Impact of Demographics on Administrators' Satisfaction on E-Governance Initiatives in Higher Education Institutions: An Indian Perspective

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Abstract

Just like every other institution good governance is the key to success of every higher education institution. Given the large network of universities and colleges that India has now, it is very difficult to satisfy all the stakeholders like students, teaching staff, non-teaching staff, parents and the society in general through the traditional method. Given the limited infrastructure and manpower, it is difficult to address all the queries timely. Stakeholders are not only diverse and large in number but also have become very demanding and want instant redressal. Between the institution and stakeholders lies the administrators. They are the face of the institution. But the administrators are different from the management. Administrators have to implement the e-initiatives introduced by the management. But they themselves are also stakeholders in the institution at the same time. If the administrators are themselves satisfied with e-Governance initiatives introduced by the institution, they will be better able to motivate teachers and students to use these initiatives. The paper explores the impact of demographics on the factors affecting satisfaction of administrators and challenges faced by them in incorporating these initiatives in their institution.

1.1   Introduction

In India, e-Governance usage started in 1970 but then it was limited to defense services and other services of critical importance. With the advent of personal computers, the reach and literacy of computers increased and their usage in offices increased. Though it was still used for word processing and back end operations only. Further in early 2000's, with the advent of smart phones and falling internet data rates more people hadreach to electronic mediums and they started realizing the benefits of electronic applications. The focus shifted from rolling out informative content to interactive applications. Now e-Governance or e-interaction has become the need of the hour and the term is extensively used. E-Governance can be defined

as the use of information and communications technologies (such as Wide Area Networks, the Internet, and mobile computing) in delivering information, services, carrying out transactions and integrating various standalone activities between different departments and units.In India higher education means any education undertaken after senior secondary be it professional, vocational or degree based.Over the years, India has established a huge network of higher education institutions. As per AISHE report 2017-18 there were as many as 903 Universities and 39050 Colleges in 2017-18. Such large number of universities means huge number of students, teachers and non-teaching staff. It is next to impossible to address queries of large number through traditional method.Online initiatives or e-Governance initiativescan make the governance possible in these institutions.

1.2   Review of Literature

The studies in Indian context found that the stakeholders be it students, teachers, administrative staff, administrators are aware of the importance of e-Governance initiatives. All of them agreed that e-Governance should be incorporated in teaching learning pedagogy (Shrivastava, Raizada, & Saxena, 2012; Sumathy & Shaneeb, 2018). The studies further found that significant relationship is there between skills and ICT implementation, administrative support and ICT implementation and ICT integration and productivity of teachers. Greater are the skills of respondents and better is the administrative support, better is the implementation. Studies also found a significant positive relationship between ICT integration and productivity of teachers (Twinomujuni, 2011; Adebayo, 2015; Gebremedhin & Fenta, 2015). ICT is still used for basic administrative and to some extent teaching work. Teachers and administrators used ICT for number of student activities like record keeping, setting and marking exams, grading students' progress, examination, registrations, admissions etc. (Nyandiere, 2007; Matovu, 2009). It is still not used for services like online assignment submission, online display of result, online access to transcripts, online information about lectures and online allocation of hostels among others. (Misra, Maskeliunas, & Damasevicius, 2018).

1.3   Research Gap

In India, there are studies which talk aboutbenefits of incorporating e-Governance and areas in higher education institutions where there is still lag in incorporating these initiatives. E-Governance is a broader term. It goes beyond just the usage of information and communications technology tools. It means complete integration of online initiatives across all activities and departments in the institution. When we talk of e-Governance in context of

administrators of the institutions, it is largely a ignored area. In India, not much work has been done on the benefits and utility derived by the administrators from these initiatives. The study aims to find factors affectingadministrators' satisfaction level on e-Governance initiatives, impact of demographics on their satisfaction level and identify the challenges faced by administrators in incorporating these initiatives.

1.4   Objectives of the study

1. To find out the factors influencing satisfaction level of administrators.
2. To study the relation between the administrators'' satisfaction and demographics.
3. To understand the various challenges faced by the administrators in incorporating these initiatives.

1.5   Hypothesis

H_0:1: There is no significant difference between the satisfaction level of administrators on the basis of gender.

H_0:2: There is no significant difference between the satisfaction level of administrators on the basis of age.

1.6   Sample Design
1.6.1   Sample Size

Sample size is the number of observations/elements taken from the population through which statistical inferences are drawn about the population.It is assumed that each institution has only one Principal/Dean/Head and very few other people in administrative roles, so the opinion of two administrators per institution is sought. Total of 28 institutions were selected on the basis of non-probability convenience sampling. So sample size constituted of 56 administrators.

1.6.2   Data Collection

The study makes use of both primary data and secondary data.For the primary data , inputs of the administrators on various variables are collected through 5-point Likert scale.

1.6.3   Pilot Study

Pilot study was done to check the reliability of the questionnaire. Cronbach Alpha was applied in SPSS to check the reliability of the Likert Statements.

Table 1.1 Reliability Statistics for Satisfaction Level

Cronbach's Alpha	No. of Items
.930	13

1.6.4   Data Analysis

The data so collected is analyzed using statistical software SPSS 22. The data analysis was carried out at 5% significance level. For objective number 1, to find out the factors influencing satisfaction level, Exploratory Factor Analysis was undertaken. To test objective number 2, T-Test and Mann Whitney U Test was applied on the factors derived using factor analysis.

1.6.5   Scope of the Study

Study was carried out on selected institutions in NCT Delhi and National Capital Region (NCR).

1.6.6   Data Analysis and Interpretation

Objective 1 :Determination of Factors Influencing Administrators' Satisfaction

To find the factors again Exploratory Factor Analysis was carried out.

Table 1.2: KMO and Bartlett's Test for Administrators Dataset

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.816
Bartlett's Test of Sphericity	Approx. Chi-Square	843.712
	Df	78
	Sig.	.000

KMO value here is .816 which is greater than .70 (Kaiser, An index of factorial simplicity, 1974) indicating sample size is adequate. Bartlett's test of Sphericity significant value is

0.000(p<.05), indicating multicollinearity is there. So the dataset is fit to proceed with factor analysis.

Table 1.3: Total Variance Explained for Administrators Dataset

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.853	60.411	60.411	7.853	60.411	60.411	4.405	33.887	33.887
2	1.799	13.841	74.252	1.799	13.841	74.252	3.886	29.894	63.781
3	1.227	9.441	83.693	1.227	9.441	83.693	2.589	19.912	83.693

Extraction Method: Principal Component Analysis.

The above table shows that factors were extracted through Principal Component Analysis and three factors were finally retained based on the Eigen value. All these three factors have eigen value greater than 1. Eigen value indicates the total variance explained by each factor. The cumulative variance explained by all the three factors taken together is 83.693. Then, varimax rotation was performed to identify the various statements that are correlated and fall into one construct or factor. The table below displays the factors extracted along with the reliability coefficient for each of the factor.

Table 1.4: Extracted Factors Along With Factor Loadings and Reliability Coefficient for Administrators

Factor Name	Reliability Coefficient
Factor 1- *SUBSTANTIAL SAVINGS IN SERVICE DELIVERY TIME AND COST*	**.912**
Factor 2- *BETTER TEACHING LEARNINGENVIRONMENT IN THE INSTITUTION.*	**.933**
Factor 3- *GREATER ACCOUNTABILITY AND TRANSPARENCY IN THE*	**.908**

INSTITUTION.	

Objective 2: To Study the Relation Between the Administrators' Satisfaction and Gender and Age.

Demographics refer to structure or characteristics of the human population. Various demographic variables are gender, age, income, occupation, education. In case of administrators occupation and education level does not vary. Also, income may vary among administrators but it is assumed that higher income come with older age so age factor is assumed to take care of variation in income also. So, in case of administrators relation between satisfaction and gender and age is studied.

To achieve this objective the following hypothesis are to be tested.

H_0:1: There is no significant difference between the satisfaction level of administrators on the basis of gender.

H_0:2: There is no significant difference between the satisfaction level of administrators on the basis of age.

Testing of Hypothesis 1

This hypothesis relates to gender. The following table lists the respondents on the basis of gender.

Table 1.5: Case Summary of Administrator Respondents on the basis of Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	24	42.9	42.9	42.9
	Male	32	57.1	57.1	100.0
	Total	56	100.0	100.0	

Normality Test

The first assumption of normality is a paramount to application of parametric test.

Table 1.6: Test of Normality for all Categories of Gender on Various Factors Affecting Administrators' Satisfaction

Factors Affecting Satisfaction Level of Administrators	*Gender of the Respondent*	*Kolmogorov-Smirnov*		
		Statistic	*Df*	*Sig.*
Substantial Savings in Service Delivery Time and Cost.	Female	.217	24	.005
	Male	.161	32	.035
Better Teaching-Learning Environment in the Institution.	Female	.148	24	.188
	Male	.118	32	.200
Greater Accountability and Transparency in the Institution.	Female	.160	24	.116
	Male	.119	32	.200

As the above table reflects p value is <0.05 for first factor(Substantial Savings in Service Delivery Time and Cost), indicating that null hypothesis is rejected. That is population is not normally distributed for any of the two categories: Female teacher and Male teacher. However, for second and third factor, p value> .05, indicated null hypothesis is accepted and population is normally distributed for last 2 factors.

Statistical Technique

The implication of the above normality test is that for:

Factor 1 :. Here, non-parametric, Mann-Whitney U Test is applied.

Factor 2 and 3: Here, parametric, T-Test is applied.

Relation between Administrators' Satisfaction and Gender on Factor 1

Table 1.7: Ranks on Mann-Whitney U Test for Factor 1 of Administrators' Satisfaction

Factor 1	*Gender of the Respondent*	*N*	*Mean Rank*	*Sum of Ranks*
Substantial Savings in	Female	24	28.65	687.50

Service Delivery Time and Cost.	Male	32	28.39	908.50
	Total	56		

Table 1.8: Mann-Whitney U Test for Factor 1 of Administrators' Satisfaction

	Substantial Savings in Service Delivery Time and Cost
Mann-Whitney U	380.500

As the above table indicates p value>0.05, null hypothesis is accepted. This implies that that there is no significant difference in the opinion of administrators as regard substantial Factor 1(Savings in Service Delivery Time and Cost) on the basis of gender.

Relation between Administrators' Satisfaction and Gender on Factor 2 and 3

T-test is carried out. The decision rule for t-statistics is:

p>0.05(significance level), accept the null hypothesis, that mean scores do not differ among experimental groups;

p<=0.05(significance level), reject the null the hypothesis.

Table 1.9: Effect of Gender on Factor 2 and Factor 3 Affecting Administrators' Satisfaction

Sr. No.	*Factors Extracted*		*Levene's Test for Equality of Variances*				
			F	*Sig.*	*T*	*Df*	*Sig. (2-tailed)*
Factor 2	Better Teaching-Learning Environment in the Institution.	Equal variances assumed	.263	.610	-.179	54	.858
		Equal variances not assumed			-.178	48.106	.860
Factor 3	Greater Accountability and Transparency in the	Equal variances assumed	.117	.733	-.139	54	.890

Institution.	Equal variances not assumed			-.138	48.429	.891

The above table reflects that for both the factors p value is >.05, indicating no significant difference in satisfaction level of administrators on the basis of gender.

Testing of Hypothesis 2

This hypothesis relates to age. The following table lists the respondents on the basis of age.

Table 1.10: Case Summary of Administrator Respondents on the basis of Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< =50	20	35.7	35.7	35.7
	> 50	36	64.3	64.3	100.0
	Total	56	100.0	100.0	

Normality Test

The first assumption of normality is a paramount to application of parametric test.

Table 1.11: Test of Normality for all Categories of Age on Various Factors Affecting Administrators' Satisfaction

Factors Affecting Satisfaction Level of Administrators	*Age of the Respondent*	*Kolmogorov-Smirnov*		
		Statistic	*df*	*Sig.*
Substantial Savings in Service Delivery Time and Cost.	< =50	.177	20	.099
	> 50	.146	36	.051
Better Teaching-Learning Environment in the Institution.	< =50	.164	20	.166
	> 50	.102	36	.200
Greater Accountability and Transparency in the Institution.	< =50	.153	20	.200
	> 50	.135	36	.094

As the above table indicates p value >.05 for all the factors, implying population is normally distributed for all categories of age.

Statistical Technique

Since the data is normally distributed, Independent-Samples T-Test is applied.

Table 1.12: Effect of Age on Various Factors Affecting Administrators' Satisfaction

Factors Extracted		*Levene's Test for Equality of Variances*				
		F	*Sig.*	*t*	*Df*	*Sig. (2-tailed)*
Substantial Savings in Service Delivery Time and Cost.	Equal variances assumed	1.786	.187	1.162	54	.250
	Equal variances not assumed			1.211	44.316	.232
Better Teaching-Learning Environment in the Institution.	Equal variances assumed	.460	.500	.814	54	.419
	Equal variances not assumed			.786	35.569	.437
Greater Accountability and Transparency in the Institution.	Equal variances assumed	.066	.798	.832	54	.409
	Equal variances not assumed			.839	40.431	.406

As the above table indicates t-statistics value p>.05 for all the factors , it can be interpreted that mean scores do not differ across age groups. That is there is no significant difference between satisfaction level of administrators on the basis of age.

1.7   Challenges Faced

- Lack of proper infrastructure like inadequately trained staff, outdated computer systems, absence of proper security measures;
- Absence of strong support from top management;
- Inadequate knowledge of all the tools and techniques;
- Absence of proper training.

1.8   Conclusion

Demographics do not have any impact on the satisfaction of the administrators. Be it male or female, young or not so young administrator all believe e-governance is the need of the hour for good governance of an institution.However, they still face lot of challenges in using and implementing these initiatives. One of the major challengesfaced by the administrators is the lack of proper infrastructure and top management support. In the absence of both these they feel they are not able to derive the full potential of these initiatives. Further they feel all the stakeholders including them should be exposed to more practical training of usage of these initiatives.

1.9   References

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