

Comparative Study of Doctoral Research in Selected Subjects of Commerce and Management Faculty in Universities of Gujarat

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ABSTRACT

With the emergence of Knowledge Society, knowledge driven and dominant economy has emerged in last few decades in the world. This implies that power of knowledge is increasing significantly in social, economical and cultural aspects of the world. Countries with power of knowledge creation has advanced in science and technology and subsequently rules 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. Present study attempts to provide a description of status of doctoral research output in the Universities of Gujarat. This paper examines Doctoral Research in total eight subjects of Commerce and Management Faculties in Universities of Gujarat. All subjects of Doctoral Dissertations have been divided into four subject categories; (a) Financial Accounting, (b) Cost and Management Accounting, (c) Taxation and (d) Banking and Insurance and all subjects of Doctoral Dissertations of Faculty of Management have been divided into four subject categories; (a) Financial Management, (b) Marketing Management, (c) Human Resource Management and (d) General Management. Data have been analysed and hypothesis have been tested using ANOVA Test.

1. Introduction

India with second largest population is home to the third largest higher education system in the world by volume of students enrolled. There are 864 Universities, 40026 Colleges and 11669 Stand Alone Institutions. Gross Enrolment Ratio (GER) in Higher education in India is 25.2%, which is calculated for 18-23 years of age group. GER for male population is 26.0% and for females, it is 24.5%. For Scheduled Castes, it is 21.1% and for Scheduled Tribes, it is 15.4% as compared to the national GER of 25.2%. With the emergence of Knowledge Society, knowledge driven and dominant economy has emerged in last few decades in the world. This implies that power of knowledge is increasing significantly in social, economical and cultural aspects of the world. Countries with power of knowledge creation has advanced in science and technology and subsequently rules 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. Present study attempts to provide a description of status of doctoral research output in the Universities of Gujarat.

2. Objectives of the study

This paper examines Doctoral Research in the subjects of Commerce and Management Faculty in selected seven State-Funded Public Universities of Gujarat during the years 2006 to 2015. The objectives of the study are (i) to examine Doctoral Research in four subjects of Faculty of Commerce; (a) Financial Accounting, (b) Cost and Management Accounting, (c) Taxation and (d) Banking and Insurance and (ii) to examine Doctoral Research in four subjects of Faculty of Management; (a) Financial Management, (b) Marketing

Management, (c) Human Resource Management and (d) General Management.

3. Significance of the Study

Present study is significant in context of recent reforms in Higher Education sector emphasising Research Productivity of Indian Universities. It becomes essential to examine Research Productivity of Indian Universities. Present study attempts to pick up an important indicator of University Research Productivity in terms of Doctoral Research leading to Ph. D. Degree. The need and importance of research productivity cannot be overlooked in a university environment. Research publication in the university is a major or most significant indicator of academic productivity. It may be pointed out that, research publication in any field of specialization provide current information for growth, progress, development and an improved society.

4. Literature Review

According to Okiki (2013), Socio-demographic variables have significantly contributed to the research productivity of the academic staff at federal universities in Nigeria. The research productivity of staff members was high in publishing research articles, conferences papers whereas research productivity was lesser in publishing textbooks and book chapters. Main challenge was slow internet facilities and lack of financial resources. According to Rochna Srivastava and Garima Bisaria (2014) majority researches were conducted by Osmania University. They even concluded, that majority of contributions were from universities of south and it was declining as we move from Universities of south to North. They even found out that reasons for low research output was due to lack of infrastructure facilities and less qualified staff in

the department of university. According to Devraj Goel and Harsha Patadia (2014), who have depicted in their educational research of doctoral degrees awarded in MSU concluded the diversified areas of phd's done in MSU - Category wise, papers published by University teachers during year 2011-12. It was a collaborative research for and on behalf of the MHRD. Dilip K. Swain, Bijayla Laxmi Rautaray and Chandrakanta Swain (2013), analysed the research productivity of KIIT University from year 2000 to 2013. Study attempted to measure the authorship pattern and year wise contribution of articles. It also showed that there was constant rise in publication from year 2008 to 2011.

5. 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 seven state-funded public universities of Gujarat has formed data. One Ph.D. Degree awarded has been taken as Unit of Sample. Annual Report of respective universities have been basic source of the data. Each Sample University has been contacted separately 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. Descriptive analysis of the same is based on researcher's skill under the guidance of respected guide. The researcher has attempted to consolidate the data according to year wise growth, university wise and subject wise distribution to trace the growth in the subject.

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. Following procedure has been adopted to classify and analyze the data.

Ph. D. degrees awarded in Faculty of Commerce were further divided into following FOUR subjects categories:

1. Financial Accounting
2. Cost and Management Accounting
3. Taxation
4. Banking and Insurance

Ph. D. degrees awarded in Faculty of Management were further divided into following FOUR subjects categories:

1. Financial Management
2. Marketing Management
3. Human Resource Management
4. General Management

The data is presented through simple classification and with the help of percentage, average etc.

Hypothesis:

1. H₀: There is no significant difference between Ph. D. degree awarded in Financial Accounting area in various universities
2. H₀: There is no significant difference between Ph. D. degree awarded in various universities in Cost and Management Accounting
3. H₀: There is no significant difference between Ph. D. degree awarded in various universities in Taxation
4. H₀: There is no significant difference between Ph. D. degree awarded in various universities in Banking and Insurance
5. H₀: There is no significant difference between Ph. D. degree awarded in Financial Management in various universities
6. H₀: There is no significant difference between Ph. D. degree awarded in Marketing Management in various universities
7. H₀: There is no significant difference between Ph. D. degree awarded in Human Resource Management in various universities
8. H₀: There is no significant difference between Ph. D. degree awarded in General Management in various universities

6. Analysis

TABLE 1- TABLE SHOWING PH. D. DEGREES AWARDED UNDER FINANCIAL ACCOUNTING IN VARIOUS UNIVERSITIES

YEAR	SU	MKBU	MSU	SP	GU	HNGU	VNSGU	TOTAL
2006	1	0	1	2	0	0	0	4
2007	5	0	0	1	0	0	1	7
2008	1	0	0	2	0	1	0	4
2009	1	0	0	4	0	2	0	7
2010	7	1	0	1	1	0	1	11
2011	9	0	1	0	0	0	1	11
2012	2	0	0	1	5	0	0	8
2013	2	0	3	0	1	0	1	7
2014	3	0	0	0	0	4	0	7
2015	11	0	0	2	0	2	2	17
TOTAL	42	1	5	13	7	9	6	83

Table 1 shows Ph. D. degrees awarded in financial Accounting in various universities of Gujarat state. Total number of Ph. D. degrees awarded in Saurashtra University is 42 during the period of study. It means that total number of Ph.D degrees awarded by Saurashtra University is the highest in comparison to the rest of sampled universities. Total of number Ph. D. degrees awarded in MKBU and MSU are 1 and 5 respectively. However total number of Ph. D. degrees awarded by SP is 13 which is ranked second during the period of study. There are 7, 9 and 6 Ph. D. degrees awarded in GU, HNGU and VNSGU respectively from 2006 to 2015. Saurashtra University has also the highest number of Ph. D. degrees awarded during the last year of study period. The trend of submitting thesis was fluctuating in all sampled

universities of Gujarat state during the study period. Total number of Ph. D. degrees awarded by all the sampled universities in Financial Accounting is 83 which is a notable figure.

ANOVA TEST

Ho: There is no significant difference between Ph. D. degrees awarded in Financial Accounting Area in various universities.

H1: There is a significant difference between Ph. D. degrees awarded in Financial Accounting Area in various universities.

Level of significant: 5%

Degree of freedom: 69

Table 1.1

Anova: Single Factor				
SUMMARY				
Groups	Count	Sum	Average	Variance
SU	10	42	4.2	13.28889
MKBU	10	1	0.1	0.1
MSU	10	5	0.5	0.944444
SP	10	13	1.3	1.566667
GU	10	7	0.7	2.455556
HNGU	10	9	0.9	1.877778
VNSGU	10	6	0.6	0.488889

Ho: There is no significant difference between Ph. D. degrees awarded in various universities in Financial Accounting.

H1: There is a significant difference between Ph. D. degrees awarded in various universities in Financial Accounting.

Level of significant: 5%

Table 1.2 ANOVA

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	114.0857143	6	19.01429	6.423056	2.56E-05	2.246408
Within Groups	186.5	63	2.960317			
Total	300.5857143	69				

Table no.1.2 indicates the ANOVA test of sampled universities. The calculated value of F is 6.423056 and critical value is 2.246408 which are lower than calculated value.

Hence Null hypothesis is rejected and alternative hypothesis is accepted. Difference is significant.

TABLE 2- TABLE SHOWING TOPICS COVERED UNDER COST AND MANAGEMENT ACCOUNTING IN VARIOUS UNIVERSITIES

YEAR	SU	MKBU	MSU	SP	GU	HNGU	VNSGU	TOTAL
2006	0	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	0
2010	0	0	0	1	0	0	0	1
2011	0	0	0	0	0	0	0	0

2012	0	0	0	0	0	0	0	0
2013	1	0	0	0	0	0	0	1
2014	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0
TOTAL	1	0	0	1	0	0	0	2

Table- 2 shows Ph. D. degrees awarded in cost and management accounting in various universities of Gujarat state. Total number of Ph. D. degrees awarded in Saurashtra University and SP University is 1 during the period of study. There was no Ph. D. degrees awarded in MKBU, MSU, GU, HNGU and VNSGU during the period of study. The trend of submitting thesis shows that cost and management accounting area Has very few Ph. D. degrees awarded in all sampled universities of Gujarat state during study period. Total number of Ph. D. degrees awarded by all sampled universities is only 2.

ANOVA TEST

Ho: There is no significant difference between Ph. D. degrees awarded in various universities in Cost and Management Accounting.

H1: There is a significant difference between Ph. D. degrees awarded in various universities in Cost and Management Accounting.

Level of significant: 5%

Degree of freedom: 69

Table 2.1

Anova: Single Factor				
SUMMARY				
Groups	Count	Sum	Average	Variance
SU	10	1	0.1	0.1
MKBU	10	0	0	0
MSU	10	0	0	0
SP	10	1	0.1	0.1
GU	10	0	0	0
HNGU	10	0	0	0
VNSGU	10	0	0	0

Table 2.2 ANOVA

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.142857143	6	0.02381	0.833333	0.548734	2.246408
Within Groups	1.8	63	0.028571			
Total	1.942857143	69				

Table no.2.2 indicates the ANOVA test of sampled universities. The calculated value of F is 0.833333 and critical value is 2.246408 which are higher than calculated value.

Hence Null hypothesis is accepted and alternative hypothesis is rejected. Difference is insignificant.

TABLE 3- TABLE SHOWING TOPICS COVERED UNDER TAXATION IN VARIOUS UNIVERSITIES

YEAR	SU	MKBU	MSU	SP	GU	HNGU	VNSGU	TOTAL
2006	0	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0

2015	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0

Table- 3 shows Ph. D. degrees awarded in under the subject of taxation in various universities of Gujarat state. There was no Ph. D. degrees awarded in SU, MKBU, SP, MSU, GU, HNGU and VNSGU during the period of study .

The trend of submitting thesis shows that taxation area is not covered by any of the sampled universities of Gujarat state during the period of study.

TABLE 4- TABLE SHOWING TOPICS COVERED UNDER BANKING AND INSURANCE IN VARIOUS UNIVERSITIES

YEAR	SU	MKBU	MSU	SP	GU	HNGU	VNSGU	TOTAL
2006	0	0	0	4	0	0	0	4
2007	2	0	0	0	0	0	0	2
2008	3	1	0	0	1	0	0	5
2009	1	1	0	0	1	1	0	4
2010	5	3	0	2	0	1	0	11
2011	1	0	0	0	0	1	3	5
2012	3	2	0	3	0	1	5	14
2013	1	1	0	0	1	0	2	5
2014	3	0	2	0	0	0	0	5
2015	5	0	3	2	0	2	1	13
TOTAL	24	8	5	11	3	6	11	68

Table- 4 shows Ph. D. degrees awarded under the subject of banking and insurance in various universities of Gujarat state. Total number of Ph. D. degrees awarded in Saurashtra University is 24 during the period of study. It means that total number of Ph.D degrees awarded by Saurashtra University is the highest in comparison to rest of the sampled universities. Total of number Ph. D. degrees awarded in MKBU and MSU are 8 and 5 respectively. However total number of Ph. D. degrees awarded by SP and VNSGU are 11 which are ranked second during the period of study. There are 3,6 and 5 Ph. D. degrees awarded in GU, VNSGU and MSU respectively from 2006 to 2015. Saurashtra University has highest number of Ph. D. degrees awarded during the last year of the study period. However SP was at top position in the initial year of study period because total number of submission of thesis was 4 in 2006. The trend of

submitting thesis was fluctuating in all the sampled universities of Gujarat state during the study period. Total number of Ph. D. degrees awarded by all the sampled universities in area of banking and insurance is 68 which is a notable figure.

ANOVA TEST

Ho: There is no significant difference between Ph. D. degrees awarded in various universities in Banking and Insurance.

H1: There is a significant difference between Ph. D. degrees awarded in various universities in Banking and Insurance.

Level of significant: 5%

Degree of freedom: 69

Table 4.1

Anova: Single Factor				
SUMMARY				
Groups	Count	Sum	Average	Variance
SU	10	24	2.4	2.933333
MKBU	10	8	0.8	1.066667
MSU	10	5	0.5	1.166667
SP	10	11	1.1	2.322222
GU	10	3	0.3	0.233333
HNGU	10	6	0.6	0.488889
VNSGU	10	11	1.1	2.988889

Table 4.2 ANOVA

ANOVA							
Source of Variation	SS	Df	MS	F	P-value	F crit	
Between Groups	29.14285714	6	4.857143	3.035714	0.011347	2.246408	
Within Groups	100.8	63	1.6				
Total	129.9428571	69					

Table no.4.2 indicates the ANOVA test of sampled universities. The calculated value of F is 3.035714 and critical value is 2.246408 which are lower than calculated value.

Hence Null hypothesis is rejected and alternative hypothesis is accepted. Difference is significant.

TABLE 5- TABLE SHOWING TOPICS COVERED UNDER FINANCIAL MANAGEMENT IN VARIOUS UNIVERSITIES

YEAR	SU	MKBU	MSU	SP	GU	HNGU	VNSGU	TOTAL
2006	1	0	2	1	0	1	0	5
2007	4	1	4	0	0	1	0	10
2008	0	2	0	0	0	0	0	2
2009	0	0	0	0	1	0	0	1
2010	4	3	1	3	2	1	1	15
2011	2	2	2	4	4	0	3	17
2012	1	0	2	4	3	1	1	12
2013	5	1	1	4	0	0	2	13
2014	5	0	1	2	3	1	0	12
2015	13	0	2	4	0	2	1	22
TOTAL	35	9	15	22	13	7	8	109

Table- 5 shows Ph. D. degrees awarded in the subject of financial management in various universities of Gujarat state. Total number of Ph. D. degrees awarded in Saurashtra University is 35 during the period of study. It means that total number of Ph.D degrees awarded by Saurashtra University is highest in comparison to rest of the sampled university. Total number of Ph. D. degrees awarded in MKBU and MSU are 9 and 15 respectively. However total number of Ph.D. Ph. D. degrees awarded by SP is 22 which is ranked second during the period of study. There are 13, 7 and 8 Ph. D. degrees awarded in GU, HNGU and VNSGU respectively from 2006 to 2015. Saurashtra University has also highest number of Ph. D. degrees awarded during the last year of the study period. However MSU was at top position in the initial years of the study period because total number of submission of thesis

was 2 in 2006. The trend of submitting thesis was fluctuating in all the sampled universities of Gujarat state during study period. Total number of Ph. D. degrees awarded under the subject of financial management by all the sampled universities is 109 which is a notable figure.

ANOVA TEST

Ho: There is no significant difference between Ph. D. degrees awarded in Financial Management in various universities.

H1: There is a significant difference between Ph. D. degrees awarded in Financial Management in various universities.

Level of significant: 5%

Degree of freedom: 69

Table 5.1

Anova: Single Factor				
SUMMARY				
Groups	Count	Sum	Average	Variance
SU	10	35	3.5	14.94444
MKBU	10	9	0.9	1.211111
MSU	10	15	1.5	1.388889
SP	10	22	2.2	3.288889
GU	10	13	1.3	2.455556
HNGU	10	7	0.7	0.455556
VNSGU	10	8	0.8	1.066667

Table 5.2 ANOVA

ANOVA							
Source of Variation	SS	df	MS	F	P-value	F crit	
Between Groups	59.97142857	6	9.995238	2.819973	0.017041	2.246408	
Within Groups	223.3	63	3.544444				
Total	283.2714286	69					

Table no.5.2 indicates the ANOVA test of the sampled universities. The calculated value of F is 2.819973 and critical value is 2.246408 which are lower than calculated value.

Hence Null hypothesis is rejected and alternative hypothesis is accepted. Difference is significant.

TABLE 6- TABLE SHOWING TOPICS COVERED UNDER MARKETING MANAGEMENT IN VARIOUS UNIVERSITIES

YEAR	SU	MKBU	MSU	SP	GU	HNGU	VNSGU	TOTAL
2006	0	0	2	2	0	4	0	8
2007	0	2	1	0	0	2	2	7
2008	1	4	1	0	1	0	0	7
2009	0	0	3	0	0	3	0	6
2010	2	1	0	4	2	2	1	12
2011	4	5	3	5	1	1	4	23
2012	3	3	0	3	1	2	9	21
2013	5	8	2	0	1	0	4	20
2014	1	3	2	3	1	1	1	12
2015	2	3	3	7	0	5	1	21
TOTAL	18	29	17	24	7	20	22	137

Table- 6 shows Ph. D. degrees awarded in various universities of Gujarat state. Total number of Ph. D. degrees awarded in MKBU is 29 during the period of study. It means that total number of Ph.D degrees awarded by MKBU is highest in comparison to rest of the sampled universities. Total of number Ph. D. degrees awarded in SU and MSU are 18 and 17 respectively. However total number of Ph. D. degrees awarded by SP is 24 which is ranked second during the period of study. There are 37 and 64 Ph. D. degrees awarded in GU and VSNGU respectively from 2006 to 2015. SP University has highest number of Ph. D. degrees awarded during the last year of the study period. However HNGU was at the top position in the initial years of study period as the total number of submission of thesis was 4 in 2006. The trend

of submitting thesis was fluctuating in all the sampled universities of Gujarat state during the study period. Total number of Ph. D. degrees awarded by all the sampled universities is 137 which is a notable figure.

ANOVA TEST

Ho: There is no significant difference between Ph. D. degrees awarded in Marketing Management in various universities.

H1: There is a significant difference between Ph. D. degrees awarded in Marketing Management in various universities.

Level of significant: 5%

Degree of freedom: 69

Table 6.1

Anova: Single Factor				
SUMMARY				
Groups	Count	Sum	Average	Variance
SU	10	18	1.8	3.066667
MKBU	10	29	2.9	5.877778
MSU	10	17	1.7	1.344444
SP	10	24	2.4	6.044444
GU	10	7	0.7	0.455556
HNGU	10	20	2	2.666667
VNSGU	10	22	2.2	7.955556

Table 6.2 ANOVA

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	28.17142857	6	4.695238	1.199027	0.318605	2.246408
Within Groups	246.7	63	3.915873			
Total	274.8714286	69				

Table no.1.9.2 indicates the ANOVA test of the sampled universities. The calculated value of F is 1.199027 and critical value is 2.246408 which are higher than calculated value.

Hence Null hypothesis is accepted and alternative hypothesis is rejected. Difference is insignificant.

TABLE 7- TABLE SHOWING TOPICS COVERED UNDER HUMAN RESOURCE MANAGEMENT IN VARIOUS UNIVERSITIES

YEAR	SU	MKBU	MSU	SP	GU	HNGU	VNSGU	TOTAL
2006	1	2	0	0	0	0	0	3
2007	0	1	0	2	0	0	0	3
2008	0	1	1	0	0	0	0	2
2009	0	4	0	2	0	0	0	6
2010	4	2	0	2	0	1	0	9
2011	1	2	2	2	0	1	0	8
2012	1	1	1	5	0	0	1	9
2013	0	3	0	2	0	0	0	5
2014	1	0	0	1	0	0	0	2
2015	4	0	1	5	0	1	0	11
TOTAL	12	16	5	21	0	3	1	58

Table- 7 shows Ph. D. degrees awarded in the subject of Human Resource Management in various universities of Gujarat state. Total number of Ph. D. degrees awarded in SP University is 21 during the period of study. It means that total number of Ph.D degrees awarded by SP University is highest in comparison to rest of the sampled universities. Total of number Ph. D. degrees awarded in MKBU and MSU are 16 and 5 respectively. However total number of Ph. D. degrees awarded by SU is 12 which is ranked second during the period of study. There are 0,3 and 1 Ph. D. degrees awarded in GU, HNGU and VSNGU respectively from 2006 to 2015. Saurashtra University has the highest number of Ph. D. degrees awarded during the last year of study period. However MKBU was at top position in the initial years of the study period because total number of submission of thesis

was 2 in 2006. The trend of submitting thesis was fluctuating in all the sampled universities of Gujarat state during the study period. Total number of Ph. D. degrees awarded in Human Resource Management by all the sampled universities is 58 which is a notable figure.

ANOVA TEST

Ho: There is no significant difference between Ph. D. degrees awarded in Human Resource Management in various universities.

H1: There is a significant difference between Ph. D. degrees awarded in Human Resource Management in various universities.

Level of significant: 5%

Degree of freedom: 69

Table 7.1

Anova: Single Factor				
SUMMARY				
Groups	Count	Sum	Average	Variance
SU	10	12	1.2	2.4
MKBU	10	16	1.6	1.6
MSU	10	5	0.5	0.5
SP	10	21	2.1	2.988889
GU	10	0	0	0
HNGU	10	3	0.3	0.233333
VNSGU	10	1	0.1	0.1

Table 7.2 ANOVA

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	39.54285714	6	6.590476	5.897727	6.26E-05	2.246408
Within Groups	70.4	63	1.11746			
Total	109.9428571	69				

Table no. 7.2 indicates the ANOVA test of the sampled universities. The calculated value of F is 5.897727 and critical value is 2.246408 which are lower than calculated value.

Hence Null hypothesis is rejected and alternative hypothesis is accepted. Difference is significant.

TABLE 8-TABLE SHOWING TOPICS COVERED UNDER GENERAL MANAGEMENT IN VARIOUS UNIVERSITIES

YEAR	SU	MKBU	MSU	SP	GU	HNGU	VNSGU	TOTAL
2006	2	1	1	0	0	8	0	12
2007	5	3	2	0	0	6	1	17
2008	2	1	0	0	2	2	0	7
2009	0	0	3	3	1	1	0	8
2010	7	3	0	2	0	2	2	16
2011	3	0	5	5	1	8	5	27
2012	3	1	4	3	1	3	4	19
2013	1	2	2	0	2	4	4	15
2014	0	0	2	0	0	3	0	5
2015	5	0	1	1	0	3	0	10
TOTAL	28	11	20	14	7	40	16	136

Table- 8 shows Ph. D. degrees awarded under the subject General Management in the various universities of Gujarat state. Total number of Ph. D. degrees awarded in HNGU is 40 during the period of study. It means that total number of Ph.D degrees awarded by HNGU is highest in comparison to rest of the sampled universities. Total of number Ph. D. degrees awarded in MKBU and MSU are 11 and 20 respectively. However total number of Ph.D. Ph. D. degrees awarded by SU is 28 which is ranked second during the period of study. There are 7 and 16 Ph. D. degrees awarded in GU and VSNGU respectively from 2006 to 2015. Saurashtra University has also highest number of Ph. D. degrees awarded during the last year of the study period. However HNGU was at top position in the initial years of the study period as total number of submission of thesis was 8 in

2006. The trend of submitting thesis was fluctuating in all the sampled universities of Gujarat state during the study period. Total number of Ph. D. degrees awarded by all the sampled universities is 136 which is a notable figure.

ANOVA TEST

Ho: There is no significant difference between Ph. D. degrees awarded in General Management in various universities.

H1: There is a significant difference between Ph. D. degrees awarded in General Management in various universities.

Level of significant: 5%

Degree of freedom: 69

Table 8.1

Anova: Single Factor				
SUMMARY				
Groups	Count	Sum	Average	Variance
SU	10	28	2.8	5.288889
MKBU	10	11	1.1	1.433333
MSU	10	20	2	2.666667
SP	10	14	1.4	3.155556
GU	10	7	0.7	0.677778
HNGU	10	40	4	6.222222
VNSGU	10	16	1.6	4.044444

Table 8.2 ANOVA

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	76.37142857	6	12.72857	3.793283	0.002741	2.246408
Within Groups	211.4	63	3.355556			
Total	287.7714286	69				

Table no. 8.2 indicates the ANOVA test of the sampled universities. The calculated value of F is 3.793283 and critical value is 2.246408 which are lower than calculated value. Hence Null hypothesis is rejected and alternative hypothesis is accepted. Difference is significant.

7. Findings and Conclusion

Total number of PhD students in Financial Accounting in different Universities are 42 students in Saurashtra University, 1 students in MKBU, 5 students MSU, 13 students in SP university, 7 students are Gujarat University, 9 students are in HNGU, 6 students are in VNSGU. The ANOVA test result says that the difference is significant. Total number of PhD students in the subject of Cost and Management Accounting in different Universities are only 2 out of these 1 student is from Saurashtra University and 1 student is from SP University. Researcher applied ANOVA test which says that the difference is insignificant. There were no PhD students in the subject of taxation during the study period. The result of ANOVA test is significant. Table- 4 shows Ph. D. Degree awarded under the subject of Banking and Insurance in different universities of Gujarat state. Total numbers of PhD Ph. D. Degree awarded by all selected universities in area of banking and insurance are 68 which are notable figures. Total number of Ph. D. Degree awarded in Saurashtra University is 24 during the study period. ANOVA test concluded the difference is significant. Table- 5 shows Ph. D. Degree awarded in the subject of Financial management in different universities of Gujarat state. Total numbers of PhD Ph. D. Degree awarded under the subject of financial management by all selected universities are 109 which are notable figures. Saurashtra University and SP University have highest number of Ph.D students in the area of financial management. ANOVA test indicates that Null hypothesis is rejected and alternative hypothesis is accepted. Difference is significant. Table- 6 shows total number of Ph. D. degree awarded in the area of

Marketing management in different universities of Gujarat state are 137. MKBU has highest number of students followed by MSU and HNGU. As per ANOVA test difference is significant. Table- 7 shows Ph. D. degrees awarded in the subject of Human Resource Management in different universities of Gujarat state. Total numbers of PhD degrees awarded in Human Resource Management by all selected universities are 58. SP has the highest number followed by MKBU, MSU, HNGU and VNSGU. ANOVA test indicates that difference is significant. Table- 8 shows Ph. D. Degree awarded under the subject General Management in the different universities of Gujarat state are 136. Total number of Ph. D. degree awarded in HNGU is 40 during the study period followed by MSU, SP and GU. ANOVA test indicates that Null hypothesis is rejected and alternative hypothesis is accepted. Difference is significant

8. Limitations of the Study

Findings of this study can not be applied to other types of universities e.g. State Private Universities, State Specialised Universities, Central Universities, Deemed Universities and Institutions of National Importance. The study is pertaining only to Conventional state public universities of Gujarat recognised by UGC. The study deals with eight subjects falling under the faculty of Commerce and Faculty of Management. Categorization and sub categorization of each unit of sample Ph.D. is done on the basis of judgement of the researcher. Unique nature of interrelationship between two relevant disciplines of study; i.e. Commerce Management is a significant factor leading to the possibilities of change of category and sub category of unit of sample. This study is in the nature of analytical and exploratory research. It is not being proposed to enter in the normative aspect. The validity of the study is depending upon the reliability of the secondary data. This study is based on secondary data which has its own limitations.

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