random effect model after Hauseman test, for that reason we prepare GLS for our subsequent analysis, just like panel data set (1).

4) Panel data set representing the foreign bank group(14 banks) come under the fixed-effect model after Hauseman test and after analyzing the total set of trend equations we find that, although their intercepts vary across different banks each banks intercept does not vary over time (time-invariant), hence we have chosen (LSDV) for our subsequent analysis like the panel data set (2).

Interestingly other income comes from a diverse combination of activities and since most of its components are non-traditional activities of the banks, so asymmetry may be common among individual banks. The Indian banking industry has started focusing attention on non-interest income generating scopes and avenues (which according to RBI is generally referred to as "other income") while continuing traditional interest income-earning business as well. Section 14 b) of any bank's balance sheet contains the components of other income. Trend analysis of individual banks is done by linear regression technique for six non-interest components as:

$$Y = a + b*T + u,$$

where u indicating residual effects.

Eight SBI and its associate banks are first taken into consideration and they are State Bank of India, State Bank of Bikaner& Jaipur, State Bank of Hyderabad, State Bank of Indore, State Bank of Mysore, State Bank of Patiala, State Bank of Saurashtra, State Bank of Travancore. Other income as a proportion of total income as well as interest income of the individual banks are indicated by bank name, like: YSBI, YBik,

YHYD, YIND, YMYS, YPAT, YSAU, YTRV (where other income as a proportion of total income of SBI is indicated by YSBI in abbreviated form). However, 5 associated banks in the SBI Group went into a merger from October 1, 2017. Regression results of SBI group of banks for other income as a proportion of total income and other income as a proportion of interest income are summarized below:

Panel regression results of the SBI group of banks are given below

Table 1: Other income / Total income

Bank.	Time-coefficients (β1)	SE	t-ratio
YSBI	0.290	0.134	2.168**
YBik	0.593	0.116	5.099*
YHYD	0.501	0.151	3.315*
YIND	1.063	0.135	7.874*
YMYS	0.858	0.141	6.092*
YPAT	0.715	0.276	2.587**
YSAU	0.613	0.186	3.292*
YTRV	0.570	0.145	3.926*

Table 2: Other income / Interest income

Bank.	Time-coefficients (β1)	SE	t-ratio
YSBI	0.405	0.188	2.15***
YBik	0.863	0.178	4.837*
YHYD	0.736	0.231	3.187*
YIND	1.582	0.212	7.448*
YMYS	1.240	0.213	5.819*
YPAT	0.985	0.391	2.517**
YSAU	0.891	0.276	3.230*
YTRV	0.770	0.203	3.800*

*Note: *, * & *** indicate 1, 5 & 10 percent level of significance of two-tailed t-test respectively.*

Dependent Variable : Y

Method : GLS (Variance Components)

Sample: 1991-2009

Included observations : 19

Total panel observations : 152

Table 3: t - Statistics

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.809162	2.472179	1.540812	0.1263
X1	-0.0198	0.23178	-0.08544	0.9321
X2	0.68298	0.087674	7.79001	0
X3	-2.92948	7.678705	-0.38151	0.7036
X4	0.282177	0.241673	1.167597	0.2456
X5	0.529375	0.327954	1.614174	0.1095
X6	0.42514	0.424569	1.542843	0.0325

Table 4: Random Effects

_SBI	0.026167
_BIK	0.643702
_HYD	0.361354
_IND	-1.36467
_MYS	-1.75089
_SAU	3.248976
_PATI	0.229115
_TRA	-1.39376

Table 5: GLS Transformed Regression

R-squared	0.551503	**Mean dependent variable**	6.120357
Adjusted R-squared	0.515065	**S.D. dependent variable**	4.018844
S.E. of regression	2.427778	**Sum squared residual**	624.7753
Durbin-Watson stat	1.844286		

Estimated multi regression equation is given by:

Y = 3.809 – 0.019*X1 + 0.682*X2 – 2.929*X3 +0.282*X4 +0.529*X5 +0.425*X6

The higher significance of X2 (net sale investment) shown above may be due to the aggressive investment of SBI group of banks in Government-sector funds by the end of last century and hence their contribution is relatively high. For most of the SBI group banks, X2 component increased from less than 1% level during the last part of the century to double-digit figure at the beginning of the present century. However for 4 banks ie, State bank of Hyderabad, State bank of Indore, State bank of Sourastra and State bank of Patiala this rise is very remarkable and the figures reached nearly 15 % of total income during 2001-2005.

While studying the random effect it is revealed that, as hypothesized, the profitability of different banks in the SBI group at the individual level is highly influenced by other income components but differently and total asymmetry prevails.

Empirical observation: In all the cases the slope coefficient (β1) are all positive and the pattern shows that other income as an as a proportion of total income for all eight banks has increased over time. Among the banks, State Bank of Indore, State Bank of Mysore and State Bank of Patiala have a higher coefficient, which implies their other income has increased at a higher rate. On the other hand, this rise is very less for State Bank of India and moderately low for State Bank of Hyderabad, State Bank of Travancore and State Bank of Bikaner & Jaipur.

Panel regression results nationalized group of banks

LSDV Result:

Dependent Variable: Y

Method: Least Squares

Sample (adjusted): 1361

Included observations: 361 after adjusting endpoints

Table 6: Panel regression results nationalized group of banks

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.033293	2.062154	1.470934	0.1427
X1	0.187671	0.212426	0.883461	0.3779
X2	0.552151	0.062057	8.897421	0
X3	0.043807	0.42207	0.103791	0.9174
X4	-0.54609	2.39353	-0.22815	0.8197
X5	-0.12143	0.170447	-0.71239	0.477
X6	0.318095	0.208691	1.524237	0.1288
C1	-0.00695	0.001178	-5.89911	0
C2	0.15647	0.017118	9.140791	0
D2	5.485635	1.262219	4.346024	0
D3	5.457063	1.250202	4.364944	0
D4	3.561367	1.113952	3.197057	0.0016
D5	3.269867	1.161068	2.816257	0.0053
D6	3.888168	1.224754	3.174652	0.0017
D7	6.532493	1.154531	5.658138	0
D8	3.187272	1.160704	2.745983	0.0065
D9	5.252023	1.233359	4.258308	0
D10	2.872299	1.354373	2.120759	0.035
D11	7.549208	1.228702	6.144054	0
D12	4.835141	1.170849	4.129603	0.0001
D13	2.807657	1.348178	2.082557	0.0384
D14	5.570046	1.312351	4.244328	0
D15	3.205675	1.366943	2.345141	0.0199
D16	5.63241	1.243063	4.531074	0
D17	3.860168	1.424484	2.709871	0.0072
D18	4.363232	1.297642	3.36243	0.0009
D19	2.85648	1.324598	4.32256	0.00521
R-squared	0.541791	**Mean dependent var**	4.388929	
Adjusted R-squared	0.503228	**S.D. dependent var**	5.137609	
S.E. of regression	2.751247	**Akaike info criterion**	4.959441	
Sum squared resid	1710.675	**Schwarz criterion**	5.323588	
Log-likelihood	-598.89	**F-statistic**	25.97037	
Durbin-Watson stat	1.89072	**Prob (F-statistic)**	0	

Estimated multi regression equation in LSDV form is given by:

(PR)it = 0.187*OICEB + 0.552 *NETSI + 0.043*NETRI- 0.546* NETLD – 0.121*NETEX+0.318*MISC+3.03+5.48*d1 +5.46*d2+3.56*d3+3.27*d4+3.89*d5+6.53* d6+3.18*d7+5.25*d8+2.87*d9+7.55*d10+4. 83*d11+2.81*d12+5.57*d13+3.20*d14+5.63 *d15+ 3.86*d16+ 4.36*d17+ 2.86*d18.

Where OICEB is the abbreviated form of other income from commission exchange & brokerage and so on for other components.

As per the above calculations, it appears that relatively higher proportion of profitability is generated by Oriental Bank of Commerce, Corporation Bank, Bank of India, Indian Overseas Bank, Syndicate Bank, Andhra Bank, Union Bank, Punjab National Bank, Vijaya Bank. For banks like Bank of Baroda, Canara Bank, Central Bank, Dena Bank, U Co Bank, United Bank of India it is moderately high. For banks like Allahabad Bank, Punjab and Sind Bank, Indian Bank, Bank of Maharashtra it is low but positive.

The estimated results show great divergence between nationalized banks in generating profitability via non-conventional route like other income activities and interestingly some of them not so successful banks like Corporation Bank, Bank of India, Indian Overseas Bank, Syndicate Bank and Andhra Bank, Union Bank and Vijaya Bank did extremely well towards diversification in other income. this might be because they have robust loyal corporate client segment to tap the utilities of non-interest generating activities. From the panel data results, it appears that the adjusted R squared for banks is 0.50, which means that the explanatory variables explain the dependent variable by about 50%. However, this fig may be slightly more if absolute data would have been taken. The Durbin Watson statistic is 1.89, which means that there is no autocorrelation in the data.

From the trend analysis results of the SBI group of banks, it can be summarized that-as hypothesized both other incomes as a proportion of total income and other income as a proportion of interest income increased for all eight banks steadily during 1991-2016. However great asymmetry prevails among the components of other income. Only net sale investment went up for all banks but a declining tendency was observed both for commission exchange brokerage as well as a net exchange as a proportion of other income. The panel regression study revealed that over time within the SBI group, the other income component of the State Bank of Saurashtra and State Bank of Jaipur and Bikaner have contributed very significantly to profitability. This contribution is lowest for State Bank of Mysore.

From the time trend analysis, it is evident that both other income as a proportion of total income and other income as a proportion of interest income increased for all 18 banks in a nationalized group of banks during 1991-2017 except for Indian Overseas Bank. For this bank both the trends are declining since the bank was passing through a difficult phase during this period. Among the components of other income, commission exchange brokerage showed an overall declining trend for all banks in this group and net sale investment displayed a rising trend for all banks except Corporation Bank.

In the nationalized bank group, Oriental Bank of Commerce and Corporation Bank showed a significant contribution of other income towards their respective profitability. The same is very low for Bank of Maharashtra and Indian Bank.

For private bank group in all the cases, the slope

coefficients (β1) are all positive and the pattern shows that the other income as a proportion of interest income for all twelve banks has increased over time, except for Tamil Nadu Mercantile Bank, for which it decreased. However, the slope coefficients are not the same, for Bank of Rajasthan, Catholic Syrian Bank, Dhanlaxmi Bank, Jammu and Kashmir Bank, Lord Krishna Bank, and United Western Bank other income as a proportion of interest income has increased at a higher rate. On the other hand, this rise is less for Nainital Bank and moderately high for Bharat Overseas Bank, Federal Bank, Laxmi Vilas Bank, Sangli Bank.

The trend analysis of foreign bank group validated the hypothesis that other income as a proportion of total income and other income as a proportion of interest income both have gradually increased over time under study(1991-2016) for all twelve banks and only for two banks, Bank of America and Abu Dhabi bank, other income as a proportion of total income as well as interest income came down slightly. Here no component of other income displayed overall rising or declining tendency. From the panel result of foreign bank group, it is revealed that out of all six components of other income, X3(net revaluation investment), X5 (net exchange) were individually highly significant and they contributed much higher towards profitability but the contribution is negative for X1(commission exchange brokerage).

Conclusion

If concerted marketing effort is undertaken towards promoting the six different components of non-interest earning activities, then this would act as a supportive cushion to the banks and help them to deal with the global challenge more confidently. Further, as risk factors are also addressed in the process, this diversification would also place banks on a stronger footing. Since RBI policy guidelines for the non–interest generating activities are much more flexible than its counterpart interest generating activities so commercial banks can play well while adhering to basic norms.

Interestingly if non-interest income in spite of its asymmetry both at the individual bank level and bank group level can lower fluctuations in bank profits and reduce uncertainty and loss, then it might reasonably reduce capital requirements of commercial banks because all the banks have to keep a reasonably good amount of fund to tide over these exigencies. With the help of resources thus released, the policymakers can get the scope to leverage the situation by further reallocating and diversifying these resources while sharpening their marketing tools. On the other hand, the cost of bank operations are linked up to the perceived riskiness of the bank concerned, so bank management is always interested to reduce uncertainty. Management of big banks with large equity in banks will have further urge to reduce uncertainty and consequent loss in a move towards sustainable long-run profitability where non-interest income can play a bigger role at present as well as in future.

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An Empirical Study on Determinants of Capital Structure of Selected Refineries in India: Panel Data Analysis

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Abstract

In this research paper, the researcher has attempted to investigate the determinants of the capital structure of selected refineries in India for the period of 2014-2015 to 2018-2019. The researcher has used secondary data collected from annual reports and moneycontrol.com. Accounting ratio and descriptive statistics, correlation, multiple regression and penal data analysis were used as analytical tools and statistical tools respectively. The researcher has identified variables which determine the capital structure. There are three ratios 1) total debt ratio 2) long term debt and 3) short term debt were taken as representative of capital structure. Profitability, tangibility, firm size, growth and nontax debt shield were taken as independent variables. Correlation matrix suggested that Profitability and firm size have a significant correlation with capital structure ratio. Size of the selected companies has also a significant correlation with the short term debt ratio. Hausman test was used to select between Random effect model and fixed-effect model, the result of the Hausman test was significant which suggests that the fixed effect model is fit. The result of Pooled OLS method and fixed-effect model says that the total debt ratio of Refineries in India is affected by firm size, profitability and growth. Long term debt ratio of refineries in India is influenced by profitability, firm size and nondebt tax shield explained by Pooled OLS model and fixed-effect model. Short term debt ratio of refineries in India is impacted by firm size explained by Pooled OLS model and fixed-effect model. Hausman test is significant in capital structure ratios, Therefore in all three models, the fixed-effect model is appropriate

Introduction

Design of capital structure is very important for the success of any firm. The finance manager has to consider many factors while designing the capital structure. Optimum capital structure is the best design for any firm. The firm can accelerate the earning available to shareholder through capital structure. Thus capital structure decision affects the value of the firm. Value of the firm can be increased by an optimum capital structure. The optimum capital structure depends on the Mix of debt and equity capital. David Durand suggests that a higher level of debt in capital structure increases firm value. He propounded the Net income approach for capital structure decision. Modigliani Miller believes that capital structure decision is irrelevant to the value of the firm. Capital structure decision is long term decision. It is irreversible in the future. The manager has to considers many variables like firm size, nature of the firm, liquidity, earning capacity, market share, future

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perspectives of a product being produced, tax rate, economic condition, trade cycle, capital market situation, rate of interest, legal constraints while raising fund, etc. Each variable has an impact on capital structure. However, some variables are not easily quantified. To be precise in the study, the researcher has identified five variables like profitability, size of the firm, tangibility, growth, non-debt tax shield, etc.

Literature Review

Some researchers found out interesting result through research. Such related research reviews are explained here.

Jorge H.F. Mota and Antonio C. Moreira (2017) worked on determinants of the capital structure of Portuguese firms from 2006 to 2010.The study concluded that age, assets structure, return on assets and tangibility have positively affected to the capital structure of Portuguese firm. Whereas non-debt tax shield and liquidity negatively affect financial leverage ratio of the selected firms. Songul Kakilli Acaravci (2015) worked on determinants of the capital structure of Turkish manufacturing sector for the period 1993 to 2010. The researcher has taken leverage as dependent variables and growth, size, profit, tangibility and non-debt tax shield were taken as independent variables. Leverage -1 (total debt/ total assets) is significantly affected by the size, profitability, and tangibility. While leverage -2 (total debt/ total equity capital) is affected by growth, size, profitability and tangibility. Harvinder Singh Mand & Manjit Singh (2014) researched on determinants of the capital structure of Indian iron & steel industry. Random effect model was used and the result of the random effect model suggests that firm size, profitability, tangibility, age, debt service capacity and non-debt tax shield have been significant to capital structure. Patrik Bauer (2004) researched determinants of the capital structure of the Czech Republic from 2000 to 2001. There were four dependent variables total liabilities to equity, total debt to equity, total liabilities to the market value of equity and total debt to the market value of equity. Size, ROA, tangibility, tax and NDTS were independents variables. Size is significant to all four dependent variables in 2000. Size is also significant to all four selected variables. ROA is significant to TL and TD in 2000. ROA is significant to TD, MTL and MTD in 2001. Tangibility is significant to TL and MTL in 2000. Tangibility is significant to TL and TD in 2001. PB is significant to MTL and MTD in 2000. PB is significant to TL, MTL and MTD in 2001. Tax is significant to TL and TD in 2000. NDTS is significant to TL and MDL in 2000, while Tax is also significant to MTL and MTD in 2001. Joshua Abor (2008) worked on the determinants of the capital structure of Ghanaian firms from 1998 to 2003. The researcher has selected SME, unquoted firms and quoted firms. Age is significant to long term debt-equity ratio of unquoted and quoted firms. Size is significant to short term debt ratio of SME, while the size is significant to long term debt ratio to unquoted firms and quoted firms. However, size is significant to short term debt ratio to unquoted firms. Assets structure is significant to short term debt ratio of SME, while assets structure is long term debt ratio and short term debt ratio of quoted firms and unquoted firms. Profitability is significant to short term debt of SME, quoted firms and unquoted firms. Profitability is significant determinants to long term debt ratio of quoted firms and unquoted firms. Growth is significant to the short term debt ratio of SME. Growth is significant to long term debt ratio of unquoted firms. The dividend is significant to long term

debt ratio of unquoted firms. Risk is significant to long term debt ratio of all types of firms. Tax is also significant to short term debt ratio of SME and tax is also long term debt ratio of quoted firms ownership is also significant of short term debt of MSE, ownership is also significant to long term and short term debt of unquoted firms and quoted firms. Sasho Arsov, Aleksandar Naumoski (2016) worked on determinants of the capital structure of companies selected for the period of the post-transition economy. The researcher has used tangibility, size, profitability, growth, risk, tax shield and ownership concentration as independent variables. While total liabilities and total debt were taken as dependent variables. Tangibility, size and profitability were significant to all four dependent variables of capital structure, while growth was significant to total liabilities and total debt. Tax shield and ownership concentration were insignificant to the dependent variable. Natasa Sarlija and Martina Harc (2016) researched on capital structure determinants of small and medium firms of Croatia from 2005 to 2011. The study concluded that assets growth, EBITDA to assets ratio, sales revenue, tangible assets to total assets and financial assets to current liabilities were found significant to capital structure. Tariq Naeem Awan Majed Rashid Muhammad Zia-ur-Rehman (2011) examined that determinant of the capital structure of sugar and its allied industries from 1999 to 2004. The study concluded that tangibility and profitability were found significant to leverage, while firm size and growth were found insignificant to leverage. Siti Salimah Hussain and Hassan Miras (2015) analyzed the determinants of the capital structure of Malaysian food-producing firms from 2003 to 2012. The research resulted that size, liquidity and profitability were found significant to total debt ratio, while tangibility and growth were found insignificant to total debt ratio. Carolina Tandya (2015) worked on determinants of the capital structure of listed firms of Indonesia from 2009 to 2013. Multiple regression results suggest that profitability; firm size and growth opportunities were significant to corporate leverage. Tangibility was insignificant to corporate leverage. Samuel G. H. Huang and Frank M. (2000) worked on the determinants of capital structure in Chinese companies. The result of research indicates that leverage is enhanced in Chinese' companies with a size of the firm, NDTS and fixed assets. It decreases with profitability. The study also found that leverage has been affected by the ownership structure which is unique from other countries. Leverage in China. Moreover firm with high volatility has low long term debt. Syed Tahir Hijazi & Yasir Bin Tariq (2006) studied determinants of the capital structure of Pakistani cement industry from 1997 to 2001. The result of research indicates that profitability, tangibility and growth were found significant with leverage, while the size was insignificant to leverage. Attaullah Shah & Safiullah Khan (2007) studied capital structure determinants through penal data analysis technique for the period of 1994 to 2002. The result of the research shows that tangibility, growth and profitability were significant to leverage and size and earning volatility were found insignificant to leverage. Mutalib (2011) worked on capital structure determinants of Nigerian cement firms from 2000 to 2009. The study indicates that size, growth and tangibility have been significant determinants of capital structure. While earning volatility and liquidity have been insignificant determinants of capital structure. Maryam Masnoon (2012) analyzed capital structure determinates of pharmaceutical companies listed in KSE from

2008 to 2011. The result of research explained that tangibility, size, profitability and growth found significant at 10% level of significance.

Objectives of the Study

1. To identify the most influential factors of the capital structure of selected refineries in India.
2. To establish a correlation between profitability, tangibility, growth, non-debt tax shield, firm size and debt-equity ratio
3. To measure the effect of profitability, tangibility, growth, non-debt tax shield, the firm size on debt-equity ratio.

Research Methodology

This paper has been made by using secondary data extracted from financial statements of respective companies and money control.com. The secondary was used. The period was from 2014-2015 to 2018-2019. Causal relation has been established between dependent variables and independents variables. The sample size was of six refineries namely

1) Reliance Industries,
2) Indian Oil Corporation Ltd.,
3) Bharat Petroleum Corporation.,
4) Hindustan Petroleum Corporation Ltd.,
5) Mangalore Refinery & Petrochemicals Ltd., and
6) Chennai Petroleum Corporation Ltd.

Data Analysis

Data analysis has been done through different accounting ratio calculated by the formula. Research has used statistical tools like descriptive statistics; correlation matrix, Pooled Ordinary Least Square Model, Hausman Test, Random effect model and fixed effect model have been used.

1. $TDR = \beta 0 + \beta 1\ (PROF) + \beta 2\ (SIZE) + \beta 3\ (GROWTH) + \beta 4\ (TANG) + \beta 5\ (NDTS) + \mu it$
2. $LTDR = \beta 0 + \beta 1\ (PROF) + \beta 2\ (SIZE) + \beta 3\ (GROWTH) + \beta 4\ (TANG) + \beta 5\ (NDTS) + \mu it$
3. $STDR = \beta 0 + \beta 1\ (PROF) + \beta 2\ (SIZE) + \beta 3\ (GROWTH) + \beta 4\ (TANG) + \beta 5\ (NDTS) + \mu it$

Table 1: Definition of Selected Variables

Dependent Variables		**Formula**
TDR	Total Debt Ratio	Debt / Equity
LTDR	Long Term Debt Ratio	Total Debt/ Total Assets
STDR	Short Term Debt Ratio	Short term Debt/ Equity
Independents Variables		**Formula**
PROF	Profitability	EBIT/Total Assets
SIZE	Firm Size	Natural log of Total Assets
Growth	Growth in Sales	Percentage changes in net sales
TANG	Tangibility	Tangible assets/ Total Assets
NDTS	Non-Debt Tax Shield	Depreciation / Total Assets

Table 2: Descriptive Statistics

Descriptive statistics	TDR	LTDR	STDR	PROF	SIZE	GROWTH	TANG	NDTS
Mean	0.87	0.49	0.38	5.6	4.93	4.57	39.83	2.47
Median	0.74	0.42	0.25	5.9	4.92	7.72	41.09	2.48
Maximum	2.66	1.48	2.06	13.79	5.89	43.64	55.09	3.77
Minimum	0.31	0.14	0	-4.98	4.01	-38.27	19.99	1.36
Std. Dev.	0.58	0.32	0.47	3.61	0.56	21.25	9.25	0.6
Skewness	1.74	1.65	2.15	-0.83	-0.03	-0.2	-0.39	0.08
Kurtosis	5.31	5.25	7.53	4.62	1.95	2.22	2.68	2.69
Jarque-Bera	21.74	19.97	48.84	6.71	1.38	0.97	0.89	0.15
Probability	0	0	0	0.03	0.5	0.61	0.64	0.93
Sum	26.08	14.76	11.32	168.03	147.83	137.24	1194.85	74.08
Sum Sq. Dev.	9.92	2.94	6.3	377.2	9.12	13089.87	2483.02	10.35
Observations	30	30	30	30	30	30	30	30

Table 2 shows the descriptive statistic of selected dependent and independents variables. Tangibility has the highest mean value 38.83 and STDR has the lowest mean value of 0.38. The tangibility is effective. The highest value of standard deviation is 21.25(growth) and 0.32(LTDR). The highest value of Profitability is 13.79 and the lowest value is -4.98. The highest value of skewness is 2.15 of STDR and the lowest value is -0.03 of firm size.

Table 3: Correlation Matrix

Variables	TDR	LTDR	STDR	PROF	SIZE	GROWTH	TANG	NDTS
TDR	1							
LTDR	0.607**	1						
STDR	0.840**	0.078	1					
PROF	-0.433*	-0.390*	-0.276	1				
SIZE	-0.726**	-0.459*	-0.598**	0.115	1			
GROWTH	-0.212	-0.359	-0.021	-0.114	0.108	1		
TANG	0.197	0.004	0.244	-0.056	-0.459*	0.276	1	
NDTS	0.120	-0.048	0.184	0.295	-0.398*	-0.050	0.385*	1
** Correlation is significant at the 0.01 level (2-tailed).								
* Correlation is significant at the 0.05 level (2-tailed).								

Table-3 indicates that there is the highest correlation is seen between total debt ratio and long term debt ratio (0.607*) and short term debt ratio (0.840*). The relation is found significant at 1% level of significance. There is a negative correlation between total debt ratio and profitability (-0.433*) and firm size (0.726*). The correlation is a significant between total debt ratio and profitability at 5% level of significance. The correlation between total debt

and size is also significant at 1% level of significance. Growth has a negative and insignificant correlation with Total debt ratio, while tangibility and non debt tax shield have a positive and insignificant correlation with total debt ratio. Long term debt ratio has a negative but significant correlation with Profitability (-0.390*) and firm size (-0.459*). Short term debt ratio has also a negative correlation with firm size (-0.598**) which is also statistically significant at 1% level of significant, While firm size has a negative and significant correlation with tangibility (-0.459*) and non debt tax shield (-0.398*). Tangibility has a positive and significant relationship with non-debt tax shield

Regression Analysis

Table 4: Correlated Random Effects - Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	18.843424	5	0.0021

Table 4 shows the result of Hausman test. The p-value if 0.0021 which is lower than 0.05. Hence it is concluded that the random effect model is inappropriate and fixed effect model is appropriate.

Table 5: Regression Analysis (Model-1: Total Debt Ratio)

	Total Debt Ratio			
	Pooled OLS Model		Fixed effect model	
Variable	**Coefficient**	**P-value**	**Coefficient**	**P-value**
C	5.303165	0.0000	3.423579	0.5255
PROF	-0.05885	0.0074	-0.05209	0.0065*
SIZE	-0.76035	0.0000*	-0.36725	0.7371
TANG	-0.00672	0.4621	0.005798	0.6224
GROWTH	-0.00405	0.2456	-0.00677	0.0481*
NDTS	-0.02879	0.8332	-0.028791	0.1413
Total panel observations	30		30	
R-squared	0.693666		0.846199	
Adjusted R-squared	0.629847		0.765252	
F-statistic	10.86918		10.45366	
Prob.(F-statistic)	0.000015		0.000009	

Table 5 shows the regression model. The researcher has taken a total debt ratio as the dependent variable and profitability, size, tangibility, growth and non debt tax shield. The result of the pooled OLS model shows that size has a significant effect on the total debt ratio. (Patrik BAUER (2004) other determinants like profitability, tangibility, growth and non debt tax shield have an insignificant effect on the total debt ratio. R- Square indicates that all independents variables have caused combine variance of 69.37% in the dependent variable (TDR). The fixed-effect model shows that profitability and growth are significant to total debt ratio. (Songul Kakilli Acaravci (2015) Total variance caused by independent variables is 84.61%.

Table 6: Correlated Random Effects - Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	13.242199	5	0.0212

Table 6 shows that the Hausman test is significant. Thus the null hypothesis is rejected and the alternative hypothesis is accepted and concluded that the fixed effect model is fit and appropriate.

Table 7: Regression Analysis (Model 2: Long Term Debt Ratio)

	Lon Term Debt Ratio			
	Pooled OLS Model		Fixed effect model	
Variable	Coefficient	P-value	Coefficient	P-value
C	2.301474	0.0033	-3.380166	0.4189
PROF	-0.030468	0.0441*	-0.031244	0.0285
SIZE	-0.269843	0.0159*	1.007470	0.2414
TANG	-0.003450	0.5957	-0.012849	0.1674
GROWTH	-0.004882	0.0557	-0.007684	0.0059*
NDTS	-0.060477	0.5366	-0.150059	0.2736
Total panel observations	30		30	
R-squared	0.474757		0.690480	
Adjusted R-squared	0.365332		0.527575	
F-statistic	4.338635		4.238535	
Prob(F-statistic)	0.005923		0.003338	

Table 7 shows Pooled OLS Model and Fixed effect model. The long term debt ratio is used as the dependent variable. The result of pooled OLS shows profitability and firm size has negatively impacted on the total debt ratio. The effect of profitability (0.0441*) and firm size (0.0159*) is also statistically significant. Tangibility, growth, and NDTS have also negatively affected to long term debt ratio. However, the effects of tangibility, growth and NDTS were found insignificant. R-Square is 0.47.47 which means that total variance caused by independent variables is 47.47%. F- Test is also significant which means that this model is fit. Fixed effect model shows that growth is a significant variable to capital structure ratio represented by long term debt ratio. Size, profitability and tangibility and non debt tax shield of selected refineries have a negative effect on long term debt ratio except size. R square shows that c 69.04% variance has been explained by fixed effect model 2.

Table 8: Correlated Random Effects - Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	34.005539	5	0.0000

Table 8 show the Hausman test indicates that the fixed effect model is appropriate because the P-value is 0.000 which is less than 0.05. Hence Hausman test shows significant result.

Table 9: Regression analysis (Model-2: Short-Term Debt Ratio)

	Short-Term Debt Ratio			
	Pooled OLS Model		Fixed Effect Model	
Variables	Coefficient	P-value	Coefficient	P-value
C	3.001691	0.0117	6.803745	0.1870
PROF	-0.028379	0.2162	-0.020844	0.2085
SIZE	-0.490504	0.0058*	-1.374715	0.1904
TANG	-0.003273	0.7462	0.018647	0.1027
GROWTH	0.000832	0.8276	0.000911	0.7654
NDTS	0.031686	0.8348	-0.114256	0.4884
Total panel observations	30		30	
R-squared	0.404410		0.690480	
Adjusted R-squared	0.280328		0.527575	
F-statistic	3.259232		4.238535	
Prob(F-statistic)	0.021899		0.003338	

Table-9 shows Pooled OLS model and fixed effect model of short debt ratio. The Pooled OLS model results that firm size has a negative and significant effect on short term debt ratio. Profitability and tangibility have a negative and insignificant effect on short term debt ratio. R-Square shows that the total effect of independent variables has been 40.44%. Fixed effect model explains that all independent variables are insignificantly affected to short term debt ratio. Profitability, tangibility and NDTS have a negative but insignificant effect on short term debt ratio. R square indicates that all independent variable combine caused the fluctuations of 69.04% in short term debt ratio.

Table 10: Summary of the Result

Variables	Total Debt Ratio		Long-Term Debt Ratio		Short-Term Debt Ratio	
Model	**Pooled OLS Model**	**Fixed Effect Model**	**Pooled OLS Model**	**Fixed Effect Model**	**Pooled OLS Model**	**Fixed Effect Model**
PROF	0.0074	0.0065*	0.0441*	0.0285	0.2162	0.2085
SIZE	0.0000*	0.7371	0.0159*	0.2414	0.0058*	0.1904
TANG	0.4621	0.6224	0.5957	0.1674	0.7462	0.1027
GROWTH	0.2456	0.0481*	0.0557	0.0059*	0.8276	0.7654
NDTS	0.8332	0.1413	0.5366	0.2736	0.8348	0.4884
Hausman Test		**Significant**		**Significant**		**Significant**

Conclusion

Total debt ratio of Refineries in India is affected by firm size, profitability and growth. Long term debt ratio of refineries in India is influenced by profitability, firm size and non-debt tax shield explained by Pooled OLS model and fixed-effect model. Short term debt ratio of refineries in India is impacted by firm size explained by Pooled OLS model and fixed-effect model. Hausman test is significant in all three ratios to total debt ratio, long term debt ratio and short term debt ratio, Therefore in all three models, the fixed-effect model is appropriate.

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An Empirical Study of Interior and Exterior Presentation Activates with Special Emphasis on Organized Retail Shopping Malls at Bengaluru City

A. Mayur Kumar*

Abstract

This paper reports the results of a study designed to identify key Interior and exterior Presentation activates to the success of their organized retailing shopping malls, the current study is descriptive in nature. The primary data would be collected from 275 sample responses belonging to a varied group of customers of the shopping malls etc., in the Bangalore city. Present study consists and the questionnaire two parts. Part-I questionnaire measures the distribution of participants on the bases demographic characteristics and part-II questionnaire measures Interior and exterior Presentation activates at the shopping mall on a five-point liker scale ranging from (1) strongly disagree to (5) "strongly agree"Sample was collected based on non-probabilistic Convenience sampling method. The population in this study comprise of customer who loves shopping malls in Bangalore. This study is undertaken, Descriptive Statistics, t-test to identify the Interior and exterior Presentation activates Correlation analysis and has been used to establish the relationship between presentations activates and Customer satisfaction. The hypothesis has been tested by using regression analysis.

Introduction

Mall scenario in India

The retail sector in India is emerging as one of the largest sectors in the economy. The Indian retail industry has emerged as one of the most dynamic and fast-paced industries. India is expected to become the world's third-largest consumer economy, reaching US$ 400 billion in consumption by 2025. The retail market in India is projected to grow from US$ 672 billion in 2017 to US$ 1.1 trillion in 2020. The modern retail market in India is expected to grow from US$ 70.45 billion in 2016 to US$ 111.25 billion in 2019. Malls are an upcoming trend in the Retail market.

The Mall concept is based on constructing centrally air-conditioned malls and renting the floor space out to individual shops. Shoppers use the same parking facilities and there is a combined brand pull of all outlets. Malls inspire fashion-based shopping, as distinct from the need-based shopping inspired by supermarkets and discount stores. Malls seek to position themselves as destination shopping locations. The concept of Retail as entertainment came to India with the advent of malls. Mall fever has touched every facet of Indian society. Whatever is the income stratum of consumers, malls make no distinction in proffering most-revered national and global brands. In India, malls have transformed shopping from a need driven

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activity to leisure time entertainment. The quality mall space which was just one million square feet in 2002 has accomplished new milestones of 40 million square feet and 60 million square feet in 2007 and 2008 respectively. There is a paradigm shift in the mall scenario, from just 3 malls in the year 2000; the country witnessed 220 malls in the year 2006. In India, out of the 12 million sq.ft of Indian shopping centre space planned for opening in 2012, only about 60 percent was expected to be completed because of the huge delay in mall projects in India's biggest cities. There is stress even in the business model as it is getting a bit expensive. Real estate prices and construction costs are rising, but the retail business is not growing enough to absorb these costs. Retail rents are down by 30 to 40 percent as compared to the peak of 2008 (CRISIL). The Great Indian Mall Boom began innocuously enough in the early 2000s, with just three malls in existence in the entire country. The rest is, as they say, history, as Indian shoppers slowly but surely developed a penchant for shopping in clean, vibrant, climate-controlled and highly-enabled malls rather than in the usual 'Kirana' shops and scattered individual stores. Despite many hiccups, including the recession of 2007-08 and the advent of e-commerce businesses, the numbers vouchsafe that Indian malls are here to stay. By 2017-end, there were more than 600 operational malls across the country. Interestingly, more than 30 new shopping malls covering nearly 14 million sq feet of area are expected to come up across the top eight cities by 2020.Malls now spreading their wings to even Tier II and Tier III cities. With rising disposable incomes in the country, the idea of malls has caught on since they are convenient, organized, offer some choices under one roof, and provide ample parking space. Thus, it doesn't come as a surprise that organized retailing in the country is projected to grow at the rate of 25-30 percent per annum to touch $75 billion by 2017. International property consultancy firm Cushman & Wakefield estimates that India will see close to 34 new malls by 2020 in the top eight (Ahmadabad, Bengaluru, Chennai, Delhi-NCR, Hyderabad, Kolkata, Mumbai and Pune) Indian cities.

Table 1: Top 20 Biggest Malls in India

Sl. No.	Name of the Mall	Area (Sq. Ft.)
1	Lulu International Shopping Mall, Kochi	2500,000
2	DLF Mall of India, Noida	2000,000
3	Elante Mall, Chandigarh	1150,000
4	Phoenix Mall, Chennai	1000,000
5	Viviana Mall, Thane	10,00,000
6	Mantri Square, Bangalore	924,000
7	North Country Mall, Mohali (VR Punjab)	914,760
8	Z Square Shopping Mall, Kanpur	900,000
9	Lotus Mall, Mangalore	900,000
10	The Great India Place Shopping Mall, Noida	850,000
11	Select Citywalk, New Delhi	850,000

Sl. No.	Name of the Mall	Area (Sq. Ft.)
12	Phoenix Market City, Mumbai	800,000
13	Phoenix Mall, Pune	800,000
14	DB City Mall, Bhopal	800,000
15	Alpha One Shopping Mall (Ahmedabad One)	706,000
16	R-city Mall, Mumbai	657,000
17	High Street Phoenix, Mumbai	650,000
18	South City Mall, Kolkata	650,000
19	Inorbit Mall, Hyderabad	600,000
20	Inorbit Mall, Mumbai	545,000

Literature Review

J.Chithralega (2013) has described The present study mainly focuses on experiential shopping motivations which consist of comfort, convenience, idea shopping, diversion, enjoyment, ambiance, and attractiveness. Consumers are visiting malls for various motivational factors. Various motivational factors are Aesthetic appreciation, diversion, Social relationship, Browsing, and Convenience. Research suggests that there is a direct link between shopping motivations and overall mall experience value such as Hedonic benefits, Utilitarian benefits, epistemic benefit and Revisit intention. They are broad categories of atmospheric cues: external cues (e.g. architectural style, surrounding stores); general interior cues (e.g. flooring, lighting, color schemes, music, and aisle width, ceiling composition); layout and design cues (e.g. space design and allocation, grouping, traffic flow, racks and cases); point of purchase and decoration displays (e.g. signs, cards, wall decorations, price displays)

Shashikala R and Dr. Suresh A. M (2013) this paper attempt to explore the possibility of building consumer loyalty through effective use of servicescape (physical environment) in a shopping mall to attract and retain serious buyers. The study revealed that seven servicescape dimensions considered i.e., ambient factor, aesthetic factor, layout, variety, cleanliness, signs, symbols & artifacts, and social factor are all relevant in shopping mall context and capable of inducing significant variations in consumer loyalty. Ambient factors (lighting, scent, air quality, temperature, music, and noise), Spatial layout and functionality (the existence and arrangement of machinery, equipments, and furnishings) and Signs, symbols, and artifacts (signage, artwork and decorative items, POP displays) design of a store may translate in to more happier customers, longer stays, higher spending, and faster and efficient service, all of which may have considerable effect on organization's bottom line.

Ala'Eddin Mohammad Khalaf Ahmad (2012) the study discuses to make an original contribution to knowledge by investigating the impact of attractiveness factors on shopper satisfaction and outcomes shopper loyalty and

shopper positive WOM in the shopping malls industry in KSA. This research contributes to the services marketing discipline in finding out the role of the attractiveness factors namely (aesthetic, convenience and accessibility, product variety, entertainment, and service quality) in enhancing shopper satisfaction, loyalty, and positive WOM.

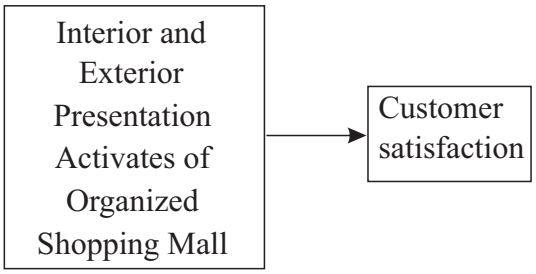
Dr. V. Sujatha (2015) in this research, the tenants of the mall revealed that they are satisfied towards the existing mall ambiance, facilities provided and the support extended by the management team. In the future, the satisfaction level is subject to change as the expectation of the tenant changes depending on the nature of the problem encountered. So continuously monitoring the tenant satisfaction becomes inevitable. Building good tenant relation is based on the commitment on the part of property owners.

Derek Ong Lai Teik, Gan Yi Hao, Iva Juniaty, Joseanne Wong Lirn Jhet, Ling Ai Rick and Subashini a/p Gullantheivello (2015) the research analysis Shopping has become an activity of leisure and most of the stress of it has been reduced with the introduction of online shopping in recent years. Nevertheless, shopping mall operators are constantly improving their current operations to enhance the customer experience. Besides, shopping malls are an enclosed environment with a controlled climate and on-site parking. The amount of time an individual spent in a mall, as well as the frequency of an individual to engage in shopping, are fundamental reasons for shopping mall operators to continue to elicit stimulation to enhance their positive consumer behavior and increase their purchase intention probability. Besides the potential in high sales, holiday seasons are a great opportunity for shopping mall operators to enhance their stimulations through various decorations and atmosphere manipulation of the interior design and ambiance.

Objectives of the Study

- To examine the fundamental concepts behind on Interior and exterior Presentation activates towards organized shopping mall at Bengaluru city in India
- To measure the level of satisfaction /dissatisfaction of Interior and exterior Presentation activates towards organized shopping mall at Bengaluru city in India.
- To identify the effectiveness of Interior and exterior Presentation activates of shopping mall and customer satisfaction.

Research Hypotheses



H0: There is no positive relationship between Interior and exterior Presentation activates of shopping mall and Customer Satisfaction.

H1: There is a positive relationship between Interior and exterior Presentation activates of shopping mall and Customer Satisfaction.

Research Methodology

To accomplish the objective of the study to collect data for this research study, both primary and secondary sources were used Primary data collected through an empirical investigation, an online survey was conducted, using a structured questionnaire. Secondary data collected through the researcher-reviewed articles related to research objective that appeared in the scholarly literature, key journals, reports, magazines and proceeding were systematically scanned for articles related to the research topic. Present study consists and the questionnaire two parts. The questionnaire measures on Interior and exterior Presentation activates at the shopping mall on a five-point scale ranging from (1) "strongly disagree" to (5) "strongly agree". The sampling technique followed by non-probability, Convenience sampling. The data collected for pre-test are through an online survey, E-mail ids were gathered from various sources belonging to India. Questionnaire for the pre-test was designed on the web portal of quia.com. The population in this study comprise of customer who loves shopping malls at Bengaluru city. It is decided to choose to collect the data a through online survey structured questionnaire was farmed Questionnaires were distributed amongst the sample of 300 but received 275 customers respondents of the shopping mall (Mantri square mall, the forum, Garuda mall, Bangalore central, Phoenix Market City) at Bangalore city. The period of the study review of the literature, design of the questionnaire, and the actual data for the questionnaire are collected during September-December 2018. The data was collected tying a survey and interpretation through to check the reliability of the data Cronbach alpha test was applied to find out the most preferable Interior and exterior Presentation activates at shopping malls viewpoint Descriptive Statistics, factor analysis, t-test correlation and regression was applied. All the analysis was carried out by SPSS 24.0.

- The study has found that out of 275 respondents, 275 (62.2 %) male and N = 100 (37.8 %) females respectively at shopping malls in Bangalore city. Hence it can be interpreted that men are more inclined than women in shopping malls.

Data Analysis & Interpretation

Table 2: Demographic Factors

Particulars	Frequency	Percentage
Gender		
Male	171	62.2
Female	104	37.8
Age (Years)		
17-25	67	24.4
26-45	86	31.3
46-60	83	30.2
Above-60	39	14.2
Education		
Under Graduates	23	8.4
Graduates	112	40.7
Post Graduates	140	50.9

Particulars	Frequency	Percentage
Monthly Income		
Less than Rs.10000	26	9.5
Rs.10001 - Rs.20000	82	29.8
Rs.20001 - Rs.30000	87	31.6
Rs.30001 - Rs.40000	31	11.3
Rs.40001 - Rs.50000	26	9.5
More than Rs. 50000	23	8.4
Occupation		
Employee	64	23.3
Employer	64	23.3
Homemaker	55	20.0
Student	50	18.2
Retired	19	6.9
Un-employed	23	8.4
Total	**275**	**100%**

Source: Collected from primary data

- The study has found out of 275 respondents, 86 (31.3 %) investors are in the age group of Below 26-45 years, 83 (30.2%) respondents are in the age group of 46-60 Years, 67 (24.4 %) respondents are in the age group of 17 -25 Years and 39 (14.2%) respondents are in the age group of above 60 Years. It is interpreted from the results that respondents in the age group of 26-45 Years and 46-60 Years are the groups interested to visit shopping malls.
- It is observed from the study that among 275 respondents, 140 (50.9%) respondents are having postgraduate education, 112 (40.7%) respondents are graduates and 23 (8.4 %) respondents are undergraduates. Hence it can be observed that respondents with post-graduation and graduation studies are more visit shopping malls. Education level play more significant dominant to give preferences and exportations shopping malls at Bangalore in India.
- Most of the respondents belong to the income groups, 87 (31.6 %) respondents have monthly income Up to Rs.20,001-30,000, 82 (37.89 %) respondents are having monthly income of Rs. 10,001-20,000, 31 (11.3 %) respondents are having monthly income of Above Rs.30,001-40,000. Hence it can be understood that monthly income group of above Rs 20,001-30,000 and followed by Rs 10,001 to 20,000 are the sample mostly represents the middle-class income preferred to visits shopping malls.
- From the study Employee 64 (23.3%), employer 64 (23.3%), House wife55 (20.0%), Student 50 (18.2%), Retired 19

(6.9%) and un-employed 23 (8.4%). Hence it can be understood that salaried employees, employer and students are making happy and joy shopping mall an attractive place for shopping.

- The study found that out of 275 respondents 217(78.9%) like mall culture and 58 (21.1%) negligible like mall culture.
- The results show the respondents are showing the interest 149 (54.2%) Frequent, customer can show to visit the

Table 3: Survey Questions

Particulars	Frequency	Percentage
Mall Culture		
Yes	217	78.9
No	58	21.1
Visit the shopping malls		
Frequent	126	45.8
In Frequent	149	54.2
Liking in Shopping Malls		
Shop	89	32.4
Dine	78	28.4
Entertainment	62	22.5
Movies	46	16.7
I prefer to visit the Malls		
Walking	24	8.7
Two Wheeler	35	12.7
Auto	59	21.5
Car	87	31.6
city bus	70	25.5
Mode of Payment		
Cash on delivery	45	16.4
Debit card	44	16.0
Credit card	54	19.6
Net banking	63	22.9
Wallet	69	25.1
Total	**275**	**100**

Source: Collected from primary data

shopping malls at weekends and 126 (45.8%) visit the shopping malls In Frequent. Customer showing the interest in normal days to visit the shopping malls, the customer is showing more interest in weekends.

- From the research study results 89 (32.4 %) shop, 78 (28.4 %) to dine, 62 (22.5%) entertainment and46 (16.7%) movies in the shopping malls. Results indicated most of the respondent understandably the preferences were in favor of shop.
- The study identified the customer prefer to visit the shopping malls 87 (31.6 %) car, 70 (25.5%) city bus, 59 (21.5%) auto, 35(12.7%) two-wheeler and24(8.7%) walking. Most respondents are showing to visited shopping malls at car, city bus and two-wheeler.
- Respondent rated the mode of payment cash in delivery 44(16.4%), debit card 45(16.0%), credit card 54 (19.6%) percent, Net banking 63(22.9%) and wallet 69 (25.1%) percent. Most of the respondent shows interest in making a wallet and Net banking purchases.
- The variables considered for measurement of turnover intentions on 5 point scale ranging from 1 to 5. The mean values of these 27 items varied from 3.34 to 4.06 and standard deviation values range from 1.006 to 1.173 Skewness values have a range of -0.029 to 0.012 and kurtosis values range from -0.05 to, -

Table: 4: Descriptive Statistics

Presentation activates of organized shopping mall	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Malls have modern outlook and equipment	275	3.57	1.093	-.395	.147	-.391	.293
Store makes so it easy for customers to find what you Need	275	3.59	1.089	-.264	.147	-.527	.293
Interior and exterior decorations are wonderful	275	3.34	1.049	-.215	.147	-.526	.293
The navigations and signs boards arranged correctly and easy for customers to move around the store	275	3.95	1.209	-.982	.147	.099	.293
Attractive space for shopping	275	3.78	1.116	-.647	.147	-.323	.293
Pleasant and relaxing ambiance	275	3.67	1.019	-.351	.147	-.640	.293
Stores looks clean and green	275	4.06	1.057	-.816	.147	-.326	.293
Easy checkout system	275	3.64	1.025	-.537	.147	-.005	.293
Lighting and music	275	3.47	1.061	-.029	.147	-.872	.293
Display of windows and fixtures	275	3.63	1.004	.012	.147	-.779	.293
Arranging proper layaway plans	275	3.68	1.083	-.680	.147	-.010	.293
High quality of centralized air conditioning	275	3.38	1.157	-.315	.147	-.722	.293
It has Valet parking	275	3.49	1.092	-.503	.147	-.299	.293
The Digital picture clarity and the sound system are better	275	3.67	1.006	-.287	.147	-.715	.293

Presentation activates organized shopping mall	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Vibrant & Cheerful décor & Ambience (Water Fountains, Trees, Flowers Artistic Layout, Good music playing etc)	275	3.71	1.122	-.601	.147	-.327	.293
Transportation facilities like escalators, elevators etc. are easily located	275	3.70	1.120	-.554	.147	-.408	.293
Multiple entrances and egresses (Exits)	275	3.71	1.140	-.594	.147	-.418	.293
Ample seating arrangements on all floors (Areas with couches, comfortable places to sit down & relax)	275	3.71	1.173	-.748	.147	-.183	.293
Internet and Wi-Fi Connectivity	275	3.77	1.071	-.698	.147	.101	.293
Spacious & Structured Parking	275	3.80	1.130	-.684	.147	-.286	.293
ATM are available in every floor	275	3.75	1.127	-.671	.147	-.263	.293
Adequate fire safety provisions	275	3.50	1.118	-.580	.147	-.268	.293
Air conditioning is better	275	3.59	1.140	-.550	.147	-.409	.293
Enhanced safety & security	275	3.79	1.060	-.867	.147	.375	.293
CCTVs installed at all the strategic locations in Mall	275	3.70	1.053	-.420	.147	-.574	.293
Live show programs	275	3.39	1.024	-.180	.147	-.348	.293
Nice odor inside mall	275	3.80	1.053	-.706	.147	-.045	.293
Valid N (listwise)	**275**						

Sources: SPSS.21 /STATISTICS=STDDEV MEAN SKEWNESS SESKEW KURTOSIS

0.101 is considered excellent for most pyenometric purposes, but a value between + 2.0 is also acceptable indicating the normality of the data. Normally distributed as they are perfectly skewed with values between 1 and -1 and presented in Table No.4. The data is ready for psychometric analysis it is proved to be significant.

Table 5: Factor Analysis

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.760	
Bartlett's Test of Sphericity	Approx. Chi-Square	2.913E3
	Df	351
	Sig.	.000

Table 6: Rotated Component Matrix

Presentation Activates	F1 Out stru-cture	F2 Operating atmosphere	F3 Environmental Experience	F4 Mall Out look	F5 Design plans	F6 Cleanliness	F7 Decorations	F8 technical session	F9 shows
Vibrant & Cheerful décor & Ambience (Water Fountains, Trees, Flowers Artistic Layout, Good music playing, etc)	.951								
Transportation facilities like escalators, elevators, etc are easily located	.945								
Multiple entrances and (Exits)	.943								
Ample seating arrangements on all floors (Areas with couches, comfortable places to sit down & relax)	.727								
It has Valet parking	.569								
Air conditioning is better		.722							
Spacious & Structured Parking		.703							
Enhanced safety & security		.701							
ATM is available in every floor		.624							
Adequate fire safety provisions		.617							
CCTVs installed at all the strategic locations in our Mall		.595							
Lighting and music			.793						
Display of windows and fixtures			.682						
Pleasant relaxing ambiance			.507						
Easy checkout system			.502						
Attractive space for shopping				.766					
The navigations and signs boards arranged correctly and easy for customers to move around the store				.651					
Malls are modern outlook and equipment				.562					
The store makes so it easy for customers to find what you Need					-.769				
Stores look clean and green					.576				
High quality of centralized air conditioning						.722			
Arranging proper layaway plans						.632			
Interior and exterior decorations are wonderful							.854		
Inside playing beautiful smell							.581		
The Digital picture clarity and the Sound system are better								-.681	
Internet and Wi-Fi Connectivity								.567	
live shows programs									.858
Eigen Value	**4.034**	**2.915**	**1.980**	**1.544**	**1.500**	**1.288**	**1.255**	**1.211**	**1.104**
% of variance	**14.942**	**10.796**	**7.335**	**5.717**	**5.557**	**4.770**	**4.649**	**4.483**	**4.090**
Cumulative Variance	**14.942**	**25.738**	**33.073**	**38.790**	**44.347**	**49.117**	**53.766**	**58.250**	**62.340**

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization

Kaiser-Mayes-Olkin (KMO) measures of sampling adequacy and the resultant value were 0.760, which is greater than 0.5 shows that the sample is mediocre. This indicates that the factor analysis is appropriate for these data. The resultant value of Bartlett's test was ($p<0.001$); showing that it was significant. Factor analysis was done on 27 items the using principal components methods of extraction with a greater than or equal to zero all 27 items are 1.000 absolute and relative magnitudes Eigen values are explained, are seven factors before rotation factor accounted for however after extraction it accounts for only 14.942 percentage of total variance (compared 14.942, 10.796, 7.335, 5.717, 5.557, 4.770, 4.483 and 4.090) This is a very good perfect extraction nine factor.

Factor I (F1) shows there are six significant loading the variable namely The five variables (Vibrant & Cheerful décor & Ambience (Water Fountains, Trees, Flowers Artistic Layout, Good music playing etc) .951 , Transportation facilities like escalators 0.945, Multiple entrances and (Exits)0 .943, Ample seating arrangements on all floors (Areas with couches, comfortable places to sit down & relax 0.727), It has Valet parking 0.569) This factor named as "Out structure".Factor II (F2) shows there are six significant loadings the variable namely as "Operating Atmosphere" Air conditioning is better 0.722, Spacious & Structured Parking 0.703, Enhanced safety & security0.701, ATM are available in every floor 0.624, Adequate fire safety provisions0.617 and CCTVs installed at all the strategic locations in our Mall 0.595. this factor is the highest loading factor. The significant factors loading under Factor III (F3) significant loading the variable namely as "Environmental experience" Lighting and music 0.793, Display of windows and fixtures 0.682, Pleasant relaxing ambiance 0.507, and Easy checkout system 0.502. Factor IV (F4) shows there are six significant loadings the variable namely as "Mall Outlook" Attractive space for shopping 0.766, the navigations and signs boards arranged correctly and easy for customers to move around the store 0.651, and Malls are modern outlook and equipment 0.562. Factor V (F5) shows there are six significant loadings the variable namely as "Design Plans" Store makes so it easy for customers to find what you Need 0.769, Stores looks clean and green 0.576. Factor VI (F6) shows there are six significant loadings the variable namely as "cleanliness" High quality of centralized air conditioning 0.722, Arranging proper layaway plans 0.632. Factor VII (F7) shows there are six significant loadings the variable namely as "decorations" Interior and exterior decorations are wonderful 0.854, Inside playing beautiful smell 0.581. The significant factors loading under Factor VIII (F8) The Digital picture clarity and the Sound system are better 0.681, Internet and Wi-Fi Connectivity 0.567 are factors named as "technical session". The significant factors loading under Factor XI (F9) live show programs 0.858 are factor named as "shows". This is a very good extraction as it can economize on several factors (from twenty-seven items, it has reduced to nine factors.

Table 7: One-Sample T-test

	t	df	Sig. (2 -tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Malls are modern outlook and equipment	54.243	274	.000	3.575	3.44	3.70
The store makes so it easy for customers to find what you Need	54.616	274	.000	3.585	3.46	3.71
Interior and exterior decorations are wonderful	52.768	274	.000	3.338	3.21	3.46
The navigations and signs boards arranged correctly and easy for customers to move around the store	54.139	274	.000	3.945	3.80	4.09
Attractive space for shopping	56.124	274	.000	3.778	3.65	3.91
Pleasant relaxing ambiance	59.766	274	.000	3.673	3.55	3.79
Stores look clean and green	63.744	274	.000	4.062	3.94	4.19
Easy checkout system	58.855	274	.000	3.636	3.51	3.76
Lighting and music	54.217	274	.000	3.469	3.34	3.60
Display of windows and fixtures	59.945	274	.000	3.629	3.51	3.75
Arranging proper layaway plans	56.395	274	.000	3.684	3.56	3.81
High quality of centralized air conditioning	48.463	274	.000	3.382	3.24	3.52
It has Valet parking	53.068	274	.000	3.495	3.36	3.62
The Digital picture clarity and the Sound system are better	60.430	274	.000	3.665	3.55	3.78
Vibrant & Cheerful décor & Ambience (Water Fountains, Trees, Flowers Artistic Layout, Good music playing, etc)	54.750	274	.000	3.705	3.57	3.84
Transportation facilities like escalators, elevators, etc are easily located	54.823	274	.000	3.702	3.57	3.83
Multiple entrances and egresses (Exits)	53.991	274	.000	3.713	3.58	3.85
Ample seating arrangements on all floors (Areas with couches, comfortable places to sit down & relax)	52.376	274	.000	3.705	3.57	3.84
Internet and Wi-Fi Connectivity	58.362	274	.000	3.771	3.64	3.90
Spacious & Structured Parking	55.756	274	.000	3.800	3.67	3.93
ATM is available in every floor	55.099	274	.000	3.745	3.61	3.88
Adequate fire safety provisions	51.921	274	.000	3.502	3.37	3.63
Air conditioning is better	52.240	274	.000	3.593	3.46	3.73
Enhanced safety & security	59.288	274	.000	3.789	3.66	3.91
CCTVs installed at all the strategic locations in our Mall	58.323	274	.000	3.702	3.58	3.83
Live shows programs	54.879	274	.000	3.389	3.27	3.51
Inside playing beautiful smell	59.826	274	.000	3.800	3.67	3.93

In this study, the t-test is carried out for this variable to compare the means of responses that influence presentation preference, the results of T-test are significant with T-statistic values shown in the Table: with degrees of freedom 274. The difference between two means was presented in the Table with 95% confidence level be said that the significant value of all variables is less than 0.05 so, all the variables are statistically significant as shown in Table 4.11 Interior and exterior Presentation activates of shopping mall all the variables are statistically significant.

Table 8: Case Processing Summary

		N	%
Cases	**Valid**	275	100.0
	Excluded	0	.0
	Total	275	100.0

a. List-wise deletion based on all variables in the procedure.

Table 9: Reliability Statistics

Cronbach's Alpha	No. of Items
.690	27

The reliability of the study measures was assessed by computing Cronbach's Alpha Coefficients, which is used to assess the internal consistency or homogeneity among the variable measures (Sekaran, 1992). Reliability of questionnaires can be verified from Cronbach Alpha presented for various statements in the questionnaires, which suggests a higher degree of intercorrelation among the test items (Cronbach, 1951). The overall Interior and exterior Presentation activates of shopping malls with the items 16 the reliability was 0.690 so the sampling is good, which indicated good reliability of the entire questionnaire it can be said that questionnaire was reliable for the work. According to a different theory of reliability value above 0.6 is appropriate, low value below the 0.5 implies that reliability may not be appropriate. No items have been removed from the questionnaire.

Correlations of Analysis

H0: There is no positive relationship between Interior and exterior Presentation activates of shopping mall and Customer Satisfaction.

H1: There is a positive relationship between Interior and exterior Presentation activates of shopping mall and Customer Satisfaction.

Table 10: Correlations

		MP	CS
MP	**Pearson Correlation**	1	.146*
	Sig. (2-tailed)		.016
	N	275	275
CS	**Pearson Correlation**	.146*	1
	Sig. (2-tailed)		.016
	N	275	275

** Correlation is significant at the 0.05 level (2-tailed).*

The hypothesis related to the Pearson correlation (p) value for Interior and exterior Presentation activates and Customer satisfaction. The results of customer promotional tools intention revealed an r-value of is 0.146 and the correlation is significant level is 0.01 (P<0.01). The table shows that the p-value is 0.000, which is less than 0.01. The table shows the correlation summary of the variables is indicating which shows the positive

and strong relationship between the predictor variable (presentation activates) and dependent variable (customer satisfaction) in organized retail malls. Therefore presentation preference which includes which is more important to mall retailers. So, mall retailers can implement customer promotional tools to make retain the customer in shopping malls. Therefore H0 was not supported. Therefore we reject the null hypothesis and conclude that there is no significant positive (0.146) relationship between Interior and exterior Presentation activates and customer satisfaction in shopping malls at Bengaluru city.

Regression

Table11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.146[a]	.021	.018	.63056

a. Predictors: (Constant), MP

Table: 12:ANOVA[b]

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	2.351	1	2.351	5.913	.016[a]
Residual	108.546	273	.398		
Total	110.897	274			

a. Predictors: (Constant), MP b. Dependent Variable: CS

Table 13: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.933	.385		7.611	.000
PA	.255	.105	.146	2.432	.016

a. Dependent Variable: CS

Regression applied to test how for the Interior and exterior Presentation activates impact has on customer satisfaction. It is found that Interior and exterior Presentation activates overall has a positive relationship with customer satisfaction (R=0.146). However base on the adjusted R Square value of 0.021 this element only contribute 2.1 % to dependent variable above table beta value of each type of variable presentation preference give significant impact to customer satisfaction. In this study result that the (B=0.146 sig < 01) However, the result do not confirm the predicted positive effects of Interior and exterior Presentation activates (β=0.146, P<0.001).The hypothesized relationships H0 is not supported, H1 is supported.

Conclusion

The Interior and exterior Presentation activates is important variables in the success of the shopping mall. It can be understood presentation at malls and high variance in explaining towards services offered by mall retailers at the shopping mall at Bangalore. The retailers should see in implementing the Interior and exterior Presentation activates of the shopping mall to improve customer satisfaction for enhanced satisfying to go for shopping to build a long-term relationship with services provided by mall retailer by customers. Shopping malls retailers should take into consideration and understanding the customers' close attrition related to Interior and exterior Presentation activates by shopping malls. Today " customers are God "Interior and exterior Presentation activates offered by mall retailers play a major role in meeting customers 'expectations and perception make comfortable better shopping in malls.

Scope for Future Research

The present study has covered all the fundamental aspect of Interior and exterior Presentation activates towards organized shopping mall; the survey was limited to only Bangalore city in south India. The future study may conduct all south regions of India to have a comparative view of presentation activate towards the organized shopping mall. Present the data was collected only in 275 customers of shopping malls in Bangalore city. In Bangalore city plenty of malls located but all malls are not covered only 5 malls are taken in the study. Further studies took a big survey we have covered enter shopping malls in the Bangalore city. The same study of sale promotion activities can be undertaken over any other supermarkets, hypermarket, discount stores, and online shopping malls. Further case study analysis can be taken up by covering some specific shopping mall; it will help to validate the result based on case studies. A comparative study of the effectiveness of Interior and exterior Presentation activates on the organized and organized retailing sector towards their customer also arises as a further scope.

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Contribution of Veer Narmad South Gujarat University towards Higher Education

Supriya Korgaokar Raithatha*

Abstract

In the recent past, many universities in Gujarat have undergone a series of reforms focusing on strengthening of teacher capabilities, institutional capabilities focusing on research. Government Policies have been reflected in budgetary allocations in the last couple of decades. The increased emphasis, by all stakeholders, on improving accreditation score as an indicator of the quality of higher education is a matter of recent phenomena. With the emergence of Knowledge Society, knowledge-driven and dominant economy have emerged in the last few decades in the world. This implies that the power of knowledge is increasing significantly in social, economic and cultural aspects of the world. Countries with the power of knowledge creation have advanced in science and technology and subsequently ruled over other countries. Country's ability to create knowledge is reflected in its ability to produce quantity and quality research outputs. One of the indicators of research outputs is Doctoral Research leading to the degree of Ph.D. in Universities. The present study attempts to describe the status of doctoral research output in Veer Narmad South Gujarat University during the year 2006 to 2015. Data has been collected from the Annual Report of the University and also from Compendium of Doctoral Dissertation, a publication of KCG. ANOVA Test has been applied to test the hypothesis.

Introduction

In the recent past, many universities in Gujarat have undergone a series of reforms focusing on strengthening of teacher and institutional capabilities centred on research productivity. Government Policies have been reflected in budgetary allocations in the last couple of decades. The increased emphasis, by all stakeholders, on improving accreditation score as an indicator of the quality of higher education is a matter of recent phenomena. With the emergence of Knowledge Society, knowledge-driven and dominant economy have emerged in the last few decades in the world. This implies that the power of knowledge is increasing significantly in social, economic and cultural aspects of the world.

Countries with the power of knowledge creation have advanced in science and technology and subsequently have ruled over other countries. Country's ability to create knowledge is reflected in its ability to produce quantity and quality research outputs. One of the indicators of research outputs is Doctoral Research leading to the degree of Ph.D. in Universities. The present study attempts to describe the status of doctoral research output in Veer Narmad South Gujarat University (VNSGU) during the year 2006 to 2015.

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Literature Review

Several studies have been carried out to measure research productivity in academic institutions. These studies can be classified into two broad categories; Studies dealing with Research productivity from Institution point of view and Studies dealing with Research productivity from individual researcher's point of view. According to Rochna and Garima (2014), the majority of contributions were from universities of the south and it was declining as we move from Universities of the south to North. They found out that the reason for low research output was due to lack of infrastructure facilities and less qualified staff in the department of the university. Swain, Rautaray and Swain (2013) analyzed the research productivity of KIIT University from the year 2000 to 2013. They attempted to measure the authorship pattern and year wise contribution of articles. The study showed that there was a constant rise in a publication from the year 2008 to 2011. According to Brian (2009), Research productivity is an outcome of few factors which prompts a researcher to conduct research. The factors which influence a researcher are writing creativity, luck, happiness health and crowd wisdom. Jayaprakash and Kannappanavar (2014) concluded that research productivity is required to measure the performance of researches in universities. They tried to evaluate faculty members evolved in research activity in the colleges of GOA University. Female faculty members have lower productivity despite controlling for demographic, institutional, and career factors (Sabharwal 2013).

Objectives of the Study

Major objective of the present study is to explore the contribution of VNSGU to higher education in general and to Ph.D. Degrees awarded in particular. The objectives of the study were (i) to assess category of subjects wise, year wise and Ph.D. guide wise contribution in research in the field of management and commerce and (ii) to study faculty wise, subjects wise, year wise and guide wise Ph. D. Degrees awarded at VNSGU.

Hypothesis

1. H0: There is no significant difference between Ph. D degree awarded by various guides
2. H0: There is no significant difference between Ph. D degree awarded by various guides in Commerce Faculty
3. H0: There is no significant difference between Ph. D degree awarded by various guides in Management Faculty
4. H0: There is no significant difference between the category-wise Ph. D degree awarded by various guides in Commerce and Management
5. H0: There is no significant difference between category wise Ph. D degree awarded by various guides in Commerce Faculty
6. H0: There is no significant difference between Category wise Ph. D degree awarded by various guides in Management Faculty
7. H0: There is no significant difference between total numbers of Ph. D. degrees awarded in Commerce and Management Faculty
8. H0: There is no significant difference between the number of male and female students awarded Ph.D. degrees in Commerce and Management

Significance of the Study

The need and importance of research productivity cannot be overlooked in a university environment. Research published in the university is a significant indicator of academic productivity. Research Funding mobilized, Ph.D. Degree awarded, Number of research projects applied for, approved and sanctioned, number of patents applied for and awarded, number of research collaborations developed are some of the critical indicators of research in many universities. This paper attempts to provide an analysis of doctoral research under faculty of Commerce and Faculty of Management in VNSGU during the year 2006 to 2015.

Limitations of the study

The present study deals with the contribution of VNSGU in research. Research is measured only in terms of Ph.D. degrees awarded. Other indicators of Research Performance of VNSGU in terms of number of Research Projects, Amount of funding mobilized from Research Projects, a number of patents filed and awarded, etc have not been included in the present study. Duration of 10 years has been considered in the present study. Classification of Ph. D. Degree into subjects has been as per the discretion of the researcher. The present study has been conducted based on secondary data of titles, Subject and Faculty of Ph. D. Degree awarded.

Research Methodology

Type of the study: The present study is analytical and exploratory in nature.

Sources of the data: The total number of doctoral degrees awarded in the field of commerce and management from 2006 to 2015 in Veer Narmad South Gujarat University has formed data. One Ph.D. Degree awarded has been taken as Unit of Sample. Annual Reports of VNSGU have been the basic source of the data. VNSGU has been contacted requesting them to supply data on Ph.D. Degree awarded in respective University during the period of study. Also, Compendium of Doctoral Dissertation in Gujarat, a publication by Knowledge Consortium of Gujarat, Government of Gujarat has been used for further reference. Tools and Techniques of Data Analysis: The collected data are duly edited, classified and analyzed using all types of relevant statistical techniques like ANOVA one way and t-Test Two-Sample assuming Equal Variances.

The Data on Ph.D. awarded included (i) Name of the student, (ii) Name of the Guide/Supervisor, (iii) Year of Award of Ph.D. degree, (iv) Subject, (v) Faculty and (vi) Title of Thesis

Categories in which Data so collected were classified into included (i) Ph.D degree awarded in Management, (ii) Ph.D. degree awarded in Commerce, (iii) Ph.D. degree awarded to Male students, (iv) Ph.D. degree awarded to Female students and (v) Guide-wise Ph. D. degree awarded.

Categories of subjects in which data on Ph. D. degrees awarded in the Faculty of Commerce and Faculty of Management were further divided into subjects were coded as C1, C2, C3, C4, M1, M2, M3 and M4 respectively for the subject (i) Financial Accounting, (ii) Cost and Management Accounting, (iii) Taxation and (iv) Banking and Insurance for Faculty of Commerce and (i) Financial Management, (ii) Marketing Management, (iii) Human Resource

Management and (iv) General Management for Faculty of Management.

From 2006 to 2015, 64 Ph.D. degrees were awarded by 13 approved Ph.D. Guides. All Ph.D. degrees and all Ph. D. Guides were taken as sample for the study. 100% population was taken as a sample.

Data Analysis and Interpretation

Table 1: Guide-wise year-wise number of Ph.D. degrees awarded in commerce and management faculty

NAME OF GUIDE	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
VNSGU1	0	0	0	0	1	2	4	0	0	0	7
VNSGU2	0	0	0	0	1	0	1	0	0	1	3
VNSGU3	0	2	0	0	1	3	1	3	0	0	10
VNSGU4	0	1	0	0	0	0	0	0	0	0	1
VNSGU5	0	1	0	0	0	3	3	2	1	0	10
VNSGU6	0	0	0	0	1	0	3	1	0	0	5
VNSGU7	0	0	0	0	1	2	4	1	0	0	8
VNSGU8	0	0	0	0	0	2	3	2	0	0	7
VNSGU9	0	0	0	0	0	0	1	0	0	1	2
VNSGU10	0	0	0	0	0	3	0	3	0	1	7
VNSGU11	0	0	0	0	0	0	0	1	0	1	2
VNSGU12	0	0	0	0	0	0	0	0	0	1	1
VNSGU13	0	0	0	0	0	1	0	0	0	0	1
Total	**0**	**4**	**0**	**0**	**5**	**16**	**20**	**13**	**1**	**5**	**64**

Graph No. 1: Number of Ph.D. degrees awarded in Commerce and Management faculty

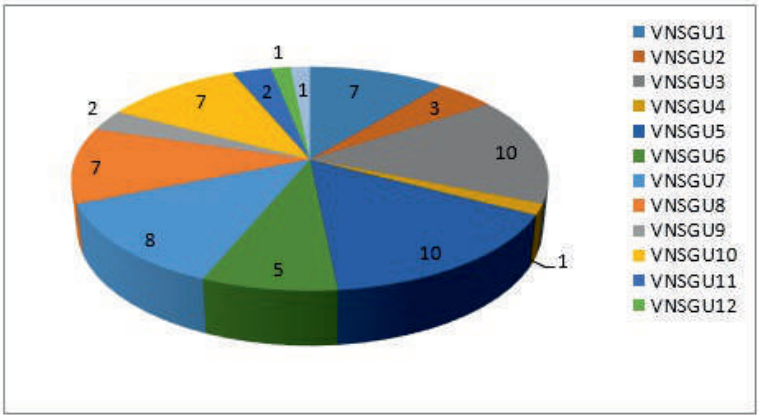

Table 1 is related to the guide-wise year-wise number of Ph.D. degrees awarded in commerce and management faculty. There are 13guides from 2006 to 2015. A maximum number of students have been guided during the year of 2012. Minimum numbers of students were guided during the year 2014. Total numbers of students guided were 64 during the period of study. There were 16 students guided during the year 2011 which is ranked second during the period of study.

Table 1.1: Anova - Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
2006	13	0	0	0
2007	13	4	0.307692	0.397436
2008	13	0	0	0
2009	13	0	0	0
2010	13	5	0.384615	0.25641
2011	13	16	1.230769	1.692308
2012	13	20	1.538462	2.602564
2013	13	13	1	1.333333
2014	13	1	0.076923	0.076923
2015	13	5	0.384615	0.25641

Null hypothesis:

There is no significant difference between Ph. D. degree awarded by various guides

Alternative Hypothesis:

There is a significant difference between Ph. D. degree awarded by various guides

Level of significant: 5%

Table 1.2: ANOVA Test

ANOVA						
Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F crit**
Between Groups	37.10769	9	4.123077	6.232558	3.43E-07	1.958763
Within Groups	79.38462	120	0.661538			
Total	116.4923	129				

Table 1.2 is related to a single factor ANOVA test. The calculated value of F test is 4.123077 which higher than the critical value of F (1.958763). Hence the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, the difference is significant.

Table 2: Guide-Wise Year-wise Number of Ph.D. Degrees Awarded in Commerce Faculty

NAME OF GUIDE	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
VNSGU1	0	0	0	0	0	1	1	0	0	0	2
VNSGU2	0	0	0	0	1	0	0	0	0	1	2
VNSGU3	0	0	0	0	0	0	0	1	0	0	1
VNSGU4	0	1	0	0	0	0	0	0	0	0	1
VNSGU5	0	0	0	0	0	0	0	0	0	0	0
VNSGU6	0	0	0	0	0	0	1	0	0	0	1
VNSGU7	0	0	0	0	0	1	1	0	0	0	2
VNSGU8	0	0	0	0	0	1	1	0	0	0	2
VNSGU9	0	0	0	0	0	0	1	0	0	1	2
VNSGU10	0	0	0	0	0	1	0	1	0	0	2
VNSGU11	0	0	0	0	0	0	0	1	0	0	1
VNSGU12	0	0	0	0	0	0	0	0	0	1	1
VNSGU13	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**1**	**0**	**0**	**1**	**4**	**5**	**3**	**0**	**3**	**17**

Graph No. 2: Guide-wise number of Ph.D. degrees awarded in commerce faculty

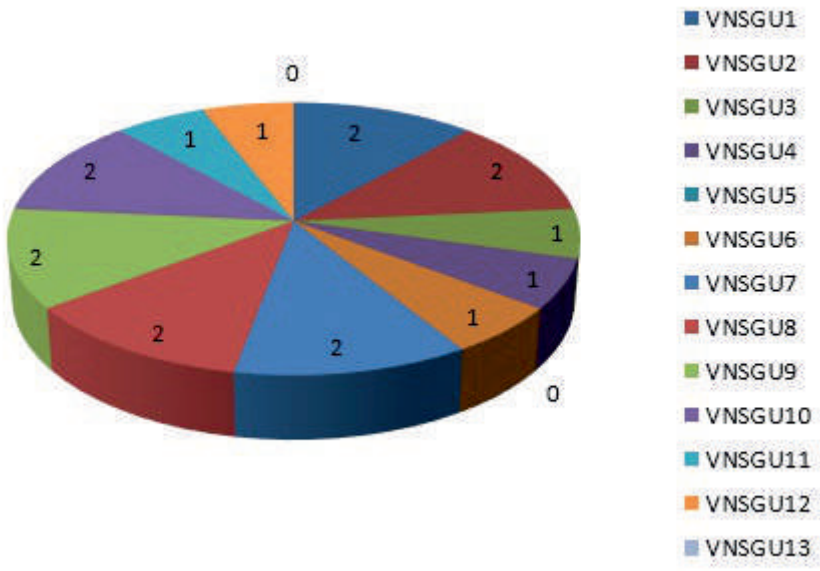

Table 2 shows Guide-wise Ph.D. degrees awarded in Commerce Faculty to candidates in Veer Narmad South Gujarat University during the period of study. In all, 17 candidates have been awarded Ph.D. degrees in Commerce Faculty by 13 recognized guides. 05 candidates have been awarded through 05 guides, each of these five guides guided one candidate each during the period of study. Six guides successfully guided two candidates each. No candidate has been awarded degree through the guidance of remaining 02 guides. Moreover, no candidate has been awarded a degree in each of four years. One candidate each has been awarded a degree in two years.

Table 2.1: ANOVA: Single Factor

SUMMARY				
Groups	**Count**	**Sum**	**Average**	**Variance**
2006	13	0	0	0
2007	13	1	0.076923	0.076923
2008	13	0	0	0
2009	13	0	0	0
2010	13	1	0.076923	0.076923
2011	13	4	0.307692	0.230769
2012	13	5	0.384615	0.25641
2013	13	3	0.230769	0.192308
2014	13	0	0	0
2015	13	3	0.230769	0.192308

Null hypothesis: There is no significant difference between Ph. D degree awarded in Commerce Faculty

Alternative Hypothesis: There is a significant difference between Ph. D degree awarded in Commerce Faculty

Level of significant: 5%

Table 2.2 : ANOVA Test

ANOVA						
Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F crit**
Between Groups	2.469231	9	0.274359	2.675	0.007247	1.958763
Within Groups	12.30769	120	0.102564			
Total	14.77692	129				

Table 2.2 is related to a single factor ANOVA test. The calculated value of F test is 2.675 which higher than the critical value of F (1.958763). Hence the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, the difference is significant.

Table 3: Guide-wise year-wise number of Ph.D. degrees awarded in management faculty

NAME OF GUIDE	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
VNSGU1	0	0	0	0	1	1	3	0	0	0	5
VNSGU2	0	0	0	0	0	0	1	0	0	0	1
VNSGU3	0	2	0	0	1	3	1	2	0	0	9
VNSGU4	0	0	0	0	0	0	0	0	0	0	0
VNSGU5	0	1	0	0	0	3	3	2	1	0	10
VNSGU6	0	0	0	0	1	0	2	1	0	0	4
VNSGU7	0	0	0	0	1	1	3	1	0	0	6
VNSGU8	0	0	0	0	0	1	2	2	0	0	5
VNSGU9	0	0	0	0	0	0	0	0	0	0	0
VNSGU10	0	0	0	0	0	2	0	2	0	1	5
VNSGU11	0	0	0	0	0	0	0	0	0	1	1
VNSGU12	0	0	0	0	0	0	0	0	0	0	0
VNSGU13	0	0	0	0	0	1	0	0	0	0	1
Total	**0**	**3**	**0**	**0**	**4**	**12**	**15**	**10**	**1**	**2**	**47**

Graph No.:3 Guide-wise number of Ph.D. degrees awarded in management faculty

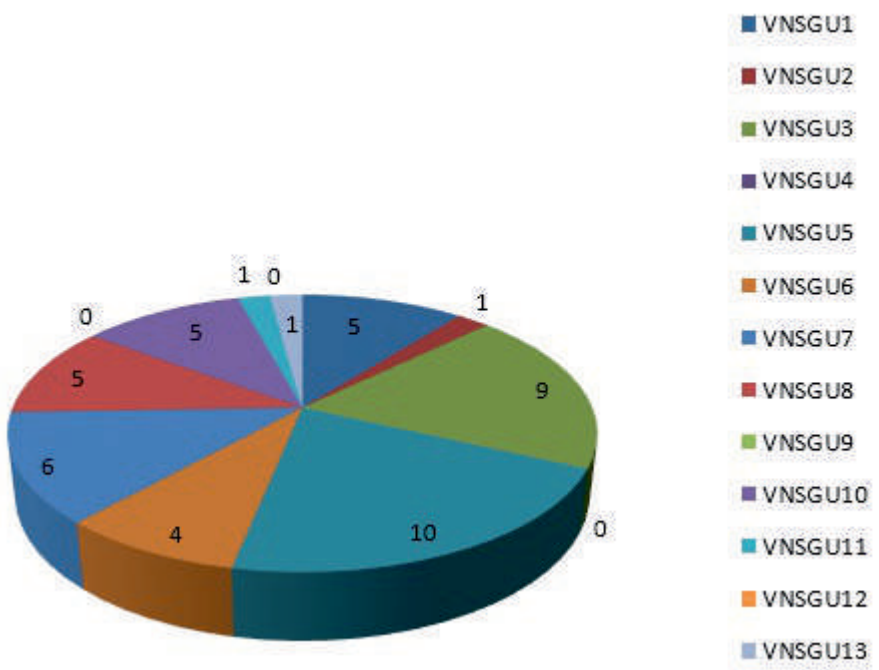

Table 3 shows Guide-wise Ph.D. degrees awarded in Management Faculty to candidates in Veer Narmad South Gujarat University during the period of study. During the period of study, there were 13 recognized guides for Ph.D. degree and 47 candidates were awarded degrees. Moreover, a maximum of 15 candidates were awarded a degree in the year 2012 followed by 12 candidates in the year 2011. No candidates were awarded degrees in the years 2006, 2008, and 2009 respectively.

Table 3.1: ANOVA: Single Factor

SUMMARY				
Groups	**Count**	**Sum**	**Average**	**Variance**
2006	13	0	0	0
2007	13	3	0.230769	0.358974
2008	13	0	0	0
2009	13	0	0	0
2010	13	4	0.307692	0.230769
2011	13	12	0.923077	1.24359
2012	13	15	1.153846	1.641026
2013	13	10	0.769231	0.858974
2014	13	1	0.076923	0.076923
2015	13	2	0.153846	0.141026

Null hypothesis : There is no significant difference between Ph.D degree awarded in Management Faculty

Alternative Hypothesis : There is significant difference between Ph.D degree awarded in Management Faculty

Level of significant : 5%

Table 3.2: ANOVA Test

ANOVA						
Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F crit**
Between Groups	21.39231	9	2.376923	5.222535	5.49E-06	1.958763
Within Groups	54.61538	120	0.455128			
Total	76.00769	129				

Table 3.2 is related to single factor ANOVA test. The calculated value of F test is 5.222535 which higher than critical value of F (1.958763). Hence null hypothesis is rejected and alternative hypothesis is accepted. Therefore, the difference is significant.

Table 4: Category-wise total number of Ph.D. degrees awarded in commerce and management faculty

YEAR	C1	C2	C3	C4	M1	M2	M3	M4	TOTAL
2006	0	0	0	0	0	0	0	0	0
2007	1	0	0	0	0	2	0	1	4
2008	0	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	0	0
2010	1	0	0	0	1	1	0	2	5
2011	1	0	0	3	3	4	0	5	16
2012	0	0	0	5	1	9	1	4	20
2013	1	0	0	2	2	4	0	4	13
2014	0	0	0	0	0	1	0	0	1
2015	2	0	0	1	1	1	0	0	5
TOTAL	6	0	0	11	8	22	1	16	64

Table 4 shows Year-wise and Category-wise Ph.D. degrees awarded in Commerce and Management. Commerce and Management had each four categories of subjects. Number of students awarded degrees in Commerce and Management were 17 and 47. As compared to Management, students awarded Ph.D. degrees in Commerce were less. No student was awarded degree in C2 and C3 category under Commerce. 06 and 11 candidates were awarded degree under C1 and C4 category. 22, 1, 16 and 08 students were awarded degrees under M2, M3, M4 and M1 category. Moreover 20 and 16 candidates were awarded degrees in the years 2012 and 2011 respectively. 13 candidates were awarded degrees in the year 2013. 05 candidates were awarded degrees in the years 2010 and 2015 each. 04 candidates were awarded degrees in the year 2007. No candidates were awarded a degree in 2006, 2008 and 2009.

Null hypothesis: There is no significant difference between Category-wise Ph. D degree awarded in Commerce and Management

Alternative Hypothesis: There is a significant difference between Category-wise Ph.D. degree awarded in Commerce and Management

Level of significant: 5%

Table 4.1: Anova: Single Factor

SUMMARY				
Groups	**Count**	**Sum**	**Average**	**Variance**
C1	10	6	0.6	0.488889
C2	10	0	0	0
C3	10	0	0	0
C4	10	11	1.1	2.988889
M1	10	8	0.8	1.066667
M2	10	22	2.2	7.955556
M3	10	1	0.1	0.1
M4	10	16	1.6	4.044444

Table 4.2: ANOVA Test

ANOVA						
Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F crit**
Between Groups	45	7	6.428571	3.089834	0.006633	2.139656
Within Groups	149.8	72	2.080556			
Total	194.8	79				

Table-4.2 is related to a single factor ANOVA test. The calculated value of F test is 3.089834 which higher than the critical value of F (2.139656). Hence the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, the difference is significant.

Table 5: Category-wise total number of Ph.D. degrees awarded in commerce faculty

YEAR	C1	C2	C3	C4	TOTAL
2006	0	0	0	0	0
2007	1	0	0	0	1
2008	0	0	0	0	0
2009	0	0	0	0	0
2010	1	0	0	0	1
2011	1	0	0	3	4
2012	0	0	0	5	5
2013	1	0	0	2	3
2014	0	0	0	0	0
2015	2	0	0	1	3
TOTAL	**6**	**0**	**0**	**11**	**17**

Table 5 shows Ph.D. degrees awarded to students in Commerce during the period of study. In all 17 students were awarded degree during the period of study. No student was awarded a degree in 04 out of 10 years under the period of study. 01 candidate was awarded degree during the year 2007 and 2010. In the year 2012, the highest degrees were awarded.

Table 5.1: Anova: Single Factor

SUMMARY				
Groups	**Count**	**Sum**	**Average**	**Variance**
C1	10	6	0.6	0.488889
C2	10	0	0	0
C3	10	0	0	0
C4	10	11	1.1	2.988889

Null hypothesis : There is no significant difference between category-wise Ph.D. degree awarded in Commerce Faculty

Alternative Hypothesis : There is a significant difference between category-wise Ph.D. degree awarded in Commerce Faculty

Table 5.2: ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	8.475	3	2.825	3.249201	0.032919	2.866266
Within Groups	31.3	36	0.869444			
Total	39.775	39				

Table 5.2 is related to a single factor ANOVA test. The calculated value of F test is 3.249201 which higher than the critical value of F (2.866266). Hence the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, the difference is significant.

Table 6: Category-wise total number of Ph.D. degrees awarded in management faculty

YEAR	M1	M2	M3	M4	TOTAL
2006	0	0	0	0	0
2007	0	2	0	1	3
2008	0	0	0	0	0
2009	0	0	0	0	0
2010	1	1	0	2	4
2011	3	4	0	5	12
2012	1	9	1	4	15
2013	2	4	0	4	10
2014	0	1	0	0	1
2015	1	1	0	0	2
TOTAL	**8**	**22**	**1**	**16**	**47**

Table 6 shows a Ph.D. Degree awarded to students in Management during the period of study. In all 47 students were awarded degrees during the period of study. No candidate was awarded degree during the years 2006, 2008 and 2009. 12 and 10 candidates were awarded degrees during the year 2011 and 2013 respectively. In the year 2007, 2010, 2014 and 2015, 03, 04, 01 and 02 students were awarded degrees respectively. The highest number of awarded degrees was 15 in the year 2012.

Table 6.1: Anova: Single Factor

SUMMARY				
Groups	**Count**	**Sum**	**Average**	**Variance**
M1	10	8	0.8	1.066667
M2	10	22	2.2	7.955556
M3	10	1	0.1	0.1
M4	10	16	1.6	4.044444

Null hypothesis : There is no significant difference between Category-wise Ph.D. degree awarded in Management Faculty

Alternative Hypothesis : There is a significant difference between Category-wise Ph.D. degree awarded in Management Faculty

Level of significant : 5%

Table 6.2 ANOVA Test

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	25.275	3	8.425	2.559494	0.070192	2.866266
Within Groups	118.5	36	3.291667			
Total	143.775	39				

Table 6.2 is related to a single factor ANOVA test. The calculated value of F test is 2.559494 which lower than the critical value of F (2.866266). Hence the null hypothesis is accepted and the alternative hypothesis is rejected. Therefore, the difference is significant.

Table 7: Year wise contribution of guides in commerce and management faculty

YEAR	COMMERCE	MANAGEMENT	TOTAL
2005	0	0	0
2006	1	3	4
2007	0	0	0
2008	0	0	0
2009	1	4	5
2010	4	12	16
2011	5	15	20
2012	3	10	13
2013	0	1	1
2014	3	2	5
TOTAL	17	47	64

Above the table is related to guides distribution in commerce and management faculty. The total number of students registered and guided is 64. Out of 64 total guided students, 17 students belong to commerce faculty and 47 students belong to management faculty. A maximum number of students has been guided during the year of 2011. And a minimum number of students was guided during the year 2013. The total number of degrees awarded in Commerce is less than that of Management. There are four years during which degrees were not awarded in Commerce. There are three such years in which no degree was awarded in Management. The number of degrees awarded in each year has been fluctuating.

Null hypothesis : There is no significant difference between Commerce and Management Ph.D. students.

Alternative hypothesis : There is a significant difference between Commerce and Management Ph.D. students

Level of significant : 5%

Table 7.1: t-Test: Two-Sample Assuming Equal Variances

	COMMERCE	MANAGEMENT
Mean	1.7	4.7
Variance	3.566666667	30.9
Observations	10	10
Pooled Variance	17.23333333	
Hypothesized Mean Difference	0	
Df	18	
t Stat	-1.61592654	
P(T<=t) one-tail	0.061750716	
t Critical one-tail	1.734063607	
P(T<=t) two-tail	0.123501433	
t Critical two-tail	2.10092204	

P Value is 0.123501433, which is greater than 0.05. Hence, the Null Hypothesis is accepted and we conclude that the difference is insignificant.

Table 8: Gender wise total number of students awarded Ph.D. degrees in commerce and management faculty

YEAR	MALE	FEMALE	TOTAL
2006	0	0	0
2007	2	2	4
2008	0	0	0
2009	0	0	0
2010	2	3	5
2011	12	4	16
2012	11	9	20
2013	9	4	13
2014	1	0	1
2015	5	0	5
TOTAL	**42**	**22**	**64**

Table 8 shows the gender-wise and year-wise number of degrees awarded in Commerce and Management together. Out of the total 64 degrees awarded, 42 and 22 were degrees awarded to male students and female students respectively. The highest number of degrees awarded to male students was 12 in the year 2011 and to female students were 09 in the year 2012. The number of degrees awarded to male students was more than that of Female students in the years 2011, 2012, 2013, 2014 and 2015, whereas no degree was awarded to any category in the years 2006, 2008 and 2009. The number of degrees awarded to both, male and female students shows a fluctuating trend.

Null hypothesis : There is no significant difference between the number of male and female students awarded a Ph.D. degree in Commerce and Management.

Alternative hypothesis : There is a significant difference between the number of male and female students awarded a Ph.D. degree in Commerce and Management.

Level of significant : 5%

Table 8.1: t-Test: Two-Sample Assuming Equal Variances

	MALE	FEMALE
Mean	4.2	2.2
Variance	22.62222	8.622222
Observations	10	10
Pooled Variance	15.62222	
Hypothesized Mean Difference	0	
Df	18	
t Stat	1.131471	
P(T<=t) one-tail	0.136353	
t Critical one-tail	1.734064	
P(T<=t) two-tail	0.272707	
t Critical two-tail	2.100922	

Above table indicated t-test of Sample Assuming Equal Variances. The calculated value of t is 1.13147 and critical value of t is 2.100922. The calculated value is lower than the critical value. Alternatively, the P-Value is 0.272707, which is higher than 0.05. Therefore, an alternative hypothesis is rejected and the null hypothesis is accepted. The difference is insignificant.

Findings

1. There are thirteen guides from 2006 to 2015. Maximum numbers of students have been guided during the year of 2012. Minimum numbers of students were guided during the year of 2014. ANOVA test suggests that the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, the difference is significant.
2. In all, 17 candidates have been awarded Ph.D. degrees in Commerce Faculty by 13 recognized guides. 05 candidates have been awarded through 05 guides. Each of these five guides guided one candidate each during the period of study. ANOVA test suggests that the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, the difference is significant.
3. During the period of study, there were 13 recognized guides for Ph.D. degree and 47 candidates were awarded Ph.D. degrees in Management Faculty. Moreover, a

maximum of 15 candidates was awarded degrees in the year 2012 followed by 12 candidates in the year 2011. ANOVA test suggests that the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, the difference is significant.

4. The number of students awarded degrees in Commerce and Management was 17 and 4 respectively. As compared to Management, students awarded Ph.D. degrees in Commerce were less. No student was awarded degrees in C2 and C3 category under Commerce. 06 and 11 candidates were awarded degrees under C1 and C4 category. 22, 1, 16 and 08 students were awarded degrees under M2, M3, M4, and M1 category. ANOVA test suggests that the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, the difference is significant.
5. In all 17 students were awarded degrees in Commerce Faculty during the period of study. No student was awarded a degree in 04 out of 10 years under the period of study. ANOVA test suggests that the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, the difference is significant.
6. In all 47 students were awarded degrees in Management Faculty during the period of study. The highest number of students was 15 in the year 2012. ANOVA test suggests that the null hypothesis is accepted and the alternative hypothesis is rejected. Therefore, the difference is significant.
7. A total number of students registered and guided are 64. Out of 64 total guided students, 17 students belong to commerce faculty and 47 students belong to management faculty. A maximum number of students has been guided during the year of 2011. And a minimum number of students has been guided during the year 2013. A total number of degrees awarded in Commerce is less than that of Management. Two-Sample Assuming Equal Variances T-Test suggests that the null hypothesis is accepted and we conclude that the difference is insignificant.
8. Out of total 64 degrees awarded, 42 and 22 were to male students and female students respectively. The highest number of degrees awarded to male students was 12 in the year 2011 which as compared to female students was 09 in the year 2012. The number of degrees awarded to both, male and female students shows a fluctuating trend. Two-Sample Assuming Equal Variances T-Test suggests that the alternative hypothesis is rejected and the null hypothesis is accepted. The difference is insignificant.

Conclusion

From the analysis of the data, it is evident that during the period of 10 years from 2006 to 2015, VNSGU awarded total 64 students Ph. D. degrees in Commerce and Management of which 17 students from Commerce Faculty and 47 students from Management Faculty. These students were guided by 13 Ph.D. Supervisors. As the difference is significant, it is concluded that the number of Ph.D. Degrees awarded by different guides varies significantly. Ph.D. Supervisors have not performed equally during these ten years. The number of Ph.D. Degrees awarded over these 10 years has not varied significantly in the Faculty of Commerce. But the number of Ph. D. Degrees awarded in

Management Faculty has varied over these 10 years. The number of Subject wise Ph. D. Degrees awarded in Commerce and Management Faculties have varied significantly. Also, in both the Faculties, the number of Ph. D. Degree awarded subject-wise has significantly differently. It is concluded that there are significant variations among Ph. D. Degrees awarded in these subjects of both the faculties. It is also concluded that year-wise, the contribution of Guides in producing Ph. D. Degrees have not been significantly different. The number of male and female students who were awarded Ph.D. degree have not varied significantly over the years. Out of eight null hypotheses, last two were accepted and the remaining six were rejected. Overall, VNSGU has contributed significantly in research in the Faculty of Commerce and Faculty of Management.

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Green Economy and Environmental Sustainability

Uma C Swadimath*

Abstract

The world is witnessing a lot of progressive changes in the field of technology, research & development. As there is progressive development, there is growing poverty, inequality in the distribution of income, pollution which has resulted in a cause of concern in the global community. Due to the global financial crisis in 2008, food & fuel crisis, a new concept was introduced, 'green economy' which aims to reduce environmental degradation. The term was first coined by a group of environmental economists when they submitted a report to the Government of the United Kingdom entitled as a blueprint for a green economy in 1988. Later, it was used in the Rio conference in 2012 which emphasized sustainable development & poverty eradication. The world is facing the threat of global warming & climate change because of deforestation, mining & overuse of natural resources. All these have resulted in environmental pollution. There is a growing health concern because of severe air pollution. Air quality index is an instrument to measure the quality of air & its effects on public health. The main objective of a green economy is to attain sustainable production and consumption. The most commonly used definition of a green economy comes from a United Nations Environmental Programme (UNEP) report, which states that a green economy leads to "improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities." Green economy means an economy which is less carbon, efficient use of resources, socially inclusive following a multidimensional view of sustainability. It relates to the objectives of attaining economic recovery, reducing poverty, reduce carbon emissions, protect the ecosystem in perspective of sustainability.

Introduction

The world is facing the threat of global warming, depletion in the ozone layer, massive increase in pollution, hunger, malnutrition & poverty causing deterioration in public health, loss of biodiversity & ecosystem. These issues were addressed in the United Nations conference held at Rio de Janerio (Brazil) in 1992 emphasizing on environmental sustainability & development.

The term 'green economy' was first coined by a group of environmental economists in a report submitted to the Government of the United Kingdom in 1988 entitled as 'Blueprint for a Green Economy'. The green economy is a concept with principles embedded in economic, social & environmental domains. It fosters economic growth & development while ensuring that natural assets continue to provide the resources on which our well-being depends.

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It aims at examining priorities & needs for shifting to sustainable production & consumption. The vision of the green economy results in human well-being & social equity by reducing environmental risks & ecological scarcity. It also aims at poverty eradication.

Definition of a Green Economy

- United Nations Environment Programme (UNEP)Green Economy Initiative (GEI) defines a green economy as "one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities".
- Green Economy Coalition defines a green economy as "a resilient economy that provides a better quality of life for all within the ecological limits of the planet."
- International Chamber of Commerce, 2012," an economy in which economic growth and environmental responsibility work together in a mutually reinforcing fashion while supporting progress on social development."
- The green economy may be summarized which includes a system of economic activities such as production, distribution, consumption of goods & services that will result in well-being in the long run & attain sustainability development. The green economy is related to ecological economics. The green economy depends on the three pillars of sustainable development namely economic, environmental & social pillars.

Literature Review

- A report on Task Force on Green Economy (2011) published by the International Chamber of Commerce (ICC), elaborates on the ten conditions for a green economy. The report relates to environmental & climatic innovations apart from economic innovations to attain the objectives of sustainability & green economy.
- A report by the International Human Dimensions Programme on global environmental change, green economy & sustainability (2012) discussed the causes of environmental degradation & how the transition towards a green economy will help in ecological sustainability. It examined the impact of technology & at the same time revealed that technology cannot save the world, therefore ecological innovations & policy regulations are needed to achieve universal well-being.
- A report by the United Nations Environment Programme (UNEP) (2012), on working towards a balanced & inclusive green economy highlights that how the challenges such as poverty, global warming, pollution & economic crisis can be addressed by the countries towards supporting sustainable development. The Governments & policymakers can have an integrated approach to support a common cause in line with the objectives of the Rio conference.
- Hannah Stoddart (2012), elaborates the principles of green economy & sustainability in the document published during the earth summit. The document focuses on the linkages between the economy, society & environment. The gap between technological development &

labor productivity has to be reduced in both developing & developed countries to attain a green economy. Countries have to make efficient use of environmental goods in combating global climate, unemployment & poverty.

- Doreen Fedrigo, Fazio and Patrick Ten Brink (2012) focused on the global financial crisis resulting in unemployment & changes in climatic conditions. Their study also related causes that are responsible to attain green economy. Their study confined to two aspects mainly green economy & sustainable development. They emphasized on capital allocation by the European Union to attain green economy initiatives as suggested by the UNEP during the Rio conference held in Brazil.
- A handbook on trade & green economy (2014) published by the United Nations Environment Programme (UNED) & International Institute for Sustainable Development discusses on inter-linkages between international trade, environment & green economy. It focuses on national & international trade policies, regulations on environmental governance.
- Jyotsna and Saroj Rani (2016) highlight the efforts of BRICS countries to achieve a green economy by stressing on public & private investments. They analyze the measures of these countries to attain a green economy by reducing pollution, carbon emissions, minimizing waste & efficient use of natural resources. In 2009, these countries signed a Memorandum of Agreement (MoA) on dealing with climate change. These countries have established Joint Group exchange problem programs and their solutions on global climate policies and the implementation of cooperative projects.
- Jeremy Tamanini & Julieth Valenciano (2016), in their report on the Global Green Economy Index (GGEI) measured the performance of 80 countries towards attaining green economic objectives. They measured the performance of these countries based on parameters such as green branding, carbon emission reduction, having green cities, etc. Sweden was ranked first followed by Switzerland, Germany & Austria. Developing countries in Africa, Latin America including Ethiopia, Zambia, Brazil & Costa Rica ranked in the top fifteen in assessing green economy index.
- Saroda Chatterjee (2017) in her study on 'Green Phenomenon' stated that companies should have ecological consciousness in the mission objectives & must take up green initiatives to support environmental sustainability. Her study revealed the impact of green growth in the Indian economy along with product development, production & supply chain through green marketing.
- Anshul Bhamra (2018), in a report on Green Economy Barometer, highlights on the opportunities, current issues & hurdles that India faces achieving a green economy. The policymakers have to seriously ponder on how to address issues like growing population, air pollution, unemployment & poverty.

Objectives of the Study

1. To analyze the reasons for a green economy.

2. To understand the mechanism of the Air Quality Index (AQI).
3. To analyze the measures to attain a green economy.

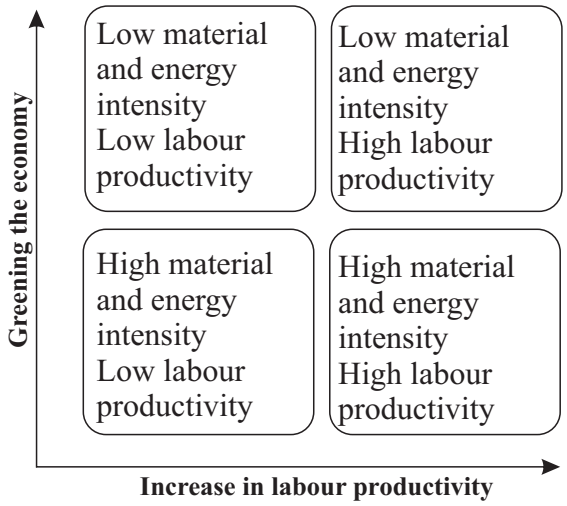
Research Methodology

It's a conceptual study based on secondary sources from articles, newspapers & internet.

a. Reasons for a Green Economy

There is an important relationship between the economy, society & environment. Economic activities as an engine for growth depends on the environment for the well-being of society. The green economy is one in which the vital linkages amongst the economy, society & environment are taken into account & in which the transformation of production processes, consumption patterns contribute towards reducing pollution, efficient use of resources, reduce poverty, create employment & improve income distribution. Protecting ecosystems and their services recognizes the economic value of ecosystems. There are ten sectors that help in a transition to a green economy namely agriculture, fisheries, water, forests, energy which are interlinked with the ecosystem & sectors like manufacturing, transports, buildings, waste management & tourism where green economy initiatives need to be undertaken. The green economy is closely related to sustainable development, there are five enables that cut across the pillars of sustainable development which are natural capital, human capital, and manufactured capital, social & financial capital. The transition to a green economy depends on addressing two main gaps between developed & developing countries ie reducing the gap between technological development & labor productivity.

Green Economy Matrix



Source: UNEP (2011), Report on Working towards a Green & Inclusive Balanced Economy, Geneva.

A green economy aims at achieving green objectives in terms of reducing environmental degradation, protecting the ecosystem & inclusive economy. In the matrix, the first quadrant i.e. low material and energy intensity and high labor productivity relate to the twin objectives of a green and inclusive economy. High material and energy-intense growth model characterized by low labor productivity (lower left quadrant) is not desirable from either an environmental or a social perspective and reflects the situation of many developing countries. But there are also cases of countries characterized by high labor productivity, where the economy is not sustainable (lower right quadrant). Public policies will need to be used strategically to orient the process of economic growth towards such a sustainable pathway, and issues of fairness in income distribution and social investment as well as planning for long-run energy and resource efficiency need to be included in the predefined set of economic policy goals.

Facts & Figures

- World energy demand in 2050 will be 80% higher which could lead to a 50% increase in greenhouse gas emissions globally.
- Urban air pollution is to increase causing premature deaths ie 3.6 million dies every day globally mostly occurring in India & China.
- Global biodiversity is projected to decline by a further 10%, with significant losses in Asia, Europe, and Southern Africa.
- Global water demand will increase by 55%, due to growing demand from manufacturing, thermal power plants and domestic use. Over 40% of the global population – will be living in river basins under severe water stress, especially in North and South Africa, South and Central Asia.
- According to a World Bank report, in India, the annual cost of environmental degradation is at about Rs.3.75 trillion (US$80 billion).
- According to the World Health Organisation (WHO) survey in 2016 across the G-20 economies, 13 of the 20 most polluted cities are in India.
- Each year one-third of global food production is lost or wasted.
- The global per capita use of natural resources will increase by 70% by 2050.
- Forests shrink by 13%.
- According to the World Resource Institute (2013), China ranked 1, India 4, Russia 5, Brazil 6 and Russia 12 for global greenhouse gas (GHG) emissions.
- 92% of the world's population lives in areas with unhealthy air.
- A study, published in The Lancet Planetary Health journal, India suffered 26 percent of premature mortality and health loss due to air pollution.

Based on the above-mentioned facts, the reasons for a green economy are listed below:

- A transition towards the green economy is an integrated and comprehensive approach to incorporate the concept of environment in an economy or economic processes.
- To considerably reduce environmental threats and ecological deficiencies.
- To fight against poverty and provide support to developing countries.
- To reduce the vulnerability of the poor to the impacts of climate change, degradation, and loss of biodiversity, the impact of air, soil and water pollution.
- Adverse effects of climate change have affected in terms of availability of fresh water, low groundwater recharge, food production, increased water-borne diseases with impact on human health, agriculture and biodiversity.

b. Air Quality Index

According to the Global Air 2017 report, premature deaths are on the rise due to the exposure of the ozone layer. 92% of the world's population lives in areas with unhealthy air. India & China together account for 52% for global premature deaths due to air & ozone pollution.

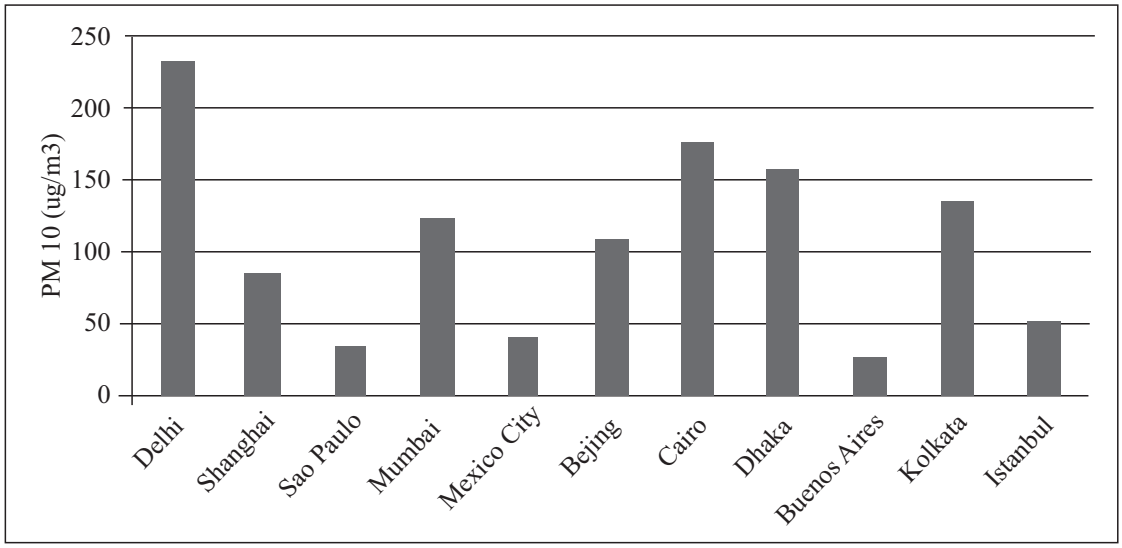
Table 1: The Most Polluted Cities in the World

Sl. No.	Name of the City
1	Delhi
2	Cairo
3	Dhaka
4	Mumbai
5	Beijing
6	Shangai
7	Istanbul
8	Mexico City
9	Sao Paulo
10	Buenos Aires

Table 2: The Most Polluted Cities in India

Sl. No.	Name of the City
1	Delhi
2	Faridabad
3	Varanasi
4	Gaya
5	Patna
6	Kanpur
7	Lucknow
8	Agra
9	Muzaffarpur
10	Srinagar
11	Gurgaon
12	Jaipur

Graph No.1: Air Quality in polluted cities in the world in 2016



Source: WHO's Urban Ambient Air Pollution database - Update 2016

The graph shows that Delhi tops first place in bad air quality. Out of 11 cities in the world, three major cities in India namely Delhi, Mumbai & Kolkata have bad air quality which affects public health. The air in these cities is very toxic & affects human health adversely.

Table 3: Air Quality Index (AQI)

Air Quality Index (AQI) Values	Levels of Health Concern	Colours
When the AQI is in this range	**Air quality conditions are**	**As symbolized by this colour**
0 to 50	Good	Green
51 to 100	Moderate	Yellow
101 to 150	Unhealthy for sensitive groups	Orange
151 to 200	Unhealthy	Red
201 to 300	Very Unhealthy	Purple
301 to 500	Hazardous	Maroon

Source: American Lung Association (2015)

The Environmental Protection Agency (EPA) calculates AQI for five major air pollutants regulated by clean air act. The five major air pollutants are ground-level ozone particle pollution (particulate matter), carbon monoxide, sulfur dioxide, nitrogen dioxide & also lead. For each of these pollutants, EPA has established national air quality standards to protect public health. AQI is an index for reporting daily air quality. It tells how clean or polluted the air is & focuses on health effects one may experience within a few hours or days after breathing polluted air. It measures the extent of contamination of air by discharge of harmful substances.

c. Measures to attain Green Economy

The Governments can formulate policies which stimulate green investment through public-private partnerships. Governments to promote a green economy are through innovations such as environmental & climate innovations and creating green jobs. Green jobs are associated with the objectives of sustainability & protection of the ecosystem. Investment in the agricultural sector, forestry, food & nutrition security, education, health, etc. Encourage investments in renewable sectors namely energy, the introduction of clean technologies, low emission transport, recycling. Investment in agriculture is important not only to increase production & ensure food security but because it is the biggest employer globally & major source of income to the poor. Generally, agricultural growth is more effective than industrial growth in reducing poverty. The policymakers must encourage investments in developing renewable energy like solar energy, wind energy, solar panels, solar power technology, nuclear energy to produce electricity etc. The Governments should encourage businesses to innovate, adopt & disseminate green methods of production. Another measure to attain a green economy is to produce environmental & climatic innovations. Environmental innovations refer to innovations that consist of new or modified processes, practices which benefit the environment & contribute to environmental sustainability. Examples include wind turbines, water treatment, biofuel production, electric vehicles, etc. Climate innovations refer to mitigating climate change & reduce carbon gas. This can also be possible through increased reforestation, build smarter cities, ban plastic products, prevent floods, organic farming, soil enhancement,

construction of reservoirs.

Findings of the Study

- Air pollution in India has killed 3000 Indians in 2017.
- According to global statistics, 81 million people are added to the population each year.
- 30% of carbon emissions come from the industry. In Canada, carbon engineering startups are there which take carbon dioxide directly from the atmosphere & then use it to produce fuel.
- 43 countries have pledged to adopt reforestation.
- Green jobs account for 1.7% of employment in Europe, 30% in East Africa & 42% in Mexico.
- China has become one of the top global solar cell manufacturers.
- The top 15 nations with the largest reforestation include Brazil, Indonesia, India, Madagascar, Colombia, Philippines, Vietnam, Myanmar, Thailand, Rwanda, Uganda, Burundi, Togo & South Sudan.
- Global water demand will increase by 55%, due to growing demand from manufacturing, thermal power plants and domestic use. These competing demands will put water use by farmers at risk.
- China's wind market has grown to be the fourth-largest market in the world, behind the United States, Germany, and Spain.

Limitations & Further Scope of the Study

The study is limited only to the causes of air pollution & does not include other forms of pollution such as water, soil & plastic pollution that has affected the marine population. Therefore, the scope for further study can be related to the strategies implemented by the global community to improve the blue economy.

Conclusion

To achieve a green economy, the policymakers should align their objectives towards sustainable development. The global leaders should recognize the economic value of ecosystems. The preservation & protection of the ecosystem is the heart of the green economy agenda. To improve the quality of air, carbon emissions must be reduced, must develop nuclear power to produce electricity & encourage the use of electric vehicles with efficient battery charging stations. The Governments should focus on investments in forestry, health care, education, food & nutrition security to have a progressive transition towards a green economy. The Governments should focus on creating green jobs as greener economic development can help to reduce & avoid environmental diseases that affect workforce both in industrialized & agricultural economies. This may contribute to achieving green growth.

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Character Competence and Role of Leadership: Insights from a Faith-inspired Social Enterprise

M R Suresh*

Abstract

To gain a competitive advantage in the market firms resort to taking positions or invest in building core competencies. While these strategies are important and useful in the light of market fluctuations there are conflicts between stakeholders and increasing demands of stakeholders for involvement in strategy formulation. Therefore, it is important to factor and includes ethical dimensions in strategy formulation and implementation. Across ownership forms, the pursuit of business goals is within a regulatory framework. In the case of private sector enterprises search for profits assumes importance while public sector firms have the added dimension of meeting social goals laid out by policymakers. Cooperative enterprises face a further challenge in meeting the social goals of producer-owners. The challenge of harmonizing social and business goals with ethical aspects is complex and daunting for leaders. There are a few early research studies in this area. For instance, the research by Murthy (1984) examined reconciliation of social goals with business aspects in strategy formulation. Sharma (2002) conceptualized character competence as a higher-order concept that enabled the creation of socially responsible ethical organizations. Such organizations not only harmonized social and business dimensions in strategy formulation but also incorporated ethical dimensions in the same. This paper examines Shrikshethra Dharmasthala Rural Development Project (SKDRDP), a social enterprise that stems from the values of Shrikshethra Dharmasthala, a well known ancient Shiva temple located in coastal Karnataka, the Dharmadhikari (Custodian of ethics and values) of which is Padma Vibhushan Dr. Veerendra Heggade. It is a Shiva temple, with Vaishnavite priest and a Jain as Dharmadhikari. The temple espouses different categories of Daana (charity) targeted at different segments of the society. SKDRDP is a development initiative inspired by these values and faith that has successfully spearheaded development programs and won the Ashden Award 2012 for its pioneering development work in microfinance and providing sources of renewable energy to rural households. Many other development programs and income generation initiatives are being implemented by SKDRDP. This paper using the frameworks of character competence and CINE (Controllable-Internal, Noncontrollable External) matrix examines the strategies pursued and the leadership dimensions of this faith-inspired social enterprise. It also derives lessons for mainstream business enterprises. Also, examining the case of a faith-inspired social enterprise, the study provides insights on strategic management across ownership forms as to how building 'character' and 'ethical' capabilities by the leadership consciously in organizations providing them strategic direction and sustenance.

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Introduction

In recent times there have been discussions on dimensions of business that go beyond the realms of business decisions and questions have been raised on the ethical basis of such decisions. Controversies have erupted as to the decisions taken in the context of well-known business enterprises. These discussions have raised questions about the role of leadership, dimensions and facets of ownership and their impact on strategy formulation and the impact on the brand value of enterprises. Also, there are debates on facets such as the role of the founders, the role of boards and the role of professional managers. While these issues are relevant to understand strategy formulation and corporate governance in mainstream business organizations, the pointers to resolving these issues seem to lie in the realm of successful social enterprises. These social enterprises have been started by visionary leaders who have built institutions that have left a deep impact on society. Such enterprises provide a beacon light to a society that is facing enormous challenges.

There is within the category of social enterprises, a small sub-group of faith-based and faith-inspired enterprises. A faith-based enterprise is one which has been started by an individual or group belonging to a certain faith/ religion, where the leadership rests with the persons belonging to that faith/religion, decisions are mainly influenced by faith and the beneficiaries would be people who are followers of that faith. Faith-inspired enterprises though may have originated in the values of a given faith/ religion, the leadership of the enterprise need not rest with the person belonging to the faith and the beneficiaries can be from other faiths.

Studying them is important for several reasons. Firstly, leaders of faith-inspired social enterprises are path-breakers, they have strategized unique institutional responses to counter social problems. Secondly, in addition to coping with a tight regulatory environment like other social enterprises, they are bound by the values that are sacred to the faith that inspired the setting up of the social enterprise. This leads to a situation where the process of strategy formulation and strategy content must align with the values espoused by the faith. This makes the leadership role more complex and demanding. Another important reason is the leaders of these social enterprises prevent mission drift articulating the values of the social enterprise. The design and launch practices of these enterprises are also faith-inspired and are rooted in the social-cultural environment. Finally, how the leaders contribute to the development of 'character' competence in the organization makes an interesting research endeavor and is also an important reason for such a study. India is in the midst of a transition with many startups being established and a new generation of leaders are taking over the reins in mainstream corporate firms. Managerial roles are becoming more complex in the public sector and corporate organizations. Deriving lessons of leadership from a faith-inspired organization and how they influence strategies can be a matter of deeper study. There are quite a few faith-based and faith-inspired social enterprises, established and recent ones, set up by different religious groups/ communities and faiths some of them having a history of their own. In view of sensibilities involved, they have not been mentioned specifically and exploratory research has been undertaken in the context of a well known faith-inspired social enterprise. In this exploratory study, an effort has been made to examine the building of

character competence and role of leadership in Shrikshethra Dharmasthala Rural Development Project (SKDRDP). Also, it derives insights on strategic management across ownership forms as to how 'character' and 'ethical' capabilities built consciously in organizations contribute to the strategic direction and sustenance. A further challenge in this social enterprise is maintaining the balance between the faith-inspiration and strategic facets and choices faced in sustaining the organization.

Literature Review

A select review of literature has been attempted covering leadership issues as well as strategic dimensions in the context of faith-based organizations, secular non-profits and social enterprises. Fischer (2003) based on his research, highlighted the relevance of examining faith-based non-profits, distinct from secular non-profits. With the examination of literature he made a distinction that secular non-profits and faith-based non-profit organizations had a value orientation, while in faith-based organizations, leaders attributed and drew sustenance from the belief system. He further endeavored to formulate a faith-based leadership approach deploying a covenantal basis of action. Yip, Twohill, Ernst and Munuswamy (2010) undertook a case study of an international faith-based organization in an Asian context and identified leadership dilemmas concerning the organization, board-level governance. According to them while faith played an integrating role, it also resulted in "organizational blindspots". Public legitimation issues faced by faith-based organizations have been examined (Malmelin and Malmelin, 2015). Examining congregations, faith-based and secular organizations, Clerkin and Gronbjerg (2007), highlighted issues of management capacities and challenges faced by human service organizations. Lochhead (2012) undertook a case study of a Jesuit faith-based institution from a CFO perspective and identified take-aways such as the role of mission in resource allocation and also, the importance of religious and intellectual traditions in faith-based institutions that have to be factored in such decisions. Robertson (2012) endeavored to understand faith values and its interrelationships with faith-based leadership in the context of a faith-based university. She concluded that employees expected decisions by leaders to be attuned and configured with faith values articulated by the organization. Vanderwoerd (2004) examined using case studies as to how faith-based social service organizations reconciled secular pressures and concluded that such organizations formulated three strategies built around, pursuing relationships with others not part of the faith, considering faith values as those that cannot be compromised and overlap of religious and secular dimensions in decision-making so that overall societal benefits are enhanced.

Sauser et al (2005) highlighted that the challenges of local government leaders would be financial management, economic issues and ethical leadership dimensions in this century. To understand a faith-based organization's characteristics, Jeavon (1998) identified seven dimensions and included the identity of the organization, its participants, its resources, goals and services, decision-making approaches, aspects of power, authority and organization's interface with the environment.

In the Indian context, studies are focusing on the interrelationships between strategies and the type of enterprise. Murthy (1984) examining

corporate strategies of public sector enterprises proposed a three-stage model where in the first stage ideological and value considerations dominate while in the second stage there is a delicate balance between economic and societal benefits in interest of growth and the final stage the values are integrated with business dimensions meeting the criteria of stakeholders. In another study (Murthy 1987) in the context of public enterprises strategy identified different categories of stakeholders and this posed certain demands on the leaders of these enterprises. Strategic competence of organizations was conceptualized by him as an approach to bring about coherence between the goals of the firm and business decisions in a quick manner.

Sharma (2002, 2004) proposed the concept of character competence in the organization. He identified three approaches to resolve ethical dilemmas, dialectic based, dialogue-based, and commentary based. While resolving such dilemmas, there are ethical approaches such as virtue theorists, praxis theorists and so on. In the process, he proposed the concept of Character Competence. Character competence of an organization could be defined as a concept where an organization would not only have professional competence in its chosen domain but also had high standards of ethics and also, it would be uncompromising on values and belief dimensions enshrined in the organization. These values might have been formulated by founders or emerged by consensus among key decision-makers. To elucidate further, a firm might be high on business competence but low on ethics and might deviate from the values enshrined by the founders. Hence there is a need to integrate business competence with character dimensions of the organization. These have to be operationalized at the individual level, organizational level and market level. Sharma (2000, 2007) proposed the concept of CINE matrix (CINE stands for Controllable-Internal, Non-controllable-External) highlighting in the context of the tea sector which has a strong development dimension. This was further extended by Suresh (2010) in examining across ownership forms the strategic responses to market changes.

Jain (1992) highlighted the role of leadership in turnaround cases in the cooperative sector. Shah (1993) raised issues about the emergence of leadership – situation linkages in the context of cooperatives. Sridhar, Suresh and Joshi (2011) researched on grassroots leadership in the context of public school education. Another case study looked at strategic and leadership issues in the context of a successful urban microfinance enterprise and inferences for mainstream banks. (Suresh and Rao 2013). There was another study that examined leadership aspects of social enterprises (Suresh 2015). There are also insights on leadership transitions in social enterprises (Sriram 2013).

With increasing governance level conflicts between founders and professional managers, it is important to examine alternative modes of governance practiced in other institutional forms. Leaders of faith-inspired social enterprises have been pioneers, have played a critical and strategic role in nurturing the development of the organization. Despite having limited resources such leaders have expanded their organizations into new domains by making strategic decisions. Besides, they did so without compromising the values and core beliefs of the institutions headed by them, serving the societal cause strengthening the character of the organizations they had established. Therefore, understanding such

faith-inspired organizations is of relevance today for better governance practices of modern organizations. It is also helpful in developing leadership for designing socially responsible organizations.

There are not many studies on this theme and this study fulfills a research gap. This paper endeavors to examine a faith-inspired social enterprise, SKDRDP and only a few studies are covering this aspect in the Indian context.

Objectives of the Study

The rationale for undertaking this research has been highlighted earlier in the introduction to the paper. In specific the objectives of the research are as follows:

- To understand the role of leadership in faith-inspired social enterprises
- To gain insights as to how the strategic decisions were made without compromising on the values enshrined in the organization
- To derive lessons for other mainstream organizations

The research focuses on one such unique faith-inspired enterprise Shrikshethra Dharmasthala Rural Development Project (SKDRDP) based in Karnataka.

Shrikshethra Dharmasthala Rural Development Project (SKDRDP)

The Shrikshethra Dharmasthala temple is located in a valley, 300km off Bangalore, the capital of the state of Karnataka in India. It is located in the Belthangady taluk in the district of Dakshina Kannada, roughly 75km off the western coast. The temple has its origin 800 years back. Originally Dharmasthala was known as 'Kuduma' with Shri Barmana Pergade, who was into farming and was respected in the area for his generosity and pious nature and following the Jain faith. Legend has it that the deities of Dharma (the word denotes higher-order ethics and values in India) visited Shri Barmana Pergade, and were impressed by his hospitality. As a benediction, they instructed him to construct a temple where they stayed in their spiritual form and advised him to offer generous hospitality to any pilgrim who visited the temple. Subsequently, the great Vaishnavite Saint and commentator Shri Vadiraja Thirtha (1480-1600) reinstalled Lord Manjunatha (Lord Shiva, in the form of a Linga). The place also came to be known given by him as a benediction for the continuation of philanthropy and named as Dharmasthala, (the place of Dharma).

Descendants of Shri Barmana Pergade, known as Heggade, became the Dharmadhikaris (Custodian of ethics and values) of the temple and continued the concept of charity in action. The shrine became popular, with the Heggade family as the trustees of the same. Padma Vibhushan Dr. Veerendra Heggade is the current Dharmadhikari of the temple. Trusteeship and social responsibility manifested in the extension of Daana (charity) to seekers irrespective of religion.

The four Chaturdaanas include (www.shridharmasthala.org/chaturdanas):

- Annadaana (food charity)
- Vidyadaana (charitable education)
- Aushadadaana (donating medicines and healthcare)
- Abhayadaana (economic security and freedom from fear)

Interestingly the temple of Lord Shiva with Vaishnavite priests and a Jain as hereditary

Dharmadhikari (trustee). Extending the concept of charity and to provide an institutional base for the same in a modern context and SKDRDP was formed with the specific objectives (SKDRDP Annual Reports):

Objectives of SKDRDP

- To work for empowering the poorest
- To organize the rural populace in mobilizing the rural infrastructure for the development
- To utilize locally available natural and human resources for progress
- To introduce gainful sustainable means for the development of agriculture
- To encourage the farm sector and the non-farm sector income generation activities
- To blend morality, integrity and discipline in the process of development
- To facilitate participatory community life and village development programs.

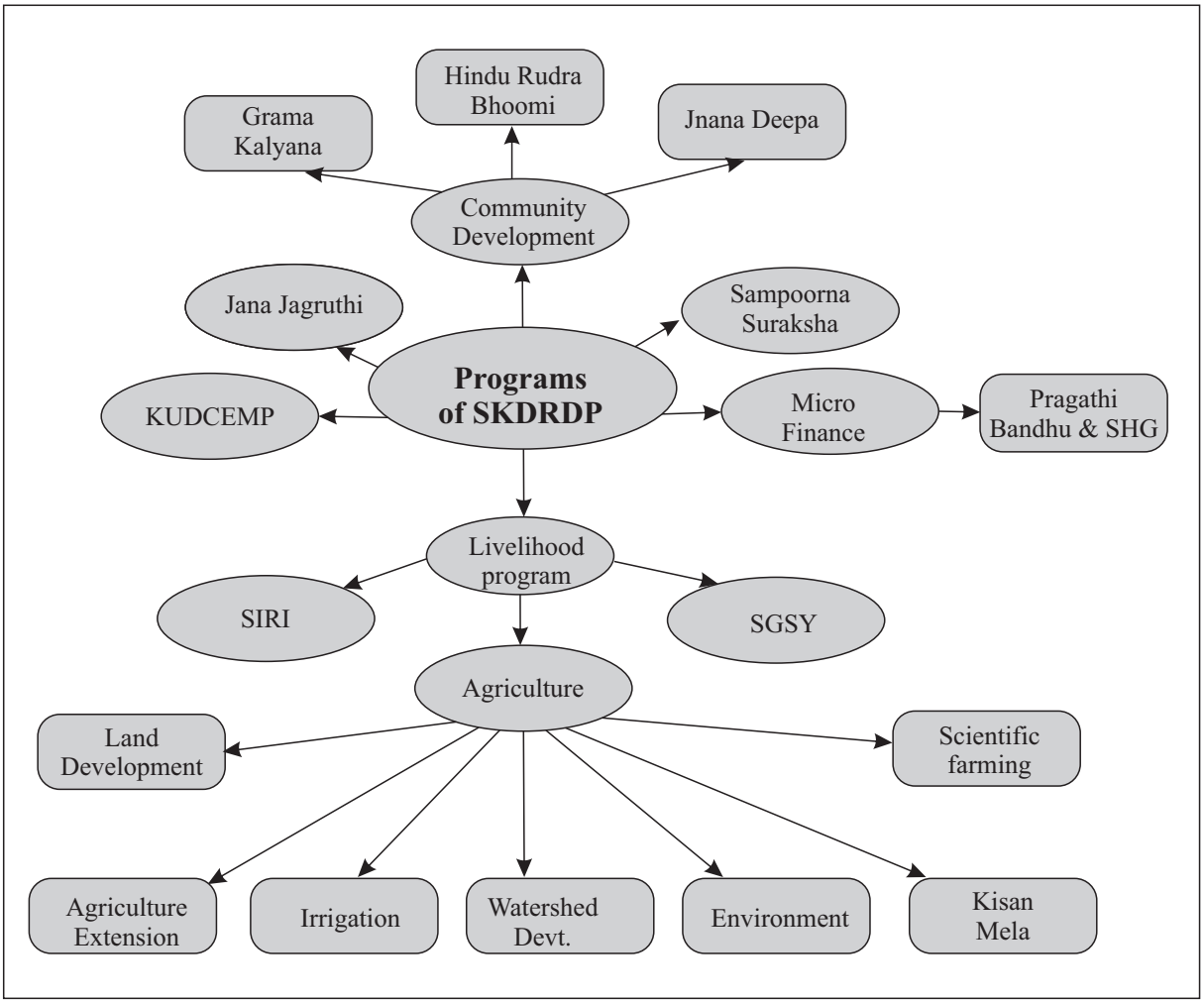
Initially, SKDRDP operated in a few villages and reached 2000 villages in the three coastal districts of Karnataka. Currently, it operates covering the entire state of Karnataka.

Beliefs of SKDRDP

The beliefs enshrined in SKDRDP are as below (SKDRDP Annual Reports):

- Resources generated within the village should be shared for development.
- Harmony between different income groups is necessary for prosperity.
- The development process should be socially and economically sustainable and can be successful only if it adopts the participatory model.
- Alcohol abuse is a hindrance for progress. Progress without morality will never be real.
- Progress can only be achieved through participation and sacrifice and not by struggles and street fights.
- Social empowerment of women will lead to sustainable progress and that social, women empowerment shall precede economic empowerment.
- Everybody is trustworthy and therefore needs to be trusted. That micro credit-based more on trust is the foundation for progress.
- A mature, free, dynamic and vibrant federation of Self-help groups is the proof of a successful developmental process.
- Progress knows no barrier- caste, creed, community - it is the right of all human beings who desire to progress.

SKDRDP launched multiple development programs covering development, animal husbandry, microfinance, social empowerment, etc. Schematically the programs launched are represented in Figure 1 below (Manjunath 2014):



(Source: Manjunath, 2014)

In addition to the above initiatives of SKDRDP, Shrikshethra Dharmasthala is involved in multiple activities such as running academic institutions school to college level, professional educational institutions, medical institutions both modern medicine, naturopathy, and Ayurveda. It has established entrepreneurship development training institutes across the country for the economically disadvantaged in collaboration with mainstream financial institutions. There is also an institution called SIRI that focuses on producing and marketing of products made by self-help groups. It has 373000 active self-help groups, with 3653000 members. Besides, there are also exclusive women self-empowerment programs.

Achievements and Awards

SKDRDP has won several awards for its development initiatives and a few of them are given below: (SKDRDP brochure, 2017):

1. SKOCH Award for Financial Inclusion: 2014
2. ASHDEN Golden Award for Global Green Energy: 2012
3. Microfinance Award India (For Large MFIs): 2010
4. Certificate of Merit from LIC for Jeevan madhura Program: 2010
5. "Pingara" Rajyothsava award: 2010
6. Changemakers award for Pragathibandhu: 2008 and Sampoorna Suraksha program

7. Chaudhri Charan Singh Award: 2003
8. Spandana Award for Janajagruthi program: 2000
9. NABARD Award: 1999-2000, 2000-2001
10. IMC (Indian Merchants Chamber) Award: 1998
11. FICCI (Federation of Indian Chamber of Commerce and Industry) award

Alignment with Values

SKDRDP has the following mission statement:

"The mission statement of SKDRDP is to work in tandem with all such organizations who dream of a vibrant rural India, wherein the rich and the poor have their needs met, where the natural resources are put to maximum use without affecting the living environment, where everybody has an equal opportunity to sustain one's dream." (SKDRDP Annual Report, 2014)

An examination of the mission statement indicates that it is an organizational manifestation of the Indian concept of Bahujana hithaya and Bahajana sukhaya. This, in turn, led to the formulation of various program and strategies as outlined above. The programs have been derived from the values and beliefs enshrined in the four Daanas (charity) principles enshrined in the temple. While faith is the inspiration, the application is not restricted to faith and focuses on all needy people.

Strengthening character competence and strategic leadership of Dr. Veerendra Heggade:

In the context of strengthening and application of character competence in SKDRDP it is important to raise the following questions:

- How is the environment different for a faith-inspired social enterprise?
- What has been the role of leadership in responding to the same?
- How has leadership reconciled the seemingly opposite facets by making critical strategic choices?

Applying dimensions highlighted by Jeavon (1993) it could be examined as to whether faith played an important role in SKDRDP. Given the context, SKDRDP did not identify exclusively with any specific religion, though its identity was derived from the values enshrined in the various Daana and Dharma beliefs of Shrikshethra Dharmasthala temple. The clientele, staff, stakeholders of the organization have been from different faiths and communities. Religious faith did not hamper SKDRDP in any manner for seeking resources or dealing with government agencies and acquisition of various development program assistance meant for the poor. The organizational goals and its products/services have been derived from the values of Daana and Dharma enshrined by Shrikshethra Dharmasthala, a Hindu temple, with its Dharmadhikari belonging to Jain faith. Religion had no role in organizational decision-making processes. The larger societal benefits that underlie the values have been factored in the decisions. While Dharmadhikari Dr. Veerendra Heggade is structurally the Chairman of SKDRDP, his role has been persuasive in orientation as a Custodian of the values of Shrikshethra Dharmasthala. Faith did not determine the interaction of SKDRDP as an organization with the environment. Beneficiaries of the development programs included people from other faiths as well.

With this background, it would be easy to understand the three questions raised earlier in the context of character competence. In the

context of faith-inspired organizations, they have to deal with multiple environments such as business/market environment, regulatory environment, secular value environment, socio-cultural environment and faith-value environment (also see Fischer 2003, Jeavon 1993). The role of the Dharmadhikari Dr. Veerendra Heggade has been in synthesizing the above. The faith-value environment (the Daana and Dharma concept) is non-negotiable as it has governed Shrikshethra Dharmasthala for the last six centuries.

The role of leadership is much more complex in faith-inspired organizations. As Murthy (1984) pointed public sector enterprises have to move from Stage I to Stage III reconciling business and social objectives in a manner deemed appropriate by stakeholders. In the case of faith-inspired organizations, an additional dimension is a reconciliation with the value environment. In this case, Dr. Heggade responded with several initiatives and institutions meant for the general public. Further the programs of SKDRDP have been meant for poor from all sections of the society right from the initial stages. Even the design and launch of SKDRDP in the 1980s as an institution was not just a response to undertake social development programs but also to implement activities that could not be directly implemented by the Shrikshethra Dharmasthala. It was also a strategy to respond to address dimensions that were relevant to an emerging modern society.

Role of leadership in this context extended beyond policy support. Drawing upon CINE matrix mentioned earlier (Sharma 2000, 2007), the role of Dr. Veerendra Heggade has been in bringing in the uncontrollable- external domain to the controllable domain. This has been in the form of various strategic responses in formulating different development programs and also a persuasion based leadership style stemming from his position as Dharmadhikari rather than a structural one. Also, collaborating with various government development agencies belonging to the central and state governments was also well thought out strategy of responding to the secular value environment and regulatory environment.

Another issue in building character competence is the reconciliation of seemingly opposite facets by making critical strategic choices. This has been achieved by ensuring that the main values and beliefs of Shrikshethra Dharmasthala are not compromised as they are the roots on which everything else is nurtured. For instance, a strategic choice has been to operate primarily in Karnataka where the temple is located. This was also a strategic response to the socio-cultural value environment. There have been strategic challenges as well. As of now SKDRDP operates multiple development programs and may have to sharply define its core competence. Similarly, in the development of leadership. In these processes, it is the character competence and the ethical intent that is likely to enable the process of strategy formulation in the future. There are facets of scaling up and mission drift. The role of leadership in this faith-based social enterprise has been one of balancing values so that there is no mission drift. Thus, the role of leadership has been very critical in enabling formulation of strategies by the social enterprise by not only developing a vision for the organization but also focusing on the higher transcendental and social purpose of Shrikshethra Dharmasthala which has been derived from the Daana (charity) principles mentioned earlier.

Conclusions

The exploratory case research as above delineates the role of leadership in strengthening character competence in a social enterprise. It provides insights as to how strategic direction and sustenance is provided by character competence and ethical intent in a social enterprise. This offers lessons for mainstream business enterprises that are grappling with issues of ownership, governance issues, ethical choices and their relationship with strategy. Other faith-based organizations can derive lessons in offering meaningful programs to society at large. There are policy implications as well. Instead of regulating and controlling assets of faith-based institutions policymakers can formulate policies that facilitate the formation and strengthening of faith-based and faith-inspired social enterprises/trusts that can contribute better to the development of society.

The role of leadership, in this case, was one that had been derived from the values of the organization. Every development program conceived had its origins in the chaturdaanas of the Shrikshethra Dharmasthala. Programs that did not meet this dimension were often reexamined and modified. Setting up SKDRDP as a separate entity itself was a strategic decision by the leadership. While it stemmed from the values and beliefs of the temple, it also gave space to interface with the external environment and to help the needy and poor irrespective of the faith. The mission statement itself was the organizational manifestation of the Indian concept of philanthropy (paropakara) and the leadership did not compromise on values pursued by Shrikshethra Dharmasthala. Such aspects ought to be factored in the design of the mainstream organization and their governance practices.

The leadership of this faith-inspired enterprise was able to deal with multiple environments, market environment, regulatory dimensions, secular value environment, socio-cultural environment and faith-value environment. Even though seemingly unreconcilable, the leadership synthesized them by taking strategic decisions and with values enshrined as the yardstick for judgment. These are important lessons. Also, the leadership has consistently contributed to strengthening character competence in the organization by blending professional facets with value dimensions. In a way, this dimension has given resilience and endurance to the social enterprise. In specific, the contribution of Dharmadhikari Dr. Veerendra Heggade has been immense in this regard. In addition, as a leader, he has ensured that there was no mission drift by emphasizing the values enshrined in chaturdaanas. Thus, mainstream business leaders could learn from the leadership of faith-inspired social enterprises.

Limitations of the Research and Directions of Future Research

The research focuses on a single case study in view of SKDRDP's uniqueness as a faith-inspired social enterprise that was established based on the principles of chaturdaanas of Shrikshethra Dharmasthala. The research has been exploratory in nature and by far among the few studies to focus on the leadership of SKDRDP from a managerial perspective. In the future, the case study could be extended to strategic decisions of the organization at different periods and as to how values of the Shrikshethra have influenced SKDRDPs responses in different situations could be investigated. Access to internal information is a constraint in such studies, A larger comparative

study covering character competence of other faith-inspired social enterprises could also be undertaken in the future. Comparative research studies covering secular non-profits and faith-inspired organizations can also be taken up from a strategic perspective.

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