

## Technology Impact on Admission Systems with Reference to Professional Programmes in Maharashtra.

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**Abstract:** As Admission system is a process, researchers are going to concentrate on standardization and then evaluation. This research paper first presents different phases involved in Admission process and how technology shows its impact in every phase. One Online Admission System derived from study of IITs (Indian Institute of Technology) Admission System and many other eminent organizations' Online Admission Systems used by various Professional Programmes like Engineering and Technology, Management (MBA and MCA), Health Sciences, Agriculture, Pharmacy, Education, Law Programmes in Maharashtra is taken as Standard for Evaluation. IIT and other 46 organizations in Maharashtra involved in Online Admission of above mentioned Professional Programmes are studied, data is analyzed. Researchers proved with statistical analysis how there is impact of technology in each phase. This paper also presents the number of organizations involved in admission system for above mentioned professional programmes in Maharashtra. From phases of Admission system Evaluation steps are presented by researchers which will be helpful for Evaluation and Design of any Online Admission System by any academic organization.

**Keywords:** Evaluation, Online Admission System, Phases of admission system, Professional Programmes, Standard.

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### I. Introduction

Admission of students into University is a most important activity in every educational system which is as old as education itself. Student admissions are a vital part of any University's / Institution's running because students keep a University/Institution alive and they cannot survive without students. As more and more students are enrolling in different Universities / Institutions, for different programmes.[1] It is becoming difficult to handle such a large volume of student's admission using offline admission system.

### II. Need Of Study

ICT is integrated into nearly every aspect, it is playing important role in Education field also. As we are moving towards digital age, students receive information about the admissions in college from internet. Colleges and Universities have begun to rely on Web technology for admissions. Use of Online Admission System is one of them [2]. Online Admission System is defined as a service available and performed using the Internet where computer and other devices are connected with network to perform Admissions. Online Admission System will be useful to transform existing complex admission system into applicant/student-friendly, simpler, efficient, accurate, prompt and transparent system at affordable cost with high quality, greater speed and wider accessibility in a mass-personalized manner. [3] For Online Admission System's Evaluation researchers have done systematic acquisition and assessment of information to provide useful feedback about technology used and need of system to its stakeholders.

### III. Objective Of Research Paper

To identify how technology is used in the various phases of the admission process.

### IV. Phases Of Admission Process

Three broad Phases used in admission process are

- 1) Providing Admission Information to students.
- 2) Communication with students.
- 3) Admission Confirmation by students.



**Figure I** Broad Phases of Admission System

Corresponding to above mentioned phases Technology use is

1. Providing Admission Information to students through website
2. Communication with students is carried out using
  - 2a) Static Communication and
  - 2b) Dynamic Communication
3. Admission Confirmation by students online or offline by personally visiting the college or University.

Following **TABLE I** in detail illustrates phases of admission system and use of technology in each phase

**Table I**

SR. No.	Phases of Admission System	Technology Impact In Admission Process
1.	Information to be given to student for Admission	Website url, Prospectus, Rules, Entrance Exam to be Qualified, result, important dates Eligibility information is available on website.
2.	Apply for Entrance Exam for Admission to a specific Programme	Using Dynamic website or By downloading the Form from static website
3.	Help available for filling Form	Online Audio-video or textual information or Screenshots of the form to be filled
4.	Payment of Fees for Admission Process / Entrance Exam	Online using Net banking or Credit card or Debit card or E-challan of banks
5.	Filling of Application Form for Entrance if any or Admission Form	Online Application Form Filling
6.	Corrections in the Filled form if any, are possible once the Form is submitted	Online is it possible to make changes once the form Submitted
7.	Hall Ticket Generation for Entrance Exam	Online Hall Ticket Generation for Entrance Exam
8.	Conduction of Entrance Exam	Computer based or Offline (on specified date and schedule or flexible date and schedule)
9.	Declaration of Results / Merit List of Entrance Exam	On website
10.	Solving of Grievances in Results / Merit List.	Through candidate login on website
11.	How score cards /result of entrance will be Available?	On website or Through candidate login on website
12.	Counseling / Option Form Filling for different Rounds I, II...	Through candidate login on website option form can be filled
13.	Confirmation of admission to respective College / Institute according to allotment.	Online or personally
14.	Confirmation of admission by college or Institute.	Once admission is confirmed through college or Institute's login candidate status is updated as Admitted.

**Hypothesis H1: In Every phase of Admission System use of technology shows positive impact.**

**Research Methodology:**

Researchers studied the Processes of Online Admission System used by IITs (Indian Institute of Technology) [24, 25] and other Online Admission Systems used by various following 8 Professional Programmes in 46 eminent organizations in Maharashtra using survey of websites, personal visits, interviews. Researchers have derived one Online admission system from them and that is taken as Standard for Evaluation. 8 Professional programmes under the study are as follows

- 1) Engineering and Technology Programmes
- 2) Management Programme MBA
- 3) Management Programme MCA
- 4) Health Sciences Programmes (Medicine, Dental, Ayurveda, Homeopathy, Unani, Nursing, Animal and

- Fishery Sciences)  
 5) Pharmacy Programmes  
 6) Education Programmes  
 7) Agriculture Programmes  
 8) Law Programmes.

Following **TABLE II** will give the information about Number of Different Organizations who conducts Admissions for above Mentioned Professional Programmes

**Table II**

Sr. No.	Name Of Professional Programme	Number of Different Organizations conducting Admissions of respective Professional Programme
1	Engineering and Technology	11
2	Health Sciences	11
3	Management MBA	7
4	Management MCA	3
5	Agriculture	1
6	Pharmacy	4
7	Education	4
8	Law	5
	Total	46

This whole population of all organizations (46) is used for study. IIT admission process is Two Tier.

- 1) Candidate who wants to apply for IIT has to first appear for IIT JEE (Main) Exam.
- 2) First 1, 50,000 students qualified from JEE (Main) has to appear for JEE (Advanced) Exam

Those who qualify JEE (Advance) Exam are eligible for IIT admissions

As applicant has to apply for two Exams, two times, whose procedure of applying is nearly same?

After careful examination of those two processes and other 46 processes researchers have eliminated the common steps and following steps are mainly taken for evaluation.

- 1) Whether all Information of admission is given to student through website?
- 2) How to apply for Entrance Exam for Admission to a specific Programme, using Dynamic website or static website or offline or using mobile application?
- 3) Before Actual Online Form Filling, How Help is available for filling the Form?
- 4) How the Payment of Admission Registration Fees /Entrance Exam Fees are to done using Credit / Debit Card / Net Banking / E-challan of specific bank / Demand Draft Details or offline?
- 5) How Filling of details of candidate's information is done?
- 6) If Corrections in the Filled form if any, are possible once the Form is submitted / confirmed?
- 7) How Candidate receives Admit card/ Hall Ticket for Entrance Exam through own login / Email / Post / Courier?
- 8) How the Conduction of Entrance Exam at respective centers is carried out?
- 9) If Entrance Examination Result /Merit List displayed on website?
- 10) How Score card / Result of Entrance Exam will be available to students?
- 11) How Applicant can submit grievances in Result / Merit List?
- 12) How filling of choices / preference of participating Institutes by candidate is done?
- 13) How Confirmation of admission by a candidate to respective allocated Institutes is done?
- 14) How Submission of Confirmation of admission of a candidate by Institute is done?

Details of Organizations conduction admissions of 8 above mentioned Professional Programmes.

**1 Organizations conducting Engineering and Technology Programmes Admissions in Maharashtra are**

1	All State Universities under DTE (Directorate of Technical Education) [4]
2	Symbiosis International University, Pune [5]
3	Bharati Vidyapeeth Deemed University, Pune [6]
4	Padmashree Dr.D.Y.Patil University, Navimumbai [7]
5	Dr. D.Y. Patil Vidyapeeth Pimpri, Pune [8]
6	Narsee Monjee Institute of Management Studies, Mumbai [9]
7	Institute of Chemical Technology Mumbai [10]
8	Institute of Armament Technology, Pune [11]
9	Tata Institute of Fundamental Research, Mumbai [12]
10	Tilak Maharashtra Vidyapeeth Pune [13]
11	Homi Bhabha National Institute, Mumbai [14]

**2 Organizations conducting Health Sciences Programmes Admissions in Maharashtra are**

- 1 All Universities under DMER (Directorate of Medical Education and Research ) [15]
- 2 Bharati Vidyapeeth University, Pune
- 3 Padmashree Dr. D. Y. Patil University, Navimumbai
- 4 D.Y Patil Educational Society Kolhapur [16]
- 5 Pravara Institute Of Medical Sciences, Loni, Ahmednagar [17]
- 6 Datta Meghe Institute Of Medical Sciences Nagpur [18]
- 7 Krishna Institute Of Medical Sciences Karad [19]
- 8 MGM Institute Of Health Sciences, Navi Mumbai [20]
- 9 Dr. D. Y. Patil Vidyapeeth, Pune
- 10 Symbiosis International University, Pune
- 11 Tilak Maharashtra Vidyapeeth Pune

**3 Organizations conducting Management MBA Programmes Admissions in Maharashtra are**

- 1 All State Universities under DTE (Directorate of Technical
- 2 Bharati Vidyapeeth University, Pune
- 3 Symbiosis International University, Pune
- 4 Padmashree Dr.D.Y.Patiluniversity, Navimumbai
- 5 Dr. D.Y. Patil Vidyapeeth Pimpri, Pune
- 6 Narsee Monjee Institute Of Management Studies,
- 7 Tilak Maharashtra Vidyapeeth Pune

**4 Organizations conducting Management MCA Programmes Admissions in Maharashtra are**

- 1 All State Universities under DTE (Directorate of Technical Education)
- 2 Bharati Vidyapeeth University, Pune
- 3 Tilak Maharashtra Vidyapeeth Pune

**5 Organization conducting Agriculture Programmes Admissions in Maharashtra is**

- 1 All Krishi Universities under MCAER (Maharashtra Council Of Agricultural Education And Research, Pune) [21]

**6 Organizations conducting Pharmacy Programmes Admissions in Maharashtra are**

- 1 All State Universities under DTE (Directorate of Technical Education)
- 2 Bharati Vidyapeeth Deemed University
- 3 Narsee Monjee Institute of Management Studies, Mumbai
- 4 Institute of Chemical Technology, Mumbai

**7 Organizations conducting Education Programmes Admissions in Maharashtra are**

- 1 All State Universities under DHE (Directorate Of Higher Education) [22]
- 2 Padmashree Dr.D.Y.Patiluniversity, Navimumbai
- 3 Tilak Maharashtra Vidyapeeth Pune
- 4 Bharati Vidyapeeth Deemed University

**8 Organizations considered who conducts Law Programmes Admissions in Maharashtra are**

- 1 I.L.S. Law College ,Pune [23]
- 2 Bharati Vidyapeeth Deemed University,Pune
- 3 Symbiosis International University, Pune
- 4 Narsee Monjee Institute of Management Studies, Mumbai
- 5 Tilak Maharashtra Vidyapeeth Pune

After studying 46 processes of all above programmes, following are observations for each phase Professional Programmewise.

**Phase 1:** All admission Information is available on website of all 46 organizations conducting Professional Programmes admission mentioned above. Along with online information 26 organizations also allows offline prospectus selling and offers admission information.

**Phase 2 :** Following TABLE III shows different techniques adopted by Programmes to apply for Entrance Exam or admission.

**Table III**

2 How to Apply for Entrance Exam for Admission to a specific Programme						
			1.1. Online using Dynamic website	1.2 By downloading form from static website	1.3 Offline (personally)	1.4 Using Mobile Application
Sr.No.	Programme Name	Total Number of organizations				
1	Engineering and Technology	11	7	2	5	0
2	Management (MBA)	7	4	3	4	1
3	Management (MCA)	3	2	1	2	0
4	Agriculture	1	1	0	0	0
5	Pharmacy	4	4	0	1	0
6	Education	4	2	2	3	0
7	Health Sciences	11	6	7	7	0
8	Law	5	2	1	4	0
			28	16	26	1

Above TABLE III data finds that number of organizations which allows to apply for Entrance Exam / for Admission for mentioned programmes using Technology are  $28 + 16 + 1 = 45$   
 Number of organizations which allows offline apply for different programmes's Entrance Exam for Admission are 26

**Phase 3:** 28 organization conducting above Programmes allows online Filling of Application Form for Entrance Exam or Admission and 26 allows offline.

**Phase 4:** Following TABLE IV analyses help available to fill the Form

**Table IV**

4 Help available for filling the Form Before Actual Form Filling						
Sr.No.	Programme Name	Total Number of organizations	Online Audio and Video	Online Screenshots of form	Online Textual Information	Offline Prospectus
1	Engineering and Technology	11		1	6	3
2	Management (MBA)	7	1	1	5	4
3	Management (MCA)	3		1	1	2
4	Agriculture	1	1			
5	Pharmacy	4		1	2	1
6	Education	4		1	2	3
7	Health Sciences	11	1		7	7
8	Law	5				
			3	5	23	20

Above TABLE IV data finds that organizations conducting above Programmes that allow Online Help for filling Entrance Admission Form are  $3+5 +23= 31$  and Offline Help are 20

**Phase 5:** Following TABLE V shows different modes of payment used by the Organizations conducting above mentioned Programmes

**Table V**

*Technology Impact on Admission Systems with Reference to Professional Programmes in Maharashtra*

5 Payment of Admission Registration Fees /Entrance Exam Fees by Credit / Debit Card / Net Banking / E-challan of specific bank / DD / Cash						
Sr.No.	Programme Name	Total Number of organizations	Credit/Debit card	Netbanking	E-challan of specific bank	Offline payment Cash
1	Engineering and Technology	11	5	3	3	8
2	Management(MBA)	7	4	3	3	5
3	Management(MCA)	3	2	2	1	2
4	Agriculture	1		1	1	
5	Pharmacy	4	4	1	2	1
6	Education	4	1	1	1	3
7	HealthSciences	11	3	3	3	8
8	Law	5	2	2		3
			21	16	14	30

Above data shows the Online Payment can be done by  $21 + 16 + 14 = 51$  organizations conducting above mentioned programmes and Offline Payment can be done by 30

**Phase 6:** TABLE VI below shows how many Organizations conducting above mentioned Programmes allow corrections in the filled form once the form is submitted.

**Table VI**

6 Corrections in the Filled form if any, are possible once the Form is submitted or Confirmed.			
Sr.No.	Programme Name	Total Number of organizations	Corrections in the Filled form if any, are possible
1	Engineering and Technology	11	3
2	Management(MBA)	7	1
3	Management(MCA)	3	
4	Agriculture	1	
5	Pharmacy	4	2
6	Education	4	
7	HealthSciences	11	
8	Law	5	
			6

TABLE VI data shows that Online Corrections in the Filled form if any, are possible in 6 Organizations conducting above mentioned Programmes. In Offline Process Corrections in the Filled form are not possible.

**Phase 7:** TABLE VII below shows how support is provided to applicants to get their Hall Tickets /Admit card for Entrance Exam

**Table VII**

7 Receipt of Admit card/ Hall Ticket for Entrance Exam through own login / Email / Post / Courier					
Sr.No.	Programme Name	Total Number of organizations	Student's Own Login	Email	Offline through post /courier
1	Engineering and Technology	11	6	2	
2	Management (MBA)	7	3	1	2
3	Management (MCA)	3	1	1	
4	Agriculture	1			
5	Pharmacy	4	3	1	
6	Education	4	1	1	2
7	HealthSciences	11	5	3	5
8	Law	5	1	1	1
			20	10	11

TABLE VII shows that Online Receipt of Admit card/ Hall Ticket for Entrance Exam is offered by  $20 + 10 = 30$  Organization's conducting above mentioned Programmes and offline by post or courier by 11.

**Phase 8:** TABLE VIII shows how Entrance exam is conducted for Professional Programmes.

**Table VIII**

8 Conduction of Entrance Exam online / offline				
Sr.No.	Programme Name	Total Number of organizations	Online Exam	Offline Exam
1	Engineering and Technology	11	4	8
2	Management(MBA)	7	2	5
3	Management(MCA)	3	1	2
4	Agriculture	1		
5	Pharmacy	4	1	3
6	Education	4		4
7	HealthSciences	11		11
8	Law	5	1	4
			9	37

TABLE VIII shows that Online Entrance Exam conduction is done by only 9 and offline Entrance Exam conduction by 37.

**Phase 9:** All organizations conducting above mentioned programmes displays Result / Merit List on website and 2 of them displays offline on Notice Board also.

**Phase 10:** TABLE IX below shows how student can get his Score Card of Entrance Exam.

**Table IX**

10 Score Cards available for Entrance Exam Given				
Sr.No.	Programme Name	Total Number of organizations	Online Through Student's own Login can be Downloaded	Offline Dispatched Through post / Courier
1	Engineering and Technology	11	2	
2	Management(MBA)	7	1	1
3	Management(MCA)	3		1
4	Agriculture	1		
5	Pharmacy	4		2
6	Education	4	1	
7	HealthSciences	11	1	
8	Law	5		
			5	4

Table IX finds that Online Score cards Available in 5 organizations conducting above mentioned programmes and Offline Score cards Available in 4.

**Phase 11:** TABLE X below shows how a student can submit grievances, if any in Result or Merit List.

**Table X**

11 Submit Grievances in Result / Merit List				
Sr.No.	Programme Name	Total Number of organizations	Online	Offline
1	Engineering and Technology	11	2	
2	Management (MBA)	7		1
3	Management (MCA)	3		1
4	Agriculture	1	1	
5	Pharmacy	4		2
6	Education	4		
7	HealthSciences	11	2	1
8	Law	5		1
			5	6

From TABLE X above, number of organizations conducting above mentioned Programmes accepting Online Grievances in Result / Merit List are 5 and offline are 6

**Phase 12:** TABLE XI below shows how applicant can submit Preference / option of Institutes.

12 Submission of Option/ Preference Form for selection of Institutes				
Sr.No.	Programme Name	Total Number of organizations	Online	Offline

1	Engineering and Technology Programmes			
2	Management (MBA)	7	1	
3	Management (MCA)	3	1	
4	Agriculture	1		
5	Pharmacy	4	1	
6	Education	4	1	
7	HealthSciences	11		1
8	Law	5		
			5	1

**TABLE XI**

TABLE IX above finds that Online Submission of Option/ Preference Form for selection of Institutes is possible in 5 organizations through candidate's own login and 1 organization of Health Science Programmes allows offline submission.

**Phase 13:** In all organizations conducting above programmes student has to confirm admission personally in allocated institute.

**Phase 14:** TABLE XI below gives details of how respective Institute confirms admitted students.

**TABLE XI**

14 Submission of Confirmation of admission of a candidate by Institute				
Sr.No.	Programme Name	Total Number of organizations	Online	Offline
1	Engineering and Technology	11	1	
2	Management (MBA)	7	1	
3	Management (MCA)	3	1	
4	Agriculture	1		
5	Pharmacy	4	1	
6	Education	4	1	
7	HealthSciences	11	1	
8	Law	5		
			6	0

Organizations responsible for conducting CAP (Centralized Admission Process) for above mentioned programmes allows online confirmation of admitted student are 6.

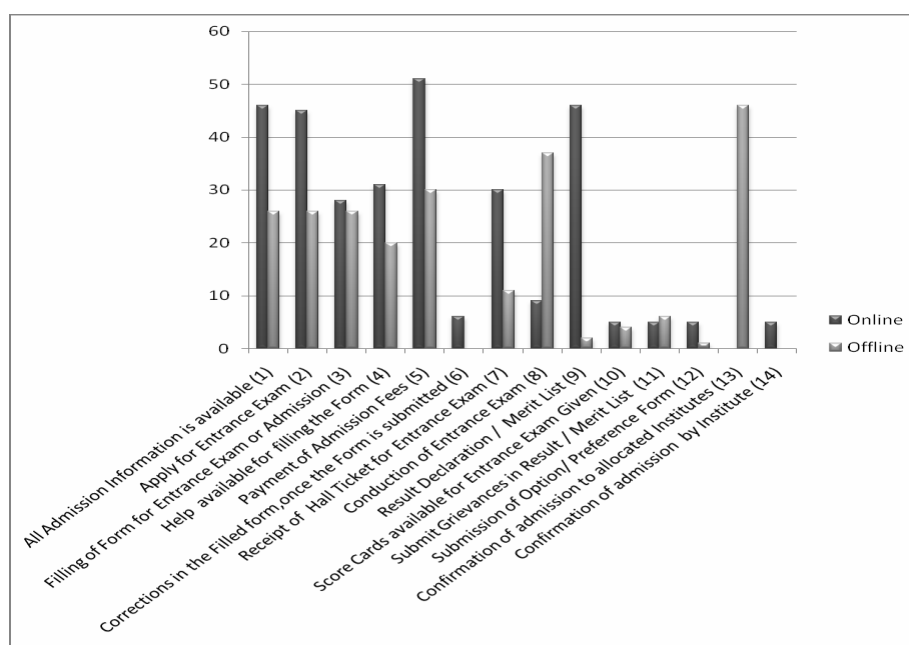
Following TABLE XII shows aggregation of All above Admission Phases data



Sr. No.	PHASES IN ADMISSION SYSTEM	Online	Offline
1.	All Admission Information is available	46	26
2.	Apply for Entrance Exam for Admission to a specific Programme	45	26
3.	Filling of Application Form for Entrance Exam or Admission	28	26
4.	Help available for filling the Entrance Exam / Admission Form Before Actual Form Filling	31	20
5.	Payment of Admission Registration Fees /Entrance Exam Fees	51	30
6.	Corrections in the Filled form if any, are possible once the Form is submitted	6	0
7.	Receipt of Admit card/ Hall Ticket for Entrance Exam	30	11
8.	Conduction of Entrance Exam	9	37
9.	Result Declaration / Merit List	46	2
10.	Score Cards available for Entrance Exam Given	5	4
11.	Submit Grievances in Result / Merit List	5	6
12.	Submission of Option/ Preference Form for selection of Institutes	5	1
13.	Confirmation of admission by a candidate to respective allocated Institutes	0	46
14.	Submission of Confirmation of admission of a candidate by Institute	5	0

Above TABLE XII analyses that in 12 mentioned phases of Admission Process Technology has its positive impact.

The Fig II below shows graphical representation of TABLE XII above showing positive impact of Technology in 12 Admission phases.



**Figure II Graphical representation of positive impact of Technology in 12 Admission phases out of 14**

### Hypothesis Testing

Researchers applied Z test each phase and result is as follows

**Hypothesis Ha:** In Every phase of Admission System use of technology shows positive impact.

**Null Hypothesis H0:** In Every phase of admission system ratio of use of technology (Online Admission) and no use of technology (Offline Admission) is 50: 50

$$H_0: p = p_{H0} = \frac{1}{2} = 0.5$$

$$H_a: p \neq p_{H0}$$

Hence in each phase the Probability of use of technology (online Admission) =  $\frac{1}{2} = 0.5$  and

Probability of no use of technology (offline Admission) =  $1/2 = 0.5$

The proportion of success or  $p = 0.5$       the proportion of failure or  $q = 0.5$     A = Accepted R = Rejected

**Note:** Though 46 organizations are considered for study, n is different for each phase depends on how many organizations participate in each phase. In some phases organizations allow many options online as well as offline and more so in some cases n is greater than 46. TABLE XIII below shows this along with reason for different n.

**TABLE XIII**

Phase No	Online	Offline	n	$\sqrt{p * q / n}$	P	$\hat{p}$	$\hat{p} - p$	$z = \frac{\hat{p} - p}{\sqrt{(p * q) / n}}$	Z > 1.96	Specification of Different N
1	46	26	46	0.07372	0.5	1	0.5	6.78232998	A	
2	45	26	46	0.07372	0.5	0.978 261	0.478261	6.48744607	A	
3	28	26	28	0.09449	0.5	1	0.5	5.29150262	A	28 organizations allows dynamic filling of application form
4	31	20	28	0.09449	0.5	1.107 143	0.607143	6.42539604	A	28 organizations allows dynamic filling of application form
5	51	30	51	0.07001	0.5	1	0.5	7.14142843	A	51 organizations allow online as well as offline payment refer TABLE V
6	6	0	28	0.09449	0.5	0.214 286	-0.28571	-3.02371578	R	28 organizations allows dynamic filling of application form
7	30	11	44	0.07538	0.5	0.681 818	0.181818	2.41209076	A	46 -2 = 44 as agriculture and ILS law don't take entrance exam
8	9	37	44	0.07538	0.5	0.204 545	-0.29545	-3.91964748	R	46 -2 = 44 as agriculture and ILS law don't take entrance exam
9	46	2	46	0.07372	0.5	1	0.5	6.78232998	A	
10	5	4	9	0.16667	0.5	0.555 556	0.055556	0.33333333	R	9 organizations gives score card
11	5	6	44	0.07538	0.5	0.113 636	-0.38636	-5.12569286	R	46 -2 = 44 as agriculture and ILS law don't take entrance exam
12	7	1	8	0.17678	0.5	0.875	0.375	2.12132034	A	8 organizations allow option form filling
13	0	46	46	0.07372	0.5	0	-0.5	-6.78232998	R	
14	5	0	5	0.22361	0.5	1	0.5	2.23606798	A	5 organizations allow confirmation by Institute

**Findings from Study:**

Nine (9) phases in above TABLE XIII shows that use of technology has significant positive impact in admission process as hypothesis is accepted and in 5 phase's use of technology does not show its positive impact where hypothesis is rejected.

Researchers give reasons for phases where hypothesis is rejected which are as follows

1) Phase 6 is **Corrections in the Filled form if any, are possible once the Form is submitted** where hypothesis is rejected because though 28 organizations allow dynamic online form filling, if corrections facility is allowed lot of changes in databases has to be made and it consumes lot of system resources, so when number of organizations where students apply are less they don't allow this facility. Organizations which allows this facility have to handle nearly more than fifty thousand students and that to they have to pay specified fees if corrections are to be made.

2) Phase 8 is **Conduction of Entrance Exam** where hypothesis is rejected because Examination system is not still online, organizations itself does not allow online Exams, So here lot of scope is there for further research to find reasons why Online Entrance Examination is not conducted.

3) Phase 10 is **Score Cards available for Entrance Exam given** where hypothesis is rejected because out of 9 organizations involved in this phase only in 5 organizations online score cards are available and 4 organizations send score card through post/courier, Here improvement is possible as organizations allow online Form filling process, score cards can also be made available to candidate online through candidate's own login or can send through Email. Thus problems faced with post / courier like score card has not reached or lost can easily be avoided.

4) Phase 11 is **Submit Grievances in Result / Merit List** where hypothesis is rejected because according to data only 5 organizations allow online submission of grievances and 6 organizations allow offline submission of grievances out of 44 organizations which conduct Entrance Exams for Admissions. It is a right of every student that he/she should be able to submit grievances if any in result or Merit List so system is lagging behind. Every organization should give facility to submit grievances. If number of students who apply are less then grievances can be obtained on Email instead of at ARC centers as querires can be handled online, it will save resources also at ARC centers.

5) Phase 13 is **Confirmation of admission by a candidate to respective allocated Institutes** where hypothesis is rejected because candidate has to personally visit the institute / college where he/ she is getting admission , verify the documents and pay fees. Still in India this process is followed unlike foreign Universities candidate cannot confirm admission before personally visiting the college.

Researchers applied Paired T-test to only those phases where online count is more than offline. It is a way to test for comparing two related samples.Each observation in one sample must be paired with an observation in another sample.

$$H_0 = \text{Mean Difference between Online and Offline phases} = \bar{D} = 0$$

$$H_a = \text{Difference between Offline and Online is significant}$$

Values from two matched samples are denoted as  $X_i$  and  $Y_i$  and the differences by  $D_i$  ( $D_i = X_i - Y_i$ ) TABLE XIV below shows

**TABLE XIV**

Sr.No.	Phase No	Offline (Yi)	Online(Xi)	$D_i = X_i - Y_i$	$\text{sqr}(D_i)$
1	1	26	46	-20	400
2	2	26	45	-19	361
3	3	26	28	-2	4
4	4	20	31	-11	121
5	5	30	51	-21	441
6	6	0	6	-6	36
7	7	11	30	-19	361
8	9	2	46	-44	1936
9	10	4	5	-1	1
10	11	6	5	1	1
11	12	1	5	-4	16
12	14	0	5	-5	25
				-151	3703

$$\text{Mean Difference (MD)} = \sum D_i/n = -151/12 = -12.5833$$

$$\text{Mean Difference (MD)} * \text{Mean Difference (MD)} = -12.5833 * -12.5833 = 158.34$$

$$\text{Standard Deviation of differences (SDD)} = \sqrt{(\sum(D_i * D_i) - ((MD * MD) * n)) / n - 1}$$

$$\sum (D_i * D_i) = 3703$$

$$((MD * MD) * n) = 1900.0833$$

Standard Deviation of differences (SDD) =  $SDD = \sqrt{(3703 - 1900.0833)/11} = 12.8024$

$\sqrt{n-1} = 3.316$

$SDD / \sqrt{n-1} = 3.86007$

$t = (MD - 0) / SDD / \sqrt{n-1} = -12.5833 / 3.86007 = -3.2598$

Degrees of freedom  $r = n - 1 = 11$       $R: t < -1.796$

And  $t = -3.2598$  so Null Hypothesis is rejected and  $H_a$  is accepted that is **Difference between Offline and Online is significant.**

## V. Conclusion

**In many phases of Admission System use of technology shows positive impact.**

Still lot of scope of improvement is there to make online admission system in Maharashtra as fully online like foreign universities where student directly goes to attend the college, all other admission formalities he/she can complete online.

Evaluation steps presented by researches will be helpful for all stake holders involved in Online Admission Process and also be useful to design, development and evaluation of Online Admission System for any academic organization

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