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OPEN ACCESS PUBLISHING MODEL: PREFERENCES, OPPORTUNITIES, AND CHALLENGES – AN OPINION SURVEY AMONG TEACHING STAFF IN HIGHER EDUCATION INSTITUTIONS IN TAMILNADU

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OPEN ACCESS PUBLISHING MODEL: PREFERENCES, OPPORTUNITIES, AND CHALLENGES – AN OPINION SURVEY AMONG TEACHING STAFF IN HIGHER EDUCATION INSTITUTIONS IN TAMILNADU

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ABSTRACT:

Background: Open Access, a novel model of publishing is one among the surprises and delights of the digital age. It is a paradigm shift in the academic society which hammered up the traditional publishing and unlatched the doors of knowledge to reader community. One of the main drives of open access is to make academic research more easily available and maximum exploitation of resources.

Objectives: This study aims to elucidate how well that teaching community working in higher education institutions in Tamil Nadu, endorses for the open access publishing model. The study elucidates their preferences on open access publishing and their perceptions about the opportunities and threats in open access publishing.

Methods: Survey design was used to conduct the study and a structured questionnaire is used to collect data. Convenience sampling method is adopted for the study. Data collected were organized in Excel and analyzed by using SPSS PASW 18. Cronbach's alpha is used to check the internal reliability of the opportunity and threats items. Frequencies and percentages were used to identify the popular publishing model, opportunity and threat. ANOVA and t-test were used to check the statistical relationship between variables.

Results: A total of 121 teaching staffs from five higher education institutions in Tamil Nadu were enrolled in the study. Majority of the prefer Open Access publishing model over the other commercial and hybrid publication models. Around 66.1% of teaching staff responded that Open Access is their first choice of publishing. Around 45.5% of teaching staff abide if their subscribed commercial access publisher moves to hybrid access at some point. 51.2% of teaching abide if their subscribed commercial access publisher moves to complete open access at some point. The top most opportunity item as denoted by the teaching staff was New database of information are emerging and in development (71.1%). The top three threat items as denoted by the teaching staff was Open Access is still evolving to become sustainable (66.1%). Opportunity has a significant statistical relationship with No. of OA Journals publications.

Conclusion: The study results will help the institutions, higher education system, librarians, information service providers, open access publishers & policy makers and government to intensify their efforts in promoting and nurturing open access publishing model.

Keywords: Opportunity in OA, Threats in OA, OA publishing model, Open Access.

1. INTRODUCTION:

Open Access, a novel model of publishing is one among the surprises and delights of the digital age. It is a paradigm shift in the academic society which hammered up the traditional publishing and unlatched the doors of knowledge to reader community. It is a unique mode of publication of research literature that removes the limitations such as payments, copyright. One of the main drives of open access is to make academic research more easily available and maximum exploitation of resources.

The teaching community in higher education institutions thrives to publish their research and scientific work. This study aims to elucidate how well that teaching community working in higher education institutions in Tamil Nadu, endorses for the open access publishing model. The study elucidates their preferences on open access publishing and their perceptions about the opportunities and threats in open access publishing.

The main outcome of the study is to investigate and present the perceptions of teaching staff against open access model and examine their perceptions against their characteristics and experience. This will help the institutions, higher education system, and open access publishers to ascertain the facts and take required steps to promote and strengthen the OA model.

2. REVIEW OF LITERATURE:

Sheikh, A. (2017) conducted a study to analyze the use and attitudes of Pakistani faculty members towards scholarly open access. The population of the study was the faculty members of 21 universities and higher education institutions located in Islamabad. Around 616 faculty members were enrolled in the study. The study results revealed that the faculty members were very positive towards OA and they used open access venues more frequently to access contents rather than to publish.

Emojorho, D., (2012) investigated the awareness of Open Access Scholarly Publication among Lecturers in the University of Benin in Edo State, Nigeria. A sample of 70 lecturers was randomly selected in the University of Benin Main Library. The respondents mentioned that increased impact and free online access were the advantages of open access. The constraints disclosed by the respondents were unstable power supply and unavailability of internet facilities.

Ivwighreghweta, O., (2012) examined the extent of researchers' appreciation of open access scholarly publishing with the population of 140 lecturers from the University of Benin, Nigeria. The respondents mentioned that increased impact and free online access were the advantages of open access. The constraints disclosed by the respondents was unavailability of internet facilities..

3. OBJECTIVES OF THE STUDY:

The objectives of the study are:

- To find out teaching staffs' preference on OA publication model with commercial and hybrid publication model.
- To find out teaching staff's opinion about publishers adaption towards OA.
- To find out the teaching staffs' perception on opportunities in OA publication model.
- To find out the teaching staffs' perception on threats in OA publication model.

4. HYPOTHESIS:

1. There is no significant difference between teaching staff's perception on opportunities in OA publication model with their individual characteristics and experience in teaching, research and publishing
2. There is no significant difference between teaching staff's perception on threats in OA publication model with their individual characteristics and experience in teaching, research and publishing

5. METHODOLOGY:

Survey design was used to conduct the study and a structured questionnaire is used to collect data. The structured questionnaire is framed after a thorough literature review. The questionnaire uses Likert 5 point Scale (1 – Strongly disagree, 2-Disagree, 3-No Opinion, 4-Agree, 5-Strongly Agree) to collect teaching staff's opinion. Convenience sampling method is adopted for the study. A sample of 121 was included the study. Data collected were organized in Excel and analyzed by using SPSS PASW 18.Frequencies and percentages were used to find out teaching staffs' preference on OA publication model with commercial and hybrid publication model. To assess the internal reliability of opportunities and threats perceptions, Cronbach's alpha is used. Alpha value>0.7 means the factor is reliable. The opportunities and threats are then examined with the teaching staffs' individual characteristics and their experience in teaching, research, and publishing by using the statistical test t-test and ANOVA. Gender, age, designation denotes individual characteristics. Experience denotes the teaching experience. No. of Students guided denotes the research experience. No. of Journal Publications and no. of OA Journal Publications denotes the publishing experience.

6. ANALYSIS AND INTERPRETATION:

A total 300 questionnaires were distributed randomly in Annamalai University, Alagappa University, Gandhigram Rural Institute - Deemed University, Madurai Kamaraj University, Monomaniam Sundaranar University and 121 teaching staffs were responded. The demographic details are as shown in Table 1. The response rate was 40.3%.

Table 1: Demographics of Teaching Staff

S.no	Characteristic	No. of Respondents	Percentage
	Gender		
1	Female	38	31.4
2	Male	83	68.6
	Age Group		
1	Age below 31	12	9.9
2	Age between 31 and 40	54	44.6
3	Age between 41 and 50	41	33.9
4	Age above 50	14	11.6
	Designation		
1	Guest Lecturer	5	4.1
2	Assistant Professor	82	67.8
3	Associate Professor	20	16.5
4	Professor	14	11.6
	Highest Degree		
1	M.Phil.	8	6.6
2	Doctorate	103	85.1
3	Others	10	8.3
	Experience		
1	Below 10 years	52	43.0
2	Between 11 and 20	53	43.8
3	Above 21	16	13.2
	Department		
1	Computer Science & Applications	27	22.3
2	English	15	12.4
3	Library and Information Science	11	9.1
4	Botony	10	8.3
5	Business Administration	10	8.3
6	Economics	8	6.6
7	Mathematics	8	6.6
8	Commerce	6	5.0
9	Communications	5	4.1
10	Rural Development	5	4.1
11	Sociology	4	3.3
12	CITE	3	2.5
13	Psychology	3	2.5
14	Education	2	1.7
15	Home Science	2	1.7
16	Instruments	1	0.8
17	USIC	1	0.8

University			
1	Annamalai University	76	62.8
2	Manonmaniam Sundaranar University	15	12.4
3	Alagappa University	10	8.3
4	Madurai Kamaraj University	11	9.1
5	Gandhigram Rural Institute - Deemed University	9	7.4
No. of MPhil / PhD Students Guiding / Guided so far			
1	Below 10	76	62.80
2	Between 11 & 30	36	29.80
3	Above 31	9	7.40
No. of Scientific Papers Published in Journals			
1	Below 10	59	48.80
2	Between 11 & 30	41	33.90
3	Above 31	21	17.40
No. of Scientific Papers Published in Open Access Journals			
1	Below 10	94	77.70
2	Between 11 & 30	20	16.50
3	Above 31	7	5.80
	Total	**121**	

The total percentage of female teaching staff included in the study was 31.4% and male teaching staff was 68.6%. The teaching staffs enrolled in the study were in the four age groups, Age below 31(9.9%), Age between 31 and 40 (44.6%), Age between 41 and 50 (33.9%), Age above 50 (11.6%). Majority of the staff were in the age group, age between 31 and 40. The teaching staffs were in the designation mix of Guest Lecturer (4.1%), Assistant Professor (67.8%), Associate Professor (16.5%), and Professor (11.6%). The highest degree obtained by the respondents was M.Phil.(6.6%), Doctorate (85.1%), others (8.3%). Majority of the respondents were working in Computer Science & Applications and it was around 22.3%. Around 12.4% of respondents were included from the department English department and it holds the second rank. Around 9.1% of respondents were included from Library and Information Science department and it holds the third rank. Majority of the respondents were included from Annamalai University and it was around 62.8%. Around 62.8% of the teaching staff had guided / are guiding M.Phil./PhD Students below 10 and it holds the first rank. Around 48.8% of the teaching staff had published scientific papers in journal below 10 and it holds the first rank. Around 77.7% of the teaching staff had published scientific papers in open access journals below 10 and it holds the first rank.

Table 2 shows up the Teaching Staffs' preference frequencies and percentages of publishing models.

Table 2: Frequency Table on Teaching Staffs' Preference on Publishing Model

S.no	Preference	Commercial		Open Access		Hybrid		Preference
		Count	Percentage	Count	Percentage	Count	Percentage	
1	What is first choice of publishing model?	29	24.0%	80	66.1%	12	9.9%	H<C<O
2	It is a well-accepted concept	28	23.1%	72	59.5%	21	17.4%	H<C<O
3	It reaches the audience with full competence	27	22.3%	79	65.3%	15	12.4%	H<C<O
4	It is helpful in higher education	21	17.4%	76	62.8%	24	19.8%	C<H<O
5	It has more satisfied audience	23	19.0%	80	66.1%	18	14.9%	H<C<O
6	It has larger Audience	18	14.9%	87	71.9%	16	13.2%	H<C<O
7	It has more peer-reviewed journals	33	27.3%	66	54.5%	22	18.2%	H<C<O
8	It has more competent resources	32	26.4%	73	60.3%	16	13.2%	H<C<O

Majority of the teaching staff prefer Open Access publishing model over the other commercial and hybrid publication models. Around 66.1% of teaching staff responded that Open Access is their first choice of publishing. Around 59.5% of teaching staff acknowledged that OA is a well-accepted model. Around 65.3% of teaching staff responded that OA reaches the audience with full competence. Around 62.8% of teaching staff agreed that it is helpful in higher education. Around 66.1% of teaching staff accepted that it has more satisfied audience. Around 71.9% of teaching staff admitted it has a larger audience. Around 54.5% of teaching staff admitted it has more peer-reviewed journals. Around 60.3% of teaching staff agreed that it has more competent resources.

Table 3 shows up the Teaching Staffs' preference frequencies and percentages about publishers' adaption towards open access.

Table3: Frequency Table on Teaching staffs' Commercial / Hybrid Publishers Adaption towards OA

S.no	Item Description	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree	Agree Score
1	Do you abide if your subscribed commercial access publisher moves to hybrid access at some point	14 (11.6%)	11 (9.1%)	41 (33.9%)	44 (36.4%)	11 (9.1%)	55 (45.5%)
2	Do you abide if your subscribed commercial	5 (4.1%)	20 (16.5%)	34 (28.1%)	51 (42.1%)	11 (9.1%)	62 (51.2%)

	access publisher moves to complete open access at some point							

Around 45.5% of teaching staff abide if their subscribed commercial access publisher moves to hybrid access at some point. 51.2% of teaching abide if their subscribed commercial access publisher moves to complete open access at some point.

Table 4 shows up the no. of questions in opportunities and threats factors and the calculated Cronbach's Alpha value. Alpha value >0.7 means the factor is reliable.

Table 4: Reliability Analysis Table on Opportunity & Threat Factors

S.no	Factor	No. of questions	Alpha Value
1	Opportunities	16	.918
2	Threats	17	.887

Alpha values of the factors are above than 0.7 which reveals the internal reliability strength of the factors.

The teaching staff's opinion about the opportunities in Open Access Model was assessed with Likert 5 – point scale. Table 5 shows up the frequency and percentages of each item. A Positive Agree score is derived by adding up the no. of respondents who strongly agree or agree on the opportunity items. This Positive Agree score is used to rank the opportunity items and find out the popular opportunity item.

Table 5: Frequency Table on Opportunities in Open Access Model – Teaching Staffs' Opinion

S.no	Item Description	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree	Positive Agree Score	Rank
1	New database of information are emerging and in development	7 (5.8%)	9 (7.4%)	19 (15.7%)	64 (52.9%)	22 (18.2%)	86 (71.1%)	1
2	Open access made knowledge as public good	9 (7.4%)	3 (2.5%)	24 (19.8%)	56 (46.3%)	29 (24%)	85 (70.2%)	2
3	Open Access removes barriers in accessing resources	6 (5%)	12 (9.9%)	20 (16.5%)	53 (43.8%)	30 (24.8%)	83 (68.6%)	3
4	Open Access removes barriers of publishing	6 (5%)	9 (7.4%)	24 (19.8%)	54 (44.6%)	28 (23.1%)	82 (67.8%)	4

#	Statement							#
5	Open Access removes barriers of reusing resources	10 (8.3%)	10 (8.3%)	21 (17.4%)	56 (46.3%)	24 (19.8%)	80 (66.1%)	5
6	New ways & methods are evolving to use and access resources	1 (0.8%)	11 (9.1%)	29 (24%)	55 (45.5%)	25 (20.7%)	80 (66.1%)	6
7	A constant growing body of knowledge manure research	7 (5.8%)	5 (4.1%)	29 (24%)	61 (50.4%)	19 (15.7%)	80 (66.1%)	7
8	Self-archiving become scientific and social time	3 (2.5%)	9 (7.4%)	29 (24%)	60 (49.6%)	20 (16.5%)	80 (66.1%)	8
9	Open Access made information available anytime anywhere in no cost	9 (7.4%)	12 (9.9%)	22 (18.2%)	53 (43.8%)	25 (20.7%)	78 (64.5%)	9
10	Research is economical since most of the resources are free which leads to more resources	9 (7.4%)	12 (9.9%)	22 (18.2%)	57 (47.1%)	21 (17.4%)	78 (64.5%)	10
11	Open access creates the potential for new spaces for collaboration and co-creation of knowledge	11 (9.1%)	11 (9.1%)	22 (18.2%)	56 (46.3%)	21 (17.4%)	77 (63.6%)	11
12	Subject repositories as well as Institutional repositories addresses the needs of target audiences immediately	3 (2.5%)	12 (9.9%)	30 (24.8%)	54 (44.6%)	22 (18.2%)	76 (62.8%)	12
13	The added bonanza of increasing citations in OA resources is a pure reward to the author's work and a motivating factor	8 (6.6%)	9 (7.4%)	28 (23.1%)	54 (44.6%)	22 (18.2%)	76 (62.8%)	13
14	Open Access reusing licenses paves way to new research opportunities	8 (6.6%)	14 (11.6%)	25 (20.7%)	54 (44.6%)	20 (16.5%)	74 (61.2%)	14
15	OA resources reduced the library funding allocation for subscribing journals in higher education	12 (9.9%)	10 (8.3%)	26 (21.5%)	45 (37.2%)	28 (23.1%)	73 (60.3%)	15

S.no	Item Description	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree	Positive Agree Score	Rank
16	OA support a very active academic community	7 (5.8%)	9 (7.4%)	36 (29.8%)	52 (43%)	17 (14%)	69 (57%)	16

The top three opportunity items as denoted by the teaching staff were, new database of information are emerging and in development (71.1%), Open access made knowledge as public good (70.2%), Open Access removes barriers in accessing resources (68.6%). The least three opportunity items as denoted by the teaching staff were, Open Access reusing licenses paves way to new research opportunities (61.2%), OA resources reduced the library funding allocation for subscribing journals in higher education institutes (60.3%), OA support a very active academic community (57%).

The teaching staff's opinion about the threats in Open Access Model was assessed with Likert 5 – point scale. Table 6 shows up the frequency and percentages of each item. A Positive Agree score is derived by adding up the no. of respondents who strongly agree or agree on the threat items. This Positive Agree score is used to rank the threat items and find out the popular threat item.

Table 6: Frequency Table on Threats in Open Access Model – Teaching Staffs' Opinion

S.no	Item Description	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree	Positive Agree Score	Rank
1	Open Access is still evolving to become sustainable	5 (4.1%)	9 (7.4%)	27 (22.3%)	59 (48.8%)	21 (17.4%)	80 (66.1%)	1
2	Connectivity barrier is an worldwide challenge	7 (5.8%)	14 (11.6%)	20 (16.5%)	66 (54.5%)	14 (11.6%)	80 (66.1%)	1
3	Countries should set up adequate policies need to be established in smooth flow of open data-information-knowledge	5 (4.1%)	11 (9.1%)	26 (21.5%)	55 (45.5%)	24 (19.8%)	79 (65.3%)	3
4	The frequent changes in the OA process takes time to be accepted and reflected worldwide	10 (8.3%)	10 (8.3%)	26 (21.5%)	56 (46.3%)	19 (15.7%)	75 (62%)	4
5	OA journals lost its credibility when information published is not evaluated properly	6 (5%)	17 (14%)	26 (21.5%)	51 (42.1%)	21 (17.4%)	72 (59.5%)	5
6	OA journals didn't standardize article evaluation policies and publish weak resources	10 (8.3%)	12 (9.9%)	30 (24.8%)	54 (44.6%)	15 (12.4%)	69 (57%)	6

#	Statement							#
7	In Open Access field, there is a lack of capacity building and infrastructure	5 (4.1%)	20 (16.5%)	30 (24.8%)	54 (44.6%)	12 (9.9%)	66 (54.5%)	7
8	In OA literature, Server down is a major problem	4 (3.3%)	18 (14.9%)	35 (28.9%)	38 (31.4%)	26 (21.5%)	64 (52.9%)	8
9	Language is a big barrier in open access resources	4 (3.3%)	26 (21.5%)	27 (22.3%)	47 (38.8%)	17 (14%)	64 (52.9%)	9
10	Popular paid journals are still stubborn in their subscription business model	8 (6.6%)	18 (14.9%)	31 (25.6%)	43 (35.5%)	21 (17.4%)	64 (52.9%)	10
11	In OA literature, website addresses and URL are changing often	6 (5%)	15 (12.4%)	41 (33.9%)	43 (35.5%)	16 (13.2%)	59 (48.8%)	11
12	Filtering and censorship barriers is a hindrance in OA literature growth	11 (9.1%)	16 (13.2%)	35 (28.9%)	46 (38%)	13 (10.7%)	59 (48.8%)	12
13	Information provided in OA literature is not always available	8 (6.6%)	24 (19.8%)	33 (27.3%)	41 (33.9%)	15 (12.4%)	56 (46.3%)	13
14	OA have lacking of government policy and regulatory and legislator environment	4 (3.3%)	21 (17.4%)	42 (34.7%)	36 (29.8%)	18 (14.9%)	54 (44.6%)	14
15	Information once available in OA may not be available later	7 (5.8%)	22 (18.2%)	39 (32.2%)	39 (32.2%)	14 (11.6%)	53 (43.8%)	15
16	There is not a defined ecological system to use and reuse OA resources	3 (2.5%)	22 (18.2%)	45 (37.2%)	35 (28.9%)	16 (13.2%)	51 (42.1%)	16
17	Open access resources which is not indexed through search engines or cross linked lost its visibility	12 (9.9%)	18 (14.9%)	46 (38%)	35 (28.9%)	10 (8.3%)	45 (37.2%)	17

The top three threat items as denoted by the teaching staff were, Open Access is still evolving to become sustainable (66.1%), Connectivity barrier is an worldwide challenge (66.1%), Countries should set up adequate policies need to be established in smooth flow of open data-information-knowledge (65.3%). The least three threat items as denoted by the teaching staff were, Information once available in OA may not be available later (43.8%), There is not a defined ecological system to use and reuse OA resources (42.1%), Open access resources which is not indexed through search engines or cross linked lost its visibility (37.2%).

Opportunity score and threat score are derived for each teaching staff based on the Likert scale response value (1 – Strongly disagree, 2-Disagree, 3-No Opinion, 4-Agree, 5-Strongly Agree). To verify the significance level of the scores with gender, t-test was used. To verify the statistical significance of the scores with age group, experience, designation, no. of students guided, no. of journal publications, no. of OA journal publications, ANOVA test was used. The table 7 shows up the opportunities score, threats score and significance value.

Table7: Opportunities and Threats vs Individual Characteristics and their Experience in Teaching, Research and Publishing

S.no	Score	Mean (SD)	Gender	Age	Experience	Designation	No. of Students guided	No. of Journal Publications	No. of OA Journal Publication
1	Opportunities	50.79 (8.59)	.231	.655	.606	.467	.498	.739	.011*
2	Threats	46.14 (9.79)	0.31	.933	.899	.627	.685	.916	.079

* Significant at the 0.05 level

The test results show up that opportunity have a significant relationship with No. of OA Journals publication.

7. CONCLUSION:

A total 300 questionnaires were distributed randomly in five higher education institutions in Tamil Nadu and 121 teaching staffs were responded. Majority of the teaching staff prefer Open Access publishing model over the other commercial and hybrid publication models. Around 66.1% of teaching staff responded that Open Access is their first choice of publishing. Around 45.5% of teaching staff abide if their subscribed commercial access publisher moves to hybrid access at some point. 51.2% of teaching abide if their subscribed commercial access publisher moves to complete open access at some point. The top most opportunity item as denoted by the teaching staff was New database of information are emerging and in development (71.1%). The top three threat items as denoted by the teaching staff was Open Access is still evolving to become sustainable (66.1%). Opportunity has a significant statistical relationship with No. of OA Journals publications.

The study results provide the teaching staffs' perception on OA which will help the institutions, higher education system, librarians, information service providers, open access publishers & policy makers and government. They should intensify efforts in creating awareness on the existing OA publishing tools. Librarians should build their capacity level to match up with the OA publishing environment. Librarians should tune up their services so that the faculties should make use of the OA publishing model in its full competence. The libraries should guide the teaching community in open access publishing by developing and supporting proper mechanisms. The libraries should create special programs to teach the users about the benefits of open access publishing. The libraries should list and highlight open access journals in their catalogs and in relevant database. Institution should strengthen their infrastructure and motivate their faculties to use OA. Higher education system should treat the open access authors on par

with the other publishing model authors. It advocates that open access publication should be recognized in promotion and tenure evaluation. The open access publishers should strengthen their facilities and system so that they can provide quality and reliable publishing. The open access policy makers and government should create and revive their open access policies. It gives more stress on developing proper open access infrastructure by software tools development, content provision, metadata creation or the publication of individual articles. Simplified tools and techniques are required to make the open access process easy. Well-defined policies are required in national level and international level for full exploitation of open access.

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