Dimensions Of Interface Management Critical For Delivering Quality At Higher Education Institutions: An Empirical Study

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ABSTRACT

Interface Management implies fine-tuning between various entities in the organizational hierarchy for the successful execution of processes and delivering a quality output. The objectives of this study are to analyze the dimensions of interface management and to determine significant differences among dimensions of Interface Management that play a critical role in delivering quality in higher education institutions in India. A multistage, as well as the stratified random sampling technique, has been used for this study. To gain insights into interface management at various levels in higher education institutions, primary data was collected comprehensively at four levels of higher education. These four levels include students, faculty members, administrators, and UGC officials. The primary data from students and faculty members were collected through a structured questionnaire. The data from administrators and UGC officials were collected through a structured interview. One-way ANOVA using IBM SPSS has been computed to test the hypothesis under study. This research concludes that all the five dimensions of Interface Management (Leadership, Communication, Human Development, Organizational Structure, and Resources & Technology) under this study are critical for the delivery of quality in higher education institutions.

Keywords: Higher Education, Interface Management, Quality, Universities, Leadership.

1. INTRODUCTION

Higher Education has a significant role in developing a robust economy, a healthy society, and a culturally as well as a politically vibrant nation. Many higher education policies and regulations are planned and formulated to uplift the quality of higher education in India but they are not implemented effectively. Interface Management implies fine-tuning between various entities in the organizational hierarchy as crucial for the successful execution of processes and to ensure quality in output. It plays a significant role

in directing all entities working together in a system towards a common goal. It is, therefore, necessary to probe the efficacy of interface management given the dysfunction between the formulation and implementation of higher education policies and regulations.

A leading Houston (Texas, U.S.) based firm, Interfacemanagement.com looks at the interface as "Interface is a point of connection between different entities working on the common project". These entities or objects can be individuals, departments, machines, business units, hierarchy levels, elements of the value chain, etc. that exchange matter, information, and feelings (Lang and Madnick, 1993). Interfaces are the physical or functional links that aim to interoperate for the successful implementation of a formulated plan.

The MITRE Corporation defines Interface Management as, "Activities of defining, controlling and communicating the information needed to enable unrelated objects to co-function". Similarly, interfacemanagement.com defines "interface management as a process to manage the key interfaces that arise during the planning and execution of a project". Earlier, managers focused mainly on planning and did not give much attention to numerous interfacing activities that arise during the implementation phase. Recently, organizations have begun to focus on fine-tuning different inter-disciplinary activities which are vital for a successful implementation of any strategy.

2.   LITERATURE REVIEW

For this study, the search for relevant literature included both empirical and theoretical research. Lang and Madnick (1993) have worked on managing organizational interfaces. They argue that management activities should focus on the exchange of information, material, and even emotions and feelings within an organization to increase the performance levels of the organization. Simsek, Heavy, and Fox (2018) have stated that efficient management of interfaces leads to the successful execution of processes, improved performance, and better delivery of quality in output. Sashittal and Tankersley (1997) have concluded that promoting closer interactions across the interface between policy planners and implementers significantly improves the outcomes.

Berman and Mclaughlin (1974) state that leadership, organizational structure, and human aspects play a vital role in successfully implementing any planned change in educational institutions. Muralidharan and Sundararaman (2011) found that facilitating resources like learning materials and increasing teaching staff both have improved the quality of learning. Keeling et al. (1995) argue that effective leadership and efficient communication are important in delivering quality in HEIs. Merit-based scholarships and grants can induce a positive attitude towards the optimum utilization of educational services (Das and Chattopadhyay, 2014; Masino and Nino-Zarazua, 2016). Parks and Hilvert (2016) in their framework for organizational excellence have identified customer satisfaction, employee engagement, employee motivation, and effective leadership in managing change as key focus areas of achieving organizational excellence. Interface management identifies and aligns the functional and interfacing activities efficiently to deliver the outcomes and achieve organizational excellence (Bevinton and Samson, 2012).

Scholars have emphasized the availability of adequate resources along with their optimum utilization as an important factor in delivering the intended output in higher education (Agarwal, 2009; Harvey and Green, 1992; Kapoor and Arya, 2020; Owlia and Aspinwal, 1996; Masino

and Nino-Zarazua, 2016). Training of teaching staff and hiring of teaching faculty will give a boost to teaching quality as well as a pupil-teacher ratio; which in turn is significant for delivering quality education (Masino and Nino-Zarazua, 2016; Muralidharan and Sudararaman, 2011).

Kohtamaki (2010) has researched identifying the best practices to be adopted by HEIs for improving quality. He argues that effective leadership and efficient communication are important in delivering quality in HEIs. According to Masino and Nino-Zarazua (2016), top-down, as well as bottom-up participation, contribute significantly to the successful implementation of education policies. Mapetere et al. (2012) conclude that the lack of involvement of leaders in policy implementation leads to partial success in the execution of policy implementation. Monitoring the implementation process as well as the leader's active participation and involvement in the implementation process is crucial for the successful execution of higher education policies (Kohtamaki, 2010).

3.   RESEARCH METHODOLOGY

3.1 Objectives of the Study

1. To analyze the dimensions of Interface Management for delivering quality in higher education institutions.
2. To determine differences among dimensions of Interface Management for delivering quality in higher education institutions.

3.2 Hypothesis of the Study

F of this research, the following hypothesis was proposed:

Null Hypothesis

H_0:   There is no significant difference among dimensions of Interface Management in the delivery of quality in higher education institutions.

Alternative Hypothesis

H_a: There is a significant difference among dimensions of Interface Management in the delivery of quality in higher education institutions.

3.3 Data Sources and Analytical Tool Used

To gain insights into interface management at various levels in higher education institutions, primary data was collected comprehensively at four levels of higher education. These four levels include students, faculty members, administrators, and UGC officials. For this research, 18 Universities in two states in India, Rajasthan and Haryana were taken under study. Out of 18 Universities, 2 were Central Universities, 5 were State Universities, 7 were Private Universities, and the rest 4 were Deemed Universities. A sample survey of students (undergraduate and postgraduate), faculty members, and administrators of the Faculty of Arts, Science, and Commerce of these Universities as well as of UGC officials was conducted. The primary data from students and faculty members were collected through a structured questionnaire designed using a five-point Likert scale. The data from administrators and UGC officials were collected through structured interviews.

For better representation, a stratified random sampling technique is used to draw the sample from the target population with the proper inclusion of cross-sectional parameters. The sample size for data collection for this research includes 500 students, 200 faculty members, and 60 administrators of selected HEIs. To corroborate the results obtained from administrators of HEIs, responses were also requested from the sample of 20 UGC officials. One-way ANOVA using IBM SPSS has been computed to test the hypothesis under study.

3.4 Survey Instrument

The development of the survey instrument for this research constituted a multi-stage process involving in-depth study of the concept, expert opinion, framing of questions, ordering and sequencing the questions, and pre-testing the questionnaire (Hair et al., 2007; Oslon, 2010; Creswell, 2012). The developed questionnaire covers relevant dimensions of interface management that are critical in delivering quality in higher education institutions. While designing the survey instrument, the researcher had a detailed and exhaustive discussion with eight subject experts. Out of 8 subject experts, 6 were eminent administrators of higher education institutes and two were senior statistical experts. After a systematic literature review and expert opinion, five dimensions of Interface management in the delivery of quality in higher education institutions were identified: "Leadership", "Communication", "Human Development", "Organizational Structure" and "Resources and Technology".

After framing, ordering, and sequencing the questions for the identified dimensions of Interface Management; the survey instrument was pre-tested to ensure its content validity. It was pretested with 5 administrators, 1 UGC official, 2 statistical experts, 5 faculty members, and 8 students. The questionnaires for students, faculty members, administrators, and UGC officials were finalized after the pre-test was used for conducting the pilot study. The data gathered in this pilot study was not used for further analysis.

3.5 Reliability of the Survey Instrument

The Cronbach's Alpha value was computed for questionnaires for students, questionnaires for faculty members, questionnaires for administrators, and questionnaires for UGC officials and was found 0.862, 0.721, 0.789, and 0.808 respectively. All values of Cronbach's Alpha for the questionnaires were above 0.70 indicating the reliability of the questionnaire to be used for research.

4.   RESULTS AND DISCUSSION

4.1 Brief Profile of the Respondents

- **Students**

A questionnaire for students (SQ) was administered to 500 students of selected HEIs through E-mail, web-based applications, Google forms, and in-person. Complete responses were received from 467 students with a response rate of 93.4% (Table 1).

Table 1: Demographic profile of the students

Distribution	Frequency(N)	Percentage (%)
Age (in years)		
18-20	249	53.32%
21-24	206	44.11%
25 or Above	12	2.57%
Sex		
Male	216	46.25%
Female	251	53.75%
Faculty		
Arts	148	31.69%
Commerce	162	34.69%

Science	157	33.62%
Degree Level		
Under-Graduate	298	63.81%
Post-Graduate	169	36.19%
Type of University		
Central	70	14.99%
State	168	35.97%
Deemed	96	20.56%
Private	133	28.48%
State		
Rajasthan	254	54.39%
Haryana	213	45.61%

- **Faculty Members**

A questionnaire for faculty members (FQ) was administered to 200 faculty members through E-mail, web-based applications, Google forms, and in-person. Complete responses were received from 177 faculty members with a response rate of 88.5%. The demographic profile of the faculty members who participated in the survey is mentioned in Table 2.

Table 2: Demographic profile of the faculty members

Distribution	Frequency(N)	Percentage (%)
Age (in years)		
Below 30	41	23.16%
30-39	98	55.37%
40 or Above	38	21.47%
Sex		
Male	78	44.07%
Female	99	55.93%
Faculty		
Arts	52	29.38%
Commerce	59	33.33%
Science	66	37.29%
Qualification		
M.Phil.	19	10.73%
Master	53	29.94%
Ph.D.	105	59.32%
Total Academic Experience (in years)		
0-5	49	27.68%
6-10	70	39.55%
11-20	32	18.08%
Above 20	26	14.69%
Designation		

Assistant Professor	133	75.14%
Associate Professor	24	13.56%
Professor	20	11.30%
Type of University		
Central	24	13.56%
State	71	40.11%
Deemed	39	22.03%
Private	43	24.29%
State		
Rajasthan	103	58.19%
Haryana	74	41.81%

- **Administrators**

60 administrators of selected HEIs were randomly approached for data collection, keeping in mind that there is proper inclusion of cross-sectional parameters. A total of 43 administrators were interviewed successfully using a structured Questionnaire for administrators (AQ) with a response rate of 71.66%.The demographic profile of the administrators of higher education institutes who participated in the survey is mentioned in Table 3.

Table 3: Demographic profile of the administrators

Distribution	Frequency (N)	Percentage (N %)
Age (in years)		
40-50	11	25.58%
Above 50	32	74.42%
Sex		
Male	30	69.77%
Female	13	30.23%
Faculty		
Arts	13	30.23%
Commerce	12	27.91%
Science	18	41.86%
Designation		
Vice-Chancellor	3	6.98%
Dean	5	11.63%
Director	11	25.58%
Deputy Director	2	4.65%
Head of Department	22	51.16%
Total Academic experience (in years)		
20-24	13	30.23%
25-29	8	18.60%
30 or Above	22	51.16%
Type of University		

Central	6	13.95%
State	12	27.91%
Deemed	10	23.26%
Private	15	34.88%
State		
Rajasthan	28	65.12%
Haryana	15	34.88%

- **UGC Officials**

A list of 20 UGC dignitaries to be approached for data collection was prepared. Since, it was not easy to interview and collect primary data from UGC officials, while preparing the list of UGC dignitaries for this study the focus was on gaining access to information rather than a hierarchical level in the organization. Still, the researcher has tried to access the top as well as the middle hierarchical levels at UGC. After regular follow-up, data were collected successfully from 9 UGC officials with a response rate of 45%. The demographic profile of the eminent UGC officials who participated in the survey is mentioned in Table 4.

Table 4: Demographic profile of the UGC officials

Distribution	Frequency (N)	Percentage (N %)
Age (in years)		
40-49	2	22.22%
50 or Above	7	77.78%
Sex		
Male	6	66.67%
Female	3	33.33%
Designation		
Section Officer	2	22.22%
Under Secretary	3	33.33%
Joint Secretary	3	33.33%
Additional Secretary	1	11.11%

4.2 Descriptive Statistics and Findings

4.2.1 Students' Responses
Table 5 Descriptive Statistics for students' responses to questions based on a 5-point Likert scale

Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Average Score	Std dev	% of Agree and Highly Agree Respondents
To what extent the academic staff of your	25	58	131	168	85	3.493	1.089	54.18

University supports solving your subject queries efficiently?							
How often does your University take feedback from you about your curriculum/faculty members?	80	90	109	82	106	3.094	1.399	40.26
To what extent the Placement cell helps you in career counseling and campus placements?	61	80	142	119	65	3.101	1.224	39.40
To what extent does your University conduct Skill development or Entrepreneurship or Personality development programs (PDPs)?	61	81	113	103	107	3.245	1.336	45.16
How often does your University offer Choice Based Credit System/Elective course system?	38	66	157	107	99	3.349	1.194	44.11
To what extent is your curriculum up-to-date according to market needs?	46	106	132	134	49	3.073	1.151	39.19
How often does your University conduct an industrial visit/internship?	110	105	120	74	50	2.677	1.286	27.02
Your University has an adequate number of academic staff.	26	52	92	200	97	3.621	1.100	63.60
Knowledge and experience of the academic staff of your University are good.	20	34	105	180	128	3.775	1.062	65.95
The library has a sufficient number of latest books in print or	33	52	106	158	118	3.591	1.182	59.10

electronic form as per requirement.								
Your University has adequate computer facilities.	34	83	93	165	92	3.424	1.197	55.03
Your University has projectors and other modern teaching equipment in classrooms.	28	71	104	149	115	3.540	1.186	56.53
Rate the accessibility of the internet provided by your University.	68	72	115	135	77	3.173	1.288	45.40
Leadership	Communication	Human development		Organizational structure		Resources & Technology		

The questionnaire for students has 13 close-ended questions designed on a 5-point Likert scale. Table 5 shows the descriptive statistics for students' responses to questions based on a 5-point Likert scale. About the leadership dimension for students, an average number of students (54.18 %) believe that their academic staff supports solving their subject queries efficiently. This should not be a cause of complacency. HEIs must invest more efforts in academic staff education and training to bridge the gap between teachers and students and create a better-enriched environment for students.

For the communication dimension, only a few students (40.26%) indicated that their University takes feedback from them about their curriculum or faculty members (Table 5). This infers that there is a lack of structured feedback mechanisms from students in Universities. Regarding the human development dimension for students, only a few students (39.40% of students) believe that the placement cell helps in career counseling and campus placements and only 45.16% of students agree that their University conducts Skill development/ Entrepreneurship/ Personality development programs (Table 5).This infers that HEIs are unable to provide adequate support for students' career progression.

Regarding the organizational structure dimension for students, a minority of students (39.19%) indicate that their curriculum is up-to-date according to the market needs and a minority (44.11%) of students believes that their University offers a choice-based credit system or elective course system (Table 5). Thus, it is evident that HEIs are unable to facilitate multidisciplinary subjects of students' choices to boost the interest level of students and enhance the quality of learning. The resources and technology dimension includes educational resources, academic and industrial collaborations, and technological enablement at HEIs.

4.2.2 Faculty Members' Responses

Table 6: Descriptive Statistics for faculty members' responses to questions based on a 5-point Likert scale

Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Average Score	Std dev	% of Agree and Highly Agree Respondents
You receive adequate support, suggestions, and feedback from your immediate superior.	9	16	31	70	51	3.780	1.114	68.36
Your immediate superior has a sense of accountability towards faculty members.	7	13	47	53	57	3.791	1.096	62.15
Salary structure, increments, and promotions have complied without any discrimination and biases in your University.	17	20	50	41	49	3.480	1.271	50.85
The recruitment process of your University is adequate to hire competent faculty members.	14	21	40	52	50	3.582	1.236	57.63
Your immediate superior respects and listens to your opinions and inputs.	9	13	33	59	63	3.870	1.133	68.93
All circulars, notices, and other required information are communicated accurately and timely.	7	5	32	55	78	4.085	1.044	75.14
All policies and procedures are clearly defined by your University.	6	10	40	56	65	3.927	1.061	68.36
How frequently do you attend or participate in conferences and seminars relating to your interest/subject area?	3	9	44	61	60	3.938	0.972	68.36

Your university provides sufficient time to engage in research activities.	7	27	34	70	39	3.605	1.109	61.58
Rate the effectiveness of orientation programs and refresher training conducted by your university after the recruitment of academic staff.	14	15	55	51	42	3.520	1.173	52.54
At what frequency is Faculty development programs (FDPs)/Leadership Development Programs (LDPs) conducted at your University?	20	20	44	60	33	3.373	1.233	52.54
Rate the effectiveness of Faculty development programs (FDPs)/Leadership Development Programs (LDPs) conducted by your University after the recruitment of teaching staff.	17	17	47	61	35	3.452	1.191	54.24
Your University provides you flexibility in curricular matters and methods of teaching.	6	21	24	68	58	3.853	1.108	71.19
Your University encourages faculty participation in policy decisions.	14	24	41	52	46	3.520	1.234	55.37
Library provides access to required Indian and International journals either in print or electronic form.	9	22	38	46	62	3.735	1.207	61.02
How often your University enables you with modern teaching tools and techniques?	8	22	39	53	55	3.706	1.165	61.02

Leadership	Communication	Human development	Organizational structure	Resources & Technology

The questionnaire for faculty members section has 16 questions designed on a 5-point Likert scale. Table 6 shows the descriptive statistics for faculty members' responses to questions based on a 5-point Likert scale.

The majority (68.36%) of faculty members believe that they receive adequate support, suggestions, and feedback from their immediate superiors (Table 6). This infers that faculty members receive good support and guidance from their leaders in Universities. The majority of faculty members (68.93%) indicate that their immediate superior respects their opinions and inputs (Table 6). This indicates that Universities welcome suggestions and inputs from faculty members in academic activities. Most of the faculty members (71.19%) perceive that their University provides them flexibility in curricular matters and methods of teaching. This infers that faculty members have greater flexibility in teaching and curricular matters.

4.2.3 Administrators' Responses

Table 7: Descriptive Statistics for questions based on 5-point Likert scale in Questionnaire for Administrators (AQ)

Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Average Score	Std dev	% of Agree and Highly Agree Respondents
To what extent does UGC support and guide the implementation of higher education policies?	0	1	5	31	6	3.977	0.597	86.05
To what extent do UGC officials have a sense of accountability towards providing support in implementing policies?	0	2	13	26	2	3.651	0.650	65.12
How feasible is it to implement policies within the timeframe imposed by UGC?	0	3	26	14	0	3.256	0.581	32.56
To what extent there is an accurate and timely flow of information from UGC to your University?	0	0	10	27	6	3.907	0.610	76.74
To what extent does UGC take feedback and suggestions from administrators of	0	0	24	17	2	3.488	0.593	44.19

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Universities regarding higher education regulations enforced?							
How quickly does UGC react and respond appropriately to queries raised by you?	3	17	17	6	0	2.605	0.821	13.95
How often is students' feedback considered while upgrading or promoting faculty members?	12	5	9	8	9	2.930	1.518	39.53
If yes, how constructive are IQAC feedbacks and reports while considering them for quality improvements in your University?	0	7	3	18	11	3.488	1.578	67.44
To what extent your University has sufficient infrastructure to conduct online classes and examinations?	3	2	10	12	16	3.837	1.194	65.12
To what extent your University has sufficient finance to implement higher education policies?	0	5	5	7	26	4.256	1.071	76.74

Leadership	Communication	Organizational structure	Resources & Technology

A total of 19 questions were interviewed from administrators which comprised of 10 questions designed on 5-point Likert scales, 4 dichotomous (Yes/No) questions, and 5 multiple-choice questions. Table 7 shows the descriptive statistics for administrators' responses to questions based on a 5-point Likert scale. Table 8 shows the frequency & percentage of faculty members' responses to dichotomous and multiple-choice questions.

Table 8: Frequency & Percentage of administrator's responses to dichotomous questions and multiple-choice questions

Items	Frequency	Percentage (%)
Does your University facilitate plagiarism software for detecting plagiarism in research?		

Yes	41	95.35
No	2	4.65
Is it compulsory to publish at least two research papers in the "UGC-Care" journal for the award of a Ph.D. degree in your University?		
Yes	24	55.81
No	19	44.19
How many national/international conferences /seminars are conducted every year by your University?		
None	2	4.65
1-5	11	25.58
6-10	11	25.58
11-15	8	18.60
16-20	6	13.95
More than 20	5	11.63
How many Skill development/ Entrepreneurship/ Personality development programs (PDPs) are conducted by your University every year?		
None	4	9.30
1-5	17	39.53
6-10	18	41.86
11-15	0	0.00
16-20	0	0.00
More than 20	4	9.30
How many Faculty development programs (FDPs)/ Leadership Development Programs (LDPs) are conducted every year by your University?		
None	9	20.93
1-5	19	44.19
6-10	10	23.26
11-15	2	4.65
16-20	0	0.00
More than 20	3	6.98
Does your University have any IQAC cells?		
Yes	39	90.70
No	4	9.30
At what periodicity does your University upgrade/revise its syllabus?		
0-2 years	15	34.88
2-4 years	24	55.81
4-6 years	4	9.30
Does your University offer courses through distance learning mode?		
Yes	17	39.53
No	26	60.47

How many MoUs do your University has with different industries and higher education institutes?		
None	2	4.65
1-5	12	27.91
6-10	10	23.26
11-15	7	16.28
16-20	2	4.65
More than 20	10	23.26

Leadership	Human development	Organizational structure	Resources & Technology

The majority of the administrators (more than 75%) expressed satisfaction that UGC officials support and guide the implementation of higher education policies and there is an accurate and timely flow of information from UGC to Universities (Table 7). It shows the prudent stewardship of the apex body (UGC) in supporting and guiding Universities in implementing the higher education policies enforced. Very few administrators(less than 15%) believe that UGC quickly responds to queries raised by them (Table 7). This reflects the inadequacy of UGC in quickly responding to queries of Universities.

Only a few administrators (39.53%) have an opinion that student feedback is considered while upgrading/promoting any faculty member (Table 7). This infers that Universities need to develop a systematic feedback mechanism for taking feedback from students regarding faculty members and considering them while upgrading or promoting any faculty member.

Almost all administrators (41 of 43) indicated that their University facilitates plagiarism software for detecting plagiarism in research (Table 8). This shows that regarding the facilitation of plagiarism software, Universities had good compliance. Table 8 also reflects that despite Universities' efforts in conducting national/international conferences, personality development programs, and faculty development programs, Universities need to concentrate on conducting more such programs for the development of faculty as well as students.

4.2.4   UGC Officials

Table 9: Mean and Standard Deviation for UGC official responses to questions based on a 5-point Likert scale

Items	Mean	SD	% of Agree and Highly Agree Respondents
How quickly do Universities react and respond to instructions received from UGC?	3.45	0.726	55.6
To what extent do Universities have a sense of accountability towards UGC policy compliance?	3.67	0.566	66.7

Leadership	Communication

Table 10: Frequency for UGC Official response to multiple-choice questions

How does UGC collate feedback and queries from administrators of these universities?	Frequency of Cases
Formal request form	9
E-mail	5
Telephone	5
In-person	4
Online Platform for filling and tracking queries	0

Communication

The eminent dignitaries of UGC possess profound knowledge and vast experience. Few questions were asked from eminent UGC officials to elicit valuable and comprehensive insights regarding the topic under study.UGC officials were interviewed using a structured set of 3 questions including 2 questions designed on a five-point Likert scale and 1 multiple choice question.

Table 9 shows that the majority of UGC officials (66.7%) believe that Universities have a sense of accountability toward UGC policy compliance. This infers that administrators of Universities have considerable accountability and commitment toward UGC policy compliance. Further, 55.6% have an opinion that Universities react and respond to UGC instructions. But still, there are 45.4% of UGC officials who do not agree or highly agree that Universities react and respond to UGC instructions. Thus, there is significant scope for improvement for Universities in responding to UGC instructions.

In Table 10, regarding how UGC collates feedback and queries from administrators, all the 9 UGC officials indicated through the formal request form, 5 indicated through E-mail, 5 indicated through telephone, and 4 indicated in-person. None is indicated through an online platform. This shows the need of devising an online platform at UGC for filling and tracking queries of HEIs for a speedy resolution of problems.

4.3 Testing the Hypothesis under Study

The researcher also examined for any significant difference among these five dimensions of Interface Management through the hypothesis:

H_0:   There is no significant difference among dimensions of Interface Management in the delivery of quality in higher education institutions.

H_a: There is a significant difference among dimensions of Interface Management in the delivery of quality in higher education institutions.

Table 11: Mean and Standard Deviation of Dimensions of Interface Management combining responses of Students, Faculty members, and Administrators

Dimensions of Interface Management combining responses of Students, Faculty members, and Administrators	Mean	SD
Leadership	3.626	0.225
Communication	3.488	0.550
Human Development	3.562	0.270
Organizational Structure	3.457	0.283

Resources and Technology	3.476	0.401

Table 12: One Way ANOVA to test for significant difference among dimensions of Interface Management combining responses of Students, Faculty members, and Administrators

ANOVA Score					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig. (p-value)**
Between Groups	0.17	4	0.042	0.298	0.877
Within Groups	4.837	34	0.142		
Total	5.006	38			

The average score of each dimension was computed using IBM SPSS with 5-point Likert scale questions related to each dimension for combined responses of students, faculty members, and administrators (Table 11). One-way ANOVA using IBM SPSS has been computed at a 5% level of significance to test for the significant difference in the average score of the five dimensions of Interface Management under study (Table 12).

The result obtained from the One-way ANOVA test (Table 12) indicates that the p-value is 0.877 which is greater than 0.05. Hence, the null hypothesis is accepted that there is no significant difference in the average score of all five dimensions of Interface Management and whatever differences exist are because of sampling fluctuations.

5   CONCLUSION AND RECOMMENDATIONS

This study concludes that all the five dimensions of Interface Management (Leadership, Communication, Human Development, Organizational Structure, and Resources & Technology) under this study are critical for the delivery of quality in higher education institutions. Based on the entire work and looking into the responses of the respondents, the researcher feels despite many improvements

being done in the recent past by higher education institutions to uplift the quality of higher education, there is significant scope for improvements in areas such as curriculum, support for student's progression, faculty development, research activities, educational resources and technological infrastructure, and so on.

It is observed that instead of HEIs designing key result areas for them to deliver quality in their output effectively, these KRAs for HEIs are imposed by the regulatory body through the NIRF framework and NAAC guidelines. Interface management will help in quantifying and measuring the KRAs and facilitate periodic evaluation and achievement of the key result areas, even in the absence of the NAAC QIF framework; leading to significant quality improvements across higher education institutions.

It is suggested that as a strategic initiative, there is also a need to improvise governance of higher education institutions in India for optimum fund utilization. This can be facilitated by organizing training and workshops at regular intervals for existing leaders of HEIs as well as second-tier academic heads as they are also likely to assume leadership roles in the near future. Linking implementation of policy and regulation by HEIs with ratings and grants facilitation can act as an incentive for effective

and efficient implementation of policies and regulations. The apex body may conduct training and workshops for administrators regarding UGC policies and regulations and increase participation of administrators in higher education policy and regulation formulations. This will enable a better understanding of the implications of these regulations amongst administrators, thereby increasing the chances of acceptance of the policies and regulations at HEIs.

There is also a need for appropriate recruitment planning at HEIs. Appointments of faculty members should be based on merit and competency. The system of vertical mobility of faculty members should be based on teaching, research, and service, instead of tending to be either seniority-based or arbitrary. NEP 2020 also emphasizes merit-based appointments and the progression of faculty members. On the ground of NEP 2020, these things are necessary to be implemented or provided in the HEIs. HEIs need to focus more on developing a transparent and objective system of student feedback for faculty members' evaluation. NEP 2020 also mentions that HEIs should clearly define the inclusion of faculty members' evaluation by students in the assessment process of faculty members for promotion.

It is further suggested to employ dedicated human resources for the IQAC cell leading to better monitoring and increased focus on making quality improvements in the HEI. Conducting frequent training of members of the IQAC cell will boost understanding of quality parameters and increase the chances of better implementation of tasks to achieve key result areas. HEIs need to ensure the availability of robust digital infrastructure for online classes and examinations to facilitate uninterrupted learning even during unprecedented circumstances.

6   LIMITATIONS AND FUTURE SCOPE OF THE STUDY

The researcher has made an all-out effort to study the problem but still, this study requires a deeper scope for future researchers to analyze the study further. This research also has potential limitations. First, relates to the geographical area taken under study. This study was limited to HEIs of Rajasthan and Haryana. Further studies on a similar topic can be conducted for other States in India. Another limitation of this research relates to categories of higher education institutes and different Faculties taken under study. For this research, the Faculty of Arts, Science, and Commerce of Central, State, Private, and Deemed Universities are taken under study. Future research can be conducted on this topic taking into consideration other HEIs such as Institutes of National Importance, affiliated colleges and standalone institutions, and other Faculties like Education, Law, Management, Engineering, Agriculture, etc.

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