DRIVERS OF INFORMATION AND COMMUNICATION TECHNOLOGY USAGE BY MANAGEMENT EDUCATION FACULTIES WITH SPECIAL REFERENCE TO NORTHERN INDIA

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Abstract

Information and Communication Technology (ICT) is now an integral support in modern pedagogy. The impact and coverage of various tools of ICT is witnessed widely in our education system. Management education is optimising the use of ICT and it is being used in various forms.

The aim of the study is to find out major drivers to ICT usage among higher education faculties in Northern India. Successful implementation of ICT tools depends upon many factors which include intent from the management of the institution as well as the faculty and staff among a number of other issues. Hence, infrastructural facilities provided by the institution, readiness in using ICT by teachers and students, assistance provided by administration, simplicity of usage etc. have been considered as driver for enabling successful ICT.

To decipher this, questionnaire was used to find out teachers perception regarding ICT usage, motivation and various barriers encountered while using ICT in teaching. Factor Analysis was performed and it was found that ICT acts as an aid to develop educational understanding, facilitates pedagogical delivery, acts as a support system and also helps in achieving special challenges of education.

Key words: Information and Communication Technology (ICT), Management Education (ME), Drivers of ICT, Factor Analysis.

INTRODUCTION

Information and Communication Technology (ICT) has now gained worldwide popularity and is being recognised as an innovative and important tool in teaching students at all levels of education. In management education (ME), the importance of ICT tools is further recognised and it had become an integral part of pedagogy by the educators. The ICT has not only evolved as an innovative tool by educators, but its importance can be recognised in every sector be it retail, aviation, tourism, railway, IT, banking, medical sciences etc. one of the major reasons behind growing trend of ICT usage in ME over the last few years can also be attributed to its wide applicability and acceptability in all sectors worldwide. The paper describes various drivers of ICT usage by ME faculties in northern India and provides insight into what faculties think and perceive regarding ICT usage. The study shows the extent of ICT usage by ME faculties in teaching and also shows various difficulties faced by them while using various ICT tools.

REVIEW OF LITERATURE

ICT is one of the most dynamic inventions to tackle the challenges faced by world in 21st century and its application in academics has become a priority in most countries during the last decade. The usage of ICT tools in ME makes teaching and learning more effective. It also helps in wider dissemination of knowledge among students from all sections of the society.

The literature review is divided into three parts as: Need for ICT integration in Management colleges, Benefits of using ICT in teaching and Obstacles in using ICT.

2.1 Need for ICT Integration in Management Colleges

The practice of integration of ICT tools in ME is gaining popularity in past few years in India. When we look at various literatures related to ICT, many definitions of ICT can be identified. Some of them are mentioned below:

Information Systems as a field of academic study encompasses the concept, principles and processes for two broad areas of activity within organisations as:

- Acquisition, deployment and management of Information technology resources and services.
- Development, operation and evaluation of infrastructure and systems for use in organisational processes, e-commerce, system analysis and design database, and Information system management are examples of subject categorization under Information system.

(IS2002 Model Curriculum and Guidelines for Undergraduate programs in Information Systems)

ICT are a diverse set of technological tools and resources used to communicate, and create, disseminate, store and manage information. (Anonymous)

ICT is defined as the study of technology used to handle information and aid communication. (Whatis.com)

With the increasing prominence and demand of ICT enabled pedagogy in higher education among all countries worldwide, India is no exception.

The institutions of higher learning should now recognise the need of faculty members to integrate ICT tools in teaching (Wee and Baker, 2005).

2.2 Benefits of using ICT in Teaching

The ICT integration in every aspect of life plays a very crucial role in the proper functioning and prosperity of society (Elsadaani, 2012).

The ICT enabled teaching methodology has now become an integral part of our education system. The students are also well equipped with various ICT tools since primary school days. Teachers are utilising the ICT not only in delivering lectures in classroom, but they use ICT tools outside classrooms also. For example ICT is used by ME faculties in resource/material preparation, curriculum time- table preparation, power-point presentations(PPTs), record keeping, monitoring pupil progress and assessment, exam entries and results, administration (such as monitoring attendance), e-mailing etc. ICT also makes teaching effective and convenient in many ways and form such as by easy and anytime data sharing, making effective use of time, helps teachers in career advancement, data availability anytime and anywhere. Faculties are using ICT in teaching to enhance their role from just primary source of information to one who provides students with advice and assess their performance and monitor their progress (Kozma, 2003).

2.3 Obstacles in Using ICT

According to a study conducted by Gulbahar and Guven (2008) on "ICT usage and Perceptions of Social Studies teachers in Turkey"; although teachers are willing to use ICT tools, they are facing problems in terms of proper infrastructure for ICT usage as in accessibility and administration.

There are various barriers also faced by ME faculties in India while using ICT tools such as ease of access, lack of expertise, poor infrastructure and resistance to change.

In order to maximise benefits of ICT usage in teaching and learning, one of the main issues is the level of confidence and acceptance of faculties to use ICT in their work.

According to another study conducted by Wee and Baker (2006) on "Obstacles towards the use of ICT tools in teaching and learning of Information Systems in Malaysian Universities"; the barriers in integrating ICT tools in teaching are similar to both developed and developing countries. The successful integration of ICT tools in teaching and learning will produce quality graduates which are capable to meet the needs of the country. The above two studies were conducted in two different parts of the world: Turkey and Malaysia and both the studies brought forward different barriers and perceptions of the faculties about ICT usage. In recent scenario, the usage of ICT tools in higher education has also become an integral part of education system in India also. The present study aims at finding out the drivers of ICT usage by faculties in management education (ME) institutions.

OBJECTIVES OF THE STUDY:

Information and Communication Technology (ICT) tools have now become an integral part of modern pedagogy in all countries worldwide. The trend of using ICT tools in India is also becoming very prominent at all levels of education and especially in management education. When it comes to studies on ICT usage by ME faculties of Northern India, there is a research gap in this area. The two objectives of the present study are as follows:

 The first aim of the study is to assess the present extent of usage of Information and Communication (ICT) tools by Management Education faculties in Northern India.

 The present study is also aimed to find out and categorise major drivers to ICT usage by Management Education faculties in Northern India.

RESEARCH METHODOLOGY

Questionnaire development and measures:

To study the drivers of ICT usage by ME Faculties in India, a questionnaire was developed on the basis of literature review. Initially a pilot study was conducted to test the validity of the questionnaire with the help of responses from 25 academicians. The final questionnaire contains total 39 items.

Procedure and sample characteristics

We developed a convenient sample from peer groups, colleagues and faculties from Northern India Universities/institutions. The questionnaire was e-mailed (using Google form) to 277 faculties. A total of 105 responses with a response rate of 37.77% were received. The questionnaires were filled by ME faculties from various Universities/Institutes of Northern India. The respondents represent a diverse set of streams in ME.

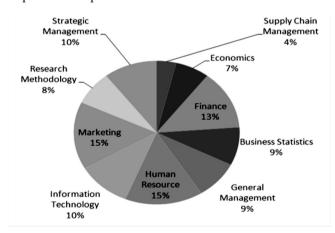


Chart 1: Percentage of Faculties by their Specialisation

RESULTS AND DISCUSSION

The very first objective of this paper is to find the extent of ICT usage by the faculties of management education institutions. To find this extent we first asked the daily computer usage by faculties. Result indicates that majority of sample population uses computers for an average of 1-3 hours daily (Chart 2).

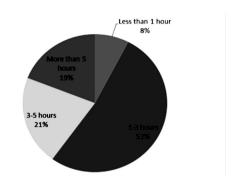


Chart 2: Daily Computer Usage by Faculties

Table 1: Usage of ICT Tools by Faculties

S.No.	ICT Tools	Frequently (%)	Sometimes(%)	Never (%)
1.	OHP	50.48	33.33	16.19
2.	LCD Projector	60.00	25.71	14.29
3.	AV Players	57.14	35.24	7.62
4.	PC/Laptop	81.90	11.43	6.67
5.	Internet Resources	82.86	14.29	2.86
6.	Sharing on Cloud	18.10	36.19	45.71
7.	Sharing on Social Media	40.95	39.05	20.00
8.	Blogging	13.33	25.71	60.95
9.	Digital Publishing	7.62	23.81	68.57
10.	Animated Videos	27.62	34.29	38.10
11.	YouTube	43.81	32.38	23.81
12.	Mobile Learning	23.81	28.57	47.62
13.	Response System	17.14	21.90	60.95

Further the frequency of usage of various ICT tools in teaching by faculties and the responses are exhibited in Table No.1.

The Table 1 depicts the usage of 13 different ICT tools by ME faculties across Northern India. The extent of usage is divided into three categories: Frequently, Sometimes and Never. The findings suggest that more than 81 % of the respondents frequently use PC/ Laptop and Internet Resources. OHP is one of the oldest ICT tool but it is still used by more than 50% faculties. More than 40% of the respondents never used 6, 8, 9, 12 and 13. Less than 7% of the faculties used Digital publishing.

Thereafter the level of expertise of faculties on different software that aid them in classroom teaching was analysed. The levels are divided under three categories i.e. Confident enough, requires more input and Not used. Table No. 2 represents the level of expertise of faculties on different software. The responses revealed that the faculties are highly confident in using number 1, 2, 3 and 5 which are enablers for ME. Supporting IT tools like the

ones in number 4, 6, 7, 8, 9 and 10 are not commonly used by faculties. In fact less than 22% of faculties have used these tools.

S. No.	Level of Expertise	Confident enough (%)	Requires more input (%)	Not used (%)
1	Search Engines	95.24	3.81	0.95
2	e mails	96.19	2.86	0.95
3	Word Processing	93.33	5.71	0.95
4	Spreadsheets	65.71	31.43	2.86
5	Presentations	89.52	9.52	0.95
6	e mail Handler	34.29	34.29	31.43
7	Database Management	21.90	30.48	47.62
8	Projects	15.24	28.57	56.19
9	Designing	17.14	24.76	58.10
10	Statistical Software	21.90	45.71	32.38

Table 2: Level of Expertise of Faculties on Various Software

Further, faculties' perception about their institutions' ICT readiness and intent to use ICT of was inquired and the responses are represented in Table No.3. It is found that majority of management institutions are providing tech-support to their faculties for using ICT. The most interesting finding is that about 77% respondents said that their institutions have ensured the use of ICT in teaching practices. It is also found that there are some ME institutions where internet facility is not available to their faculties. The responses were designed to study assessment of faculty pedagogical competency where 60.95% responses indicated that their institutes assess the competencies on given criteria.

	Yes(%)	No (%)
Does your institute assess pedagogical competencies of faculty with emphasis on ICT technology?	60.95	39.05
Has your institute ensured usage of computing devices in teaching?	77.14	22.86
Do you have access to internet/broadband in your institution?	91.43	8.57
Is technological support for ICT available in your institution?	65.71	34.29

Table 3: Institutional Readiness for ICT Usage

FACTOR EXPOLRATION: The method of factor exploration is used to find out major drivers of ICT usage by ME faculties.

KMO and Bartlett's Test: To explore various factors through this study, a questionnaire with 39 items was used. We performed Exploratory Factor Analysis through Principal Component Analysis on these 39 items. First of all sampling adequacy is checked with KMO test to continue with the analysis. KMO test shows the proportion of variance in variables, that is common variance. Level of acceptance of Kaiser-Meyer-Olkin (KMO) is > 0.50 and in this study, a significant value of KMO test, i.e. 0.676, shows that our sample size is good enough to perform Factor Analysis (Table 4). The test value of Bartlett's test of Sphericity (Sig. 0.00) provides a good support for the validity of the factor analysis of data set.

KMO AND BARTLETT'S TEST						
Kaiser-Meyer-Olkin Measure of Sampling Adequacy 0.676						
Bartlett's Test of	Approx. Chi-Square	3416.508				
Sphericity	Df	741				
Spiretty	Sig.	0.000				

Table 4: KMO & BARTLETT'S TEST

Communalities: Further, the value of communalities (Table 5), defined for each variable, is tested and found to be good for each variable, i.e. values greater than 0.50 are acceptable for factor analysis. On the basis of extracted communalities all variables are found suitable for factor analysis.

Total Variance Explained: Table 6 represents the percent of variance defined by each component. The components with Eigen value of greater than 1.00 are considered for further analysis. It has been observed that first 9 components have Eigen value of greater than 1 and they are explaining total 74.331% of the variance of the variables.

To extract the factors from derived components factor loadings are used. Factor loadings indicate correlations between variables and factors. A factor loading close to "1" indicates a high correlation and a value close to "0" shows a weak correlation. Unrotated component matrix is not suitable for interpretation. The factors are rotated

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using Varimax rotation to avoid the cross loadings among factors. In this study only those variables have included

for interpretation purpose which have loadings of 0.50 and above (Table 7).

Sr.	COMMUNALITIES		
No.		Initial	Extracti on
1	Prefer using ICT tools over traditional methods of teaching	1.000	.789
2	Avoid the use of ICT/Computer	1.000	.686
3	ICT makes easier communication with students	1.000	.834
4	ICT makes learning more effective	1.000	.828
5	ICT increases the interest of students during class	1.000	.798
6	ICT increases the effectiveness of teaching	1.000	.807
7	ICT makes it easier to prepare teaching material	1.000	.622
8	ICT makes more effective use of class time	1.000	.763
9	ICT makes a teacher more productive	1.000	.733
10	ICT makes the students of class motivated	1.000	.780
11	Teaching with ICT requires great efforts	1.000	.584
12	ICT makes work less enjoyable	1.000	.835
13	Working with ICT is boring	1.000	.832
14	Reduces work load	1.000	.693
15	Improves understanding of students	1.000	.702
16	Enhances level of creativity of students	1.000	.822
17	Helps to teach practical aspects of theories	1.000	.797
18	Facilitates teaching students with disabilities	1.000	.745
19	Better time management	1.000	.778
20	Helps teachers in career advancement	1.000	.625
21	Facilitates collaborative work between students	1.000	.596
22	Makes lecture more effective	1.000	.729
23	Can cover larger topics in lesser time	1.000	.679
24	Don't have to make lectures again and again	1.000	.724
25	Get ready made ICT support	1.000	.688
26	Larger data sharing	1.000	.749
27	Data availability anytime/anywhere	1.000	.776
28	Time taking	1.000	.673
29	Lack of expertise	1.000	.734
30	Lack of interest in ICT	1.000	.790
31	Resistance to change	1.000	.874
32	Access to the internet	1.000	.770
33	Poor speed of internet/broadband	1.000	.818
34	Poor IT infrastructure in institution	1.000	.825
35	Shortage of hardware (printers, scanners etc)	1.000	.801
36	Inefficient guidance and support by administration	1.000	.662
37	Outdated systems	1.000	.733
38	Language problem (at teachers' end)	1.000	.647
39	Language problem (at students' end)	1.000	.669
Extrac	tion Method: Principal Component Analysis	•	

Table 5: Communalities

			TOTA	L VARIAN	CE EXPLA	INED			
	Ir	nitial Eigenval	ues	Extra	ction Sums Loading		Rotz	ntion Sums o Loading	
Component	Total	% of Variance	Cumulati ve %	Total	% of Varian ce	Cumulative	Total	% of Varianc e	Cumulative
1	9.737	24.967	24.967	9.737	24.967	24.967	6.168	15.815	15.815
2	5.302	13.594	38.56	5.302	13.594	38.56	3.99	10.232	26.047
3	3.918	10.045	48.606	3.918	10.045	48.606	3.559	9.124	35.172
4	2.515	6.449	55.055	2.515	6.449	55.055	3.528	9.045	44.217
5	2.02	5.179	60.234	2.02	5.179	60.234	3.374	8.65	52.867
6	1.558	3.996	64.23	1.558	3.996	64.23	2.638	6.764	59.63
7	1.457	3.737	67.967	1.457	3.737	67.967	2.454	6.293	65.924
8	1.318	3.38	71.347	1.318	3.38	71.347	1.645	4.218	70.142
9	1.164	2.984	74.331	1.164	2.984	74.331	1.634	4.189	74.331
10	0.987	2.532	76.863						
11	0.956	2.451	79.314						
12	0.863	2.212	81.526						
13	0.773	1.982	83.508						
14	0.739	1.896	85.404						
15	0.65	1.666	87.071						
16	0.559	1.434	88.505						
17	0.476	1.22	89.725						
18	0.459	1.178	90.903						
19	0.42	1.078	91.981						
20	0.347	0.888	92.869						
21	0.344	0.881	93.751						
22	0.285	0.731	94.482						
23	0.275	0.704	95.186						
24	0.259	0.664	95.851						
25	0.219	0.56	96.411						
26	0.192	0.492	96.903						
27	0.173	0.443	97.346						
28	0.157	0.403	97.749						
29	0.144	0.37	98.119						
30	0.12	0.309	98.427						
31	0.116	0.297	98.724						
32	0.094	0.241	98.965						
33	0.091	0.234	99.199						
34	0.08	0.206	99.405						
35	0.067	0.173	99.578						
36	0.053	0.135	99.713						
37	0.047	0.121	99.834						
38	0.04	0.104	99.937						
39	0.024	0.063	100						

TABLE 6: Total Variance Explained

	ROTATED COMPONENT MATRIX									
Sr. No.		Component								
		1	2	3	4	5	6	7	8	9
1	ICT makes learning more effective	.879								
2	ICT increases the interest of students during class	.872								
3	ICT increases the effectiveness of teaching	.826								
4	ICT makes easier communication with students	.822								
5	ICT makes more effective use of class time	.801								
6	Prefer using ICT tools over traditional methods of teaching	.790								
7	ICT makes a teacher more productive	.693								
8	ICT makes the students of class motivated	.571	.523							
9	Improves understanding of students		.753							
10	Reduces work load		.702							
11	Makes lecture more effective		.632							
12	Can cover larger topics in lesser time		.562							
13	Facilitates collaborative work between students		.557							
14	Enhances level of creativity of students		.554						.517	
15	Data availability anytime/anywhere			.729						
16	Don't have to make lectures again and again			.714						
17	Larger data sharing			.711						
18	Get ready made ICT support			.691						
19	Poor IT infrastructure in institution				.896					
20	Shortage of hardware (printers, scanners etc)				.870					
21	Poor speed of internet/broadband				.725					
22	Outdated systems				.690					
23	Inefficient guidance and support by administration				.524	.502				
24	Lack of expertise					.804				
25	Lack of interest in ICT					.803				
26	Time taking					.796				
27	Resistance to change					.687				
28	ICT makes work less enjoyable						.848			
29	Working with ICT is boring						.763			
30	Avoid the use of ICT/Computer						.615			
31	Language problem (at teachers' end)						.521			
32	Facilitates teaching students with disabilities							.833		
33	Helps to teach practical aspects of theories							.722		
34	Better time management							.597		
35	Helps teachers in career advancement							.453		

TABLE 7: Rotated Component Matrix

FACTORS AND RELIABILITY ANALYSIS

With the help of table (No.7) we have concluded that there are seven major factors that are related to ICT usage by management education faculties of northern India. In this study we have considered those variables also which have cross loadings on more than one component. We have included those variables to that component for which they have higher loadings. There are two components derived from the analysis which have only one variable with loading of more than 0.50 and therefore they have been excluded from further analysis.

The reliability statistics of remaining seven factors were checked with Cronbach's alpha. It is the test of internal consistency of the variables in the scale. The value of Cronbach's alpha lies between 0 to 1. According to George and Mallery (2003) value of Cronbach's alpha greater than 0.7 is considered to be good for factors explored through EFA. However, there is no acceptable lower limit of this value but there is a rule of thumb that is widely accepted in social science researches i.e. "Closer the value of Cronbach's alpha coefficient to 1.0, greater the internal consistency of the variables in the scale." In this study all of the derived factors have a value of more than 0.7 of their respective Cronbach's alpha. (Table 6)

From our study after performing factor analysis seven factors were identified. These seven most important drivers to ICT usage are described in detail below:

Factor 1: ICT as an Aid to Develop Educational Understanding

This factor accounted for 24.967 % of total variance explained. The faculties who scored high on this factor strongly believe that ICT usage is better that traditional method of teaching as it facilitates them in developing a better educational understanding among students. It also makes learning more effective and facilitates easier communication with students. Items which are loaded on this factor are: Prefer using ICT tools over traditional methods of teaching (0.790), ICT makes easier communication with students (0.822), ICT makes learning more effective (0.879), ICT increases the interest of students during class (0.872), ICT increases effectiveness of teaching (0.826), ICT makes effective use of class time (0.801), ICT makes a teacher more productive (0.693) and ICT makes the students of class motivated (0.571).

Factor 2: ICT facilitates Pedagogical Delivery

This factor accounted for 13.594% of total variance explained. The individuals who scored high on this factor believe that the usage of ICT as a part of modern pedagogy facilitates them in the delivery of lectures. Items which are loaded on this factor are: Reduces work load (0.702), Improves understanding of students (0.753), Enhances level of creativity of students (0.554), Makes lecture more effective (0.632), Can cover larger topics in lesser time (0.562) and Facilitates collaborative work between students (0.557).

Factor 3: ICT as a Support System

This factor accounted for 10.045% of total variance explained. The ME faculties who scored high on this factor strongly believe that ICT provides them ease of usage and access anytime and anywhere. That is why ICT is considered as a support system. Items which were loaded on this factor are: Don't have to make lectures again and again (0.714), Get ready made ICT support (0.691), Larger data sharing (0.711) and Data availability anytime/anywhere (0.729).

Factor 4: Institutional Barrier

This factor accounted for 6.449% of total variance explained. The individuals who scored high on this factor strongly believe that there are some major institutional barriers due to poor infrastructure of institutions. Items which were loaded to this factor are: Poor speed of internet/broadband (0.725), Poor IT infrastructure in institution (0.896), Shortage of hardware's (printers, scanners etc) (0.870), inefficient guidance and support by administration (0.534) and outdated systems (0.690).

Factor 5: Faculty Resistance for ICT

This factor accounted for 5.179% of total variance explained. The individuals who scored high on this factor believe that there are some personal barriers at the end of faculties in adopting ICT in their pedagogy. Items which were loaded to this factor are: Time Taking (0.796), Lack of Expertise (0.804), Lack of Interest in ICT (0.803) and Resistance to Change (0.687).

Factor 6: Enablers of ICT

This factor accounted for 3.996% of total variance explained. The faculties who scored high on this factor strongly believe that there are some shortcomings which they tackle while using ICT and they are called enabler as they can be overcome by adopting suitable strategies. Items which were loaded to this factor are: ICT makes work less enjoyable (0.848), Working with ICT is boring (0.763), Avoid the use of ICT/Computer (0.615) and Language problem (at teachers' end) (0.521).

Factor 7: Achieving Special Challenges of Education

This factor accounted for 3.737% of total variance explained. The individuals who scored high on this factor strongly believe that the ICT usage may help them in tackling special challenges of ME in current scenario. Items which were loaded to this factor are: Helps to teach practical aspects of theories (0.722), Facilitates teaching students with disabilities (0.833). Better time management (0.597) and Helps teachers in career advancement (0.453).

COMPONENTS		Reliability Statistics (Cronbach's Alpha)	N of Items
С	omponent 1: ICT as an AID to Develop Educational		
	Understanding		
1	Prefer using ICT tools over traditional methods of teaching		
2	ICT makes easier communication with students		
3	ICT makes learning more effective		
4	ICT increases the interest of students during class	.931	8
5	ICT increases the effectiveness of teaching	.931	°
6	ICT makes more effective use of class time		
7	ICT makes a teacher more productive		
8	ICT makes the students of class motivated		
(Component 2: ICT Facilitates Pedagogical Delivery		
1	Reduces work load		
2	Improves understanding of students		
3	Enhances level of creativity of students	.816	6
4	Makes lecture more effective	.010	"
5	Can cover larger topics in lesser time		
6	Facilitates collaborative work between students		
	Component 3: ICT as a Support System		
1	Don't have to make lectures again and again		
2	Get ready made ICT support	.822	4
3	Larger data sharing	.022	-
4	Data availability anytime/anywhere		
	Component 4: Institutional Barriers		
1	Poor speed of internet/broadband		
2	Poor IT infrastructure in institution		
3	Shortage of hardwares (printers, scanners etc)	.852	5
4	Inefficient guidance and support by administration		
5	Outdated systems		

	Component 5: Faculty Resistance for ICT		
1	Time taking		
2	Lack of expertise	.832	4
3	Lack of interest in ICT	.032	
4	Resistance to change		
	Component 6: Enablers for ICT		
1	ICT makes work less enjoyable	.795	4
2	Working with ICT is boring		
3	Avoid the use of ICT/Computer		
4	Language problem (at teachers' end)		
	Component 7: Achieving Special Challenges of		
	Education		
1	Helps to teach practical aspects of theories		
2	Facilitates teaching students with disabilities	.754	4
3	Better time management	.,, 54	
4	Helps teachers in career advancement		

8: COMPONENTS & RELIABILITY STATISTICS

CONCLUSION

ICT usage has now become an integral part of modern pedagogy. When it comes to management education in India, the teaching and learning is now next to impossible without ICT usage. This study helps to find out major drivers of ICT usage by Management education faculties of northern India. The seven major factors which were identified through factor analysis explain that what items drive ICT usage in management education institutions in Northern India. The study also revealed that faculties now a days rely on ICT tools as a mode of teaching, learning and also facilitates them in career advancement. The daily usage and expertise of faculties in ICT tools is rapidly increasing. An interesting fact is also revealed that about 77% respondents said that their institutions have ensured the use of ICT in teaching practices. This shows that ME institutions are also understanding the need and importance of ICT in learning and development.

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