

Faculty Members' Perceptions towards Institutional Repository at a Medium-sized University: Application of a Binary Logistic Regression Model

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Abstract:

Purpose – The study aimed to investigate the perceptions of faculty members at a medium-sized university towards self-archiving and participation in institutional repositories (IRs).

Design/methodology/approach – The research participants were from a medium-sized university. An online survey was distributed and a total of 217 responses were received which yielded a 40 per cent overall response rate. Faculty perceptions of the IR were measured through nine dimensions, the results of which were later summarised using principal component factor analysis.

Findings – Faculty members' perception of IRs and willingness to contribute to the IRs were closely associated with scholarly productivity rather than prior knowledge of and experience with IRs. Those who possessed scholarly materials were significantly more likely to have a positive perception of IRs and, therefore, were more likely to contribute to IRs than those who did not. Seniority in faculty rank contributed negatively to faculty members' perception of the repository.

Research limitations/implications – The study used a non-probability sampling technique to collect data about the faculty's perception of IRs at a single institution of higher education. Variables for faculty background were limited to rank and academic discipline.

Originality/value – In three ways: First, the study contributed to research on faculty perception of IRs in academia and approached the issue from the perspective of a teaching-oriented institution. Second, the relationship between faculty's willingness to participate in and their perception of IRs was measured. Third, a binary logistic regression model was used to estimate factors that influence faculty's perception of the institution's IRs.

Keywords: Academic libraries | Institutional repositories | Teaching institutions | Faculty attitude | Self-archiving

Article:

1. Introduction

For centuries, paper-based journal publications dominated scholarly communications. Since the first journal appeared in 1665, *Le Journal* or *Philosophical Transactions of the Royal Society of London*, there are > 120,000 scholarly journals, of which, according to 2008 data, about 86 per cent of the journals are in the arts, humanities and social sciences, and 96 per cent of the journals in science, technology and medicine are available online (Research Information Network, 2010). In the past few decades, with advances in information and communications technologies (ICT), and most particularly the Internet, the web has become the primary global medium for communication, including scholarly communication.

Introduction of new models for the dissemination of scholarly research and knowledge has transformed and redefined the long established relationship between authors, publishers and academic libraries. The open-access movement gained momentum to provide access to scholarly literature free of charge, and free of most copyright and licensing restrictions. In addition, publications that are made available as open access seemed to have a better citation advantage compared to the traditional toll access method (Norris *et al.*, 2008). Today, large numbers of universities and research institutions embrace open access as a matter of policy that require depositing scholarly works in open-access repository systems. For example, large national research funding agencies in the USA such as the National Institutes of Health and all seven research councils in the UK require that work they have financed be made publicly available (usually through depositing in open-access repositories) (Van Noorden, 2009).

Along with the open-access movement, in the past decade, we have witnessed the proliferation of institutional repositories (IRs) in academia. Most academic libraries have taken the initiative not only to build and maintain IRs systems but also have made an effort to create awareness among faculty on the usefulness of such repository systems. However, after a significant investment in time, money and effort to popularise IRs, little is known about the attitude and perception of faculty and the extent of utilisation.

The majority of studies in this area have largely focused on self-archiving and depositing practices of faculty and researchers in large research-intensive institutions, where attempts were made to understand their behaviour and the factors that facilitate or impede their participation in institutional repositories (Covey, 2009; Davis and Connolly, 2007; Kim, 2010). Such mechanisms are increasingly adopted by smaller academic institutions to centralise, present and preserve the intellectual output of their communities. Smaller institutions tend to focus less on research and scholarly productivity but place more emphasis on teaching and academic rigour. The purpose of this study is to investigate the perceptions of faculty members at a medium-sized university towards self-archiving and participation in IRs. This study was guided by the following two research questions:

1. What are the perceptions of faculty towards self-archiving in a medium-sized university?
2. To what extent are self-archiving practices explained by faculty background in terms of discipline and rank?

2. Literature review

Due largely to advances in ICT and the Internet, more and more print journals are also published in the electronic form. A survey of publishers revealed that about 90 per cent of all scholarly journals were available online, with some differences between disciplines; 96.1 per cent of scientific, technical and medical titles are online and 86.5 per cent of arts, humanities and social sciences are accessible electronically (Research Information Network, 2010). This development resulted in a new distribution model in that instead of purchasing and acquiring print publications together with copyright statements, libraries buy licenses to access digital copies based on certain terms and conditions, which are often restrictive (Gadd *et al.*, 2003).

The electronic delivery method presents a series of challenges that threaten the conventional chain of scholarly communication. Despite lack of speed and more recently prohibitive cost, the print journal has served well for > 300 years as a scholarly research communication medium. Libraries that purchase such print subscriptions get to keep and preserve the collection. With the increased use of e-journals at the expense of print subscription, there is a level of disruption in how academic libraries archive and preserve scholarly output for future use. One solution that has been put to work for the past decade or so is what has come to be known as the IRs. In an academic environment, IRs were designed as a socio-technical system to provide stewardship of a university's scholarly record. Academic libraries are often taking the lead in such initiatives to capture the intellectual output of their faculty and researchers in the repository system as per publishers' copyright policies for self-archiving.

According to SHERPA/RoMEO, a database that stores and tracks publisher's copyright policies, 70 per cent of the 1,273 publishers, publishing about 18,000 journals in total, allow some form of self-archiving (RoMEO Statistics, 2013). However, the extent to which faculty and the research community in general embrace IRs is not clear. According to the Directory of Open Access

Repositories registry (OpenDOAR, 2013), an authoritative directory of academic open-access repositories, there are about 2,000 repositories worldwide. Despite the growth of IRs, three-quarters (75 per cent) of these repositories are concentrated in Europe and North America (Jain, 2011).

A comprehensive study that addressed information-seeking behaviours of faculty *vis-à-vis* IRs outlined some of the issues for limited participation by faculty such as redundancy, fear of plagiarism, learning curve and confusion with copyright (Davis and Connolly, 2007). Another study that involved > 1,000 faculty members at the University of California showed that a great majority of respondents were not aware of or were aware of but did not know much about IRs (University of California Office of Scholarly Communication and the California Digital Library eScholarship Program, 2007). In what appears to be a dramatic turnaround, a recent study that reviewed activities surrounding IRs over the period of a decade showed improvements in terms of scholars embracing and using IRs. In this study, over half of the research participants ($n = 1,700$) contributed to an IRs, although the results may be somewhat skewed, as the large majority of respondents were from the physical sciences (Nicholas *et al.*, 2012).

It can be safely argued that IRs bring change to established scholarly communication channels, and change is often met with resistance. Creating allies among faculty, researchers and library staff, making a convincing case to stakeholders for change, effectively leveraging and repurposing existing intellectual and physical resources and mobilising politically within and outside the institution to support IRs may help institutions successfully manage the implementation process (Cervone, 2011). In institutions of higher education, faculty members have greater latitude to adopt or reject a change because of a pre-existing state or attitude (Quinn, 2013). While there are different repository types developed over the years, a large number of scholars and researchers deposit in IRs as well as subject-based repositories (e.g. arXiv.org for physical sciences). Willingness to contribute to IRs was found to be much higher among academic communities with well-established subject repositories compared to those without (Andrew, 2003). The use of subject-based repositories was more common among such academic communities (Nicholas *et al.*, 2012).

The level of participation and nature of practice in IRs vary across institutions. Some institutions have instituted mandatory policies where they require the faculty to deposit their research output in the IRs, while participation may be voluntary in others. Institutional mandate to deposit works prior to publication has also been shown to increase the volume of participation by the faculty (Harnad *et al.*, 2004; Slade and Bates, 2011). The number of items in the repositories is still fewer by far than the collective output by the institution. A gap may exist between self-archiving opportunities and the actual participation by faculty who deposit their work in IRs. Covey (2009) and Cullen and Chawner (2011) observed disciplinary differences in faculty practice in which the participation of sciences and engineering disciplines was much higher than others. Although academic libraries have been increasingly active in promoting IRs and offering

assistance to faculty, faculty's participation in IRs is informed by a number of factors including (listed in decreasing order of effect size) the seven listed as follows:

1. altruism – the idea of providing open access (OA) benefits for users;
2. perceived self-archiving culture;
3. copyright concerns;
4. technical skills;
5. age;
6. perception of no harmful impact of self-archiving on tenure and promotion; and
7. concerns about additional time and effort (Kim, 2010).

Lack of incentives, costs and concerns related to promotion and tenure may also serve as important barriers (Jain, 2011).

Looking closely into these challenges, there seem to be no major differences across faculty rank in participating in IRs (Kim, 2010). In a much larger study, however, Cullen and Chawner (2011) found the rate of deposit to be lower among the junior faculty because of concerns such as tenure and promotion.

Disciplinary culture can be an important factor in influencing faculty's self-archiving behaviour (Davis and Connolly, 2007). Therefore, the prevalent use of subject-based repositories in certain disciplines may reduce the participation of faculty in institutional IRs (Xia, 2008). However these factors do not necessarily reflect the influence of practices in different disciplinary cultures (Andrew, 2003; Davis and Connolly, 2007), institutional culture, institutional focus (research versus teaching) and the size of the institution on faculty's perception of IRs and willingness to participate.

3. Methodology

Each institution has its own characteristics including enrolment profile, faculty size and teaching or research focus, which, in turn, influence and inform faculty's and researchers' perception of IRs. The data for the study were collected at a regional university in the Southeastern USA. The institution had a faculty size of > 500 and about one-fourth of the faculty had a part-time status. About 12,000 students were enrolled in undergraduate and graduate programs in the university at the time of research. In terms of size of the institution, the Carnegie classification scheme, the leading framework for recognising and describing institutional diversity in the USA, was used. The university was classified as "medium four-year" under the size category, "high undergraduate" under the enrolment profile and "Master's L: Master's Colleges and Universities (larger programmes)" under the basic classification ("Carnegie Foundation", 2014).

A questionnaire was developed based on studies discussed in the literature review section, and certain questions and statements were adapted from studies examining faculty's attitude towards IRs (Billings, 2006; Lercher, 2008; University of California Office of Scholarly Communication and the California Digital Library eScholarship Program, 2007). The questionnaire was distributed online via direct emailing using SurveyMonkey.com, an online survey service, to faculty members in spring 2010. The survey was made available to faculty members for three weeks. A total of 217 responses were received which yielded a 40 per cent overall response rate. For the purposes of this paper, a total of 189 responses were analysed because of incomplete responses. A 4-point Likert scale, ranging from 1 (not important) to 4 (essential), was used to measure the opinion of faculty on nine different statements believed to determine the importance of IRs.

3.1 Binary logistic regression model

Binary logistic regression is an appropriate statistical technique when the dependent variable is binary. It represents two groups of interest with values of 0 and 1, such as yes/no, presence/absence or success/failure. The procedure for estimating coefficients is maximum likelihood, and the goal is to find the best linear combination of independent variables to maximise the likelihood of obtaining the observed outcome frequencies (Tabachnick and Fidell, 2006). Binary logistic regression is applied widely in models in which the primary objective was to identify the group to which an object (person, firm or product) belongs (Hair *et al.*, 2009).

A binary logistic regression was applied to estimate factors that influence a faculty member's perception of the university's IRs.

The model is specified as follows: Equation 1 where, p is the probability that the event occurs. $p/(1-p)$ is the odds ratio which is the ratio of the probability of an event occurring to the probability of the event not happening. The α is the Y intercept; Xs are a set of predictors; β s are regression coefficients.

The focal dependent variable in this study was a faculty member's perception of the university's IRs at a medium-sized university. The level of a faculty member's opinion of the repository was measured by nine statements as shown in Table II.

In this study, factor analysis was used to create a new composite variable from responses to the statements. Factor analysis is a statistical and interdependence technique applied to discover which variables are relatively independent of one another and aimed to define the underlying structure among variables used in the analysis (Hair *et al.*, 2009; Tabachnick and Fidell, 2006). Despite the fact that statements measure different aspects of the repository separately, factor analysis enabled identification of an item or a group of items that is a better measure of the perception of the repository. The study used the principal component factor analysis which examines total variance among the variables.

4. Results

The survey received responses from faculty members of all ranks and of academic disciplines based on categories used by Cullen and Chawner (2011) and Kim (2010). The largest block of respondents was of those who held the rank of professor, and the majority of them were from the professions and applied sciences discipline which included academic units such as business, library studies and social work as shown in Table I.

Although the majority of respondents held the rank of professor, only 38 per cent of them responded, whereas 31, 48, 66 and 16 per cent of faculty who held the rank of associate professor, assistant professors, instructors and part-time, respectively, participated in the study.

About 60 per cent of the respondents including the non-tenure-seeking (part-time faculty and full-time instructors) faculty reported possessing scholarly materials that may be of value to other scholars or scientists which, for various reasons, have not been published. Over 70 per cent of the faculty who were in the assistant or associate professor rank and about 60 per cent of those in the professor rank reported having scholarly materials of this nature.

The level of faculty members' opinion on the repository was measured by nine statements. Reliability statistics was conducted to verify the reliability of the statements listed in Table II measuring the perception of the repository. The Cronbach's alpha is a widely used measure of internal reliability which ranges from 0 to 1.00. A coefficient < 0.70 indicates scarce reliability of the statements (Mazzocchi, 2008). The Cronbach's alpha coefficient of reliability was estimated as 0.89 which suggests a relatively high degree of internal consistency.

The results of the principal component factor analysis are presented in Table III. One factor had an eigenvalue higher than 1 and the total variance explained was 54.19 per cent. The Kaiser – Meyer – Olkin (KMO) measures the sampling adequacy which should be greater than 0.5 for a satisfactory factor analysis to proceed. In this study, the KMO measure was 0.898. The Bartlett's test of sphericity was statistically significant ($p < 0.001$). These results suggested that the correlation matrix was not an identity matrix, and therefore the factor analysis was an appropriate technique for summarising the data in this instance.

The estimated factor score of the new variable was used to capture faculty's perception of the IRs. A new binary variable was created by assigning 0 to faculty with negative factor scores and 1 to the faculty with positive factor scores. Over half of the faculty members had a positive perception of the repository, while 47.1 per cent had a negative perception as shown in Table IV. This binary variable was then used as a dependent variable in the binary logistic model.

A bivariate analysis of faculty's perception of the IRs (positive versus negative) and academic discipline revealed a statistically significant relationship at 0.01 level ($p = 0.006$). While a majority of the faculty in sciences (79.2 per cent) and humanities (54.1 per cent) held a negative perception of the IRs, a sizeable majority of the faculty in other disciplines – social sciences

(62.5 per cent), education (62.1 per cent) and the professions and applied sciences (61.7 per cent) – reported a positive perception of the IRs.

Table V presents basic descriptive statistics of independent variables used in the binary logistic regression analysis.

The binary logistic regression model was estimated using the maximum likelihood estimation procedure. The overall model was statistically significant: model $\chi^2(5, 179) = 38.369$ with a p -value of 0.000. This indicated that the full model was a better predictor than a model with the intercept alone, and it was statistically reliable in distinguishing between faculty members with a favourable perception of the importance of the repository and those with an unfavourable perception. The Hosmer – Lemeshow test was used to evaluate the goodness-of-fit of the model (Hosmer and Lemeshow, 2000). The resulting test statistic was not statistically significant ($\chi^2 = 11.852, p = 0.158$); therefore, the null hypothesis (H_0 : there is no difference between the observed and the model predicted values of the faculty's perception) was rejected. This implied that the model fit the data well at a statistically acceptable level. Consequently, the model was able to predict correctly 81.3 per cent of those who have a positive perception of the repository (1) and 55 per cent of those who have a negative perception (0). Overall, 69.3 per cent of all cases (0,1) were correctly predicted. Another test statistic, the Nagelkerke R^2 , was used to measure the usefulness of the model, which indicates how useful the explanatory variables were in predicting the response variable. The Nagelkerke R^2 , which varies from 0 to 1, was 0.352, indicating the model was useful in predicting faculty's perception of the repository.

The logistic regression coefficient, standard error, Wald's chi-square, p value and odds ratio for each of the predictors are shown in Table VI. The Wald and associated p -value are used to test the statistical significance of each coefficient (β) in the model (Field, 2007). The binary logistic model revealed that one estimated coefficient (willingness to contribute *unpublished* work) was statistically significant at the 0.01 level. (Table VI). Two coefficients, *academic rank* ($p = 0.077$) and willingness to contribute previously *published* work ($p = 0.068$), approached acceptable levels of statistical significance at the 0.05 level. Two coefficients, *awareness* and *experience*, and the *intercept* were not statistically significant. The estimated coefficients of self-archiving *unpublished works* and *published works* had positive signs. Additionally, the exponential coefficients (odds ratios) of unpublished and published works exceeded 1. When coefficients are greater than 1, there is a greater likelihood that a faculty member's perception of the repository will increase as the level of willingness to contribute content through either self-archiving or having it deposited (published or unpublished works) to the repository improves.

These results suggested that the estimates were useful in predicting faculty members' perception of contributing content to the university's IRs. The positive sign on all the estimated coefficients indicated that the higher a faculty member's perception of any of the explanatory variables, the more likely it was that faculty members would have a favourable view of contributing content to the repository. The repository was more likely to achieve improvements in faculty members'

perceptions of self-archiving content, if the levels of willingness of contributing their unpublished and published works improve, given the exponential coefficients shown in Table VI. Additionally, faculty members who were willing to contribute their unpublished works in the university's repository were almost five times more likely to have a positive perception than those who were unwilling to contribute their content.

Similarly, faculty members whose willingness to contribute their published works to the repository were almost four times more likely to have a positive perception than those who were unwilling. The other somewhat significant variable in the model was faculty rank, which has a negative sign (odds ratio is < 1). It may be interpreted that the increase in faculty rank contributed negatively to faculty members' perception of the repository. An institution's focus on teaching or research may influence faculty's attitude towards IRs. For each one point increase in faculty rank, there was a likelihood of decrease in faculty members' positive perception of the repository. The estimated coefficients of awareness of IRs and experience of using the repository were not statistically significant, suggesting that these variables had no effect on the positive perception of the IRs.

5. Discussion

IRs are widely implemented across academic institutions with the intent to preserve the collective scholarly output of the university community, thereby increasing the impact of research. However, the extent to which faculty and researchers embraced IRs and the successes reported reveal a mixed result. In this study, after introducing a binary variable (positive and negative), a little over half of the faculty (52.9 per cent) had a positive perception of the repository. The finding supports the notion that there is a gap between self-archiving opportunities and actual participation by faculty by depositing their scholarly output in IRs (Covey, 2009).

A statistically significant difference was detected in perception of faculty from different academic disciplines. Faculty members from humanities (e.g. history and religion) and sciences (e.g. physics and computer sciences) had a negative perception of the IRs. This may be a result of disciplinary culture (Xia, 2008) in the case of sciences, as there are established subject repositories in physical sciences (e.g. arXiv.org). However, awareness of IRs and prior experience with IRs were not found to be factors influencing the faculty's perception in this study, which contrasted with the notion that disciplinary culture influences faculty's contribution to IRs (Andrew, 2003; Covey, 2009; Cullen and Chawner, 2011). The studies that detected disciplinary differences mainly focused on research-intensive institutions where subject-based repositories are largely adopted by the faculty (Xia, 2008). Although this study did not specifically examine which subject-based repositories that faculty were aware of or contributed to, their awareness or experience did not appear to influence their perception. The institution's teaching focus was more likely to inform the faculty's perception of IRs as they may have felt less motivated to contribute to external IRs (e.g., subject-based repositories) as it would be

considered as an additional task which would probably have no major impact on their status in the institution.

The negative relationship detected between faculty rank and positive perception of IRs did not appear to support Kim's (2010) finding, where faculty rank was not identified as a factor influencing self-archiving behaviour, and Cullen and Chawner's (2011) finding, where the rate of deposit was much higher among senior faculty. The difference in perception was more apparent among the higher-ranking faculty, whereas junior faculty members were more willing to contribute. This unique finding may be attributed to the institutional focus on teaching, whereas data in both Kim (2010) and Cullen and Chawner's (2011) studies were collected at research-oriented institutions.

Furthermore, the study identified a strong connection between faculty's willingness to contribute to the IRs with unpublished works and their perception of the IRs. A weak connection was detected between published works and the perception of the IRs. Those who were willing to contribute to the IRs were four times more likely to have a positive perception of IRs. The amount of content ownership should not be a factor influencing faculty's willingness, as a large majority of tenure-seeking junior and senior faculty reported possessing unpublished work. Additionally, awareness and experience of the faculty were comparable, where the faculty at the assistant professor rank were found to be somewhat more informed regarding IRs and experienced with them, as shown in Table V. This finding may also be attributed to the institutional focus on teaching and complements the previous finding. It can be further concluded that because of junior faculty's limited time at the institution compared to their senior peers, their scholarly communication behaviour was less likely to be informed by the institutional focus. Therefore, they had a more favourable view of this particular scholarly communication model and were more likely to contribute to the IRs. Those who were unwilling to contribute tended to be higher-ranking faculty members who probably did not see IRs as a new form of scholarly communication mechanism. Their negative perceptions were more likely to be informed by institutional culture, which primarily promoted academic rigour in teaching, learning and assessment. Additionally, their prior experience of traditional scholarly publication models may have played a role, as scholarly output in traditional models was crucial in supporting teaching and learning expectations.

5.1 Implications

The current study has implications for both research and practice. In terms of research, the findings of this research were unique and contrasted past studies as the study approached faculty's scholarly communication behaviour from a single-case study of a medium-sized institution perspective. Future studies need to expand on this binary model to develop a robust structural model to understand the latent variables that impact each of the dimensions. Cross-institutional studies need to take institutional characteristics such as size, enrolment profile and institutional focus and culture into consideration to better explain the faculty's perception of this

new scholarly communication model and respond to faculty’s needs. A longitudinal study is needed to put findings of past research and current study in perspective and understand how faculty’s perception changes over time as they get older and their productivity and seniority increases.

In terms of practice, identifying faculty who are willing to contribute to the IRs may be critical to the success of the initiative. Therefore, junior faculty, especially those who are from education, professions and applied sciences and social sciences disciplines, may be intentionally targeted to achieve this purpose at institutions with a teaching focus. As noted by Cervone (2011), these faculty members may serve as allies, and the content provided by them may serve as a good model for others.

6. Conclusion

Faculty perceptions of the IRs were measured through nine dimensions, the results of which were later summarised using the principal component factor analysis. Accordingly, a little over half of the respondents had a favourable or positive perception towards the IRs. Results suggested that faculty whose scholarly productivity was high in terms of published or unpublished output were more likely to have a positive perception of IRs and therefore were more likely to participate in the IRs than those who did not. Prior knowledge of and experience with IRs did not impact the faculty’s perception of IRs.

6.1 Limitations

The study used a non-probability sampling technique to collect data about faculty’s perception of IRs at a single institution of higher education that was classified as “medium four-year” under the Carnegie size category (“Carnegie Foundation”, 2014). Although the findings about faculty attitudes towards IRs may be applicable to institutions with similar characteristics, they cannot be generalised because of the use of non-probability sampling and the scope of the study. Lastly, data for faculty background were limited to rank and academic unit.

$$\text{Ln} \left[\frac{p}{(1-p)} \right] = \alpha + \beta\chi + \varepsilon$$

Equation 1

Table I Respondents by academic discipline and rank (n = 182)

Discipline/rank	Part-time (per cent; number)	Instructor (per cent; number)	Assistant Professor (per cent; number)	Associate Professor (per cent; number)	Professor (per cent; number)	Total
Education	22.4; 13	6.9; 4	29.3; 7	22.4; 13	19; 11	58
Humanities	10.8; 4	18.9; 7	21.6; 8	13.5; 5	35.1; 13	37

Professions and applied sciences	8.5; 4	14.9; 7	21.3; 10	21.3; 10	34; 16	47
Sciences	8.3; 2	25; 6	8.3; 2	12.5; 3	45.8; 11	24
Social sciences	12.5; 2	6.3; 1	25; 4	12.5; 2	43.8; 7	16
Total	25	25	41	33	58	182

Table II Descriptive statistics for the statements used to measure the perception of the IR (n = 189)

Statements	NI (per cent)	SI (per cent)	VI (per cent)	E (per cent)	Mean	Standard deviation
Preserve university's intellectual capital in a central place	5.82	34.39	42.86	16.93	2.71	0.82
Make my pre-and post-print versions of research available to a worldwide audience	17.99	34.39	36.51	11.11	2.41	0.91
Make my research available faster than the traditional publishing process	21.16	34.39	35.98	8.47	2.32	0.90
Provide a way for me to create online peer-reviewed data	33.86	31.22	28.04	6.88	2.08	0.94
Make available types of materials that otherwise would not have been made available	10.05	24.87	46.03	19.05	2.74	0.88
Make my research available with very little effort and without having to maintain a website of my own	15.87	31.75	40.21	12.17	2.49	0.90
Provide long-term preservation of my digital research materials	12.17	29.63	38.62	19.58	2.66	0.93
Make it easy for other people to search for and locate my work	6.88	31.75	41.27	20.11	2.75	0.86
Allow me to search the IRs for the most current research findings of my colleagues	9.52	30.69	37.57	22.22	2.72	0.92

Notes: 1 = Not Important (NI); 2 = Somewhat Important (SI); 3 = Very Important (VI) and 4 = Essential (E)

Table III Results of principal component factor analysis: perception of the IRs (n = 189)

Component	Total	Initial eigenvalues Per cent of variance	Cumulative per cent	Total	Extraction sums of squared loadings Per cent of variance	=Cumulative per cent
1	4.877	54.185	54.185	4.877	54.185	54.185

2	0.865	9.613	63.798			
3	0.708	7.870	71.668			
4	0.646	7.176	78.845			
5	0.520	5.780	84.624			
6	0.482	5.354	89.979			
7	0.352	3.908	93.887			
8	0.325	3.614	97.501			
9	0.225	2.499	100.000			

Notes: KMO Measure of sampling adequacy: 0.898; Bartlett's test of sphericity: 807.755 (significance: 0.000)

Table IV Negative and positive factor scores for perception of the IRs

Perception of the IR	Percentage (number)
Negative	47.1 (89)
Positive	52.9 (100)

Table V Description of independent variables used in binary logistic regression

Variable name	Frequency	Per cent
<i>Rank</i>		
<i>Faculty rank</i>		
1: Part-time	26	13.8
2: Instructor	25	13.2
3: Assistant Professor	43	22.8
4: Associate Professor	34	18.0
5: Professor	61	32.2
<i>Awareness</i>		
<i>Awareness of repository concept</i>		
0: No	126	66.7
1: Yes	63	33.3
<i>Awareness by rank</i>		
Non-tenure track (part-time and instructor)	11.2 per cent (6)	88.2 per cent (45)
Assistant Professor	46.5 per cent (20)	53.5 per cent (23)
Associate Professor	44.1 per cent (15)	55.9 per cent (19)
Professor	36.1 per cent (22)	63.9 per cent (39)
<i>Experience</i>		
<i>Used repository before</i>		
0: No	160	84.7
1: Yes	29	15.3
<i>Experience by Rank</i>		
Non-tenure track (part-time & instructor)	11.2 per cent (6)	88.2 per cent (45)
Assistant Professor	25.6 per cent (11)	74.4 per cent (32)
Associate Professor	11.8 per cent (4)	88.2 per cent (30)
Professor	13.1 per cent (8)	86.9 per cent (53)

<i>Unpublished^a</i>		
Willingness to contribute unpublished work	Frequency	Per cent
0: No	64	35.6
1: Yes	116	64.4
<i>Published^b</i>		
Willingness to contribute previously published work	Frequency	Per cent
0: No	17	9.1
1: Yes	170	90.9

Notes: ^a 9 responses are missing; ^b 2 responses are missing

Table VI Binary logistic regression results for the perception of faculty members towards the repository (n = 179)

Variable	β	SE β	Wald's χ^2	p	Odds ratio (e^β)
Intercept	-1.360	.936	2.111	0.146	0.257
Rank	-0.223	.126	3.135	0.077	0.800
Awareness	-0.451	.396	1.295	0.255	0.637
Experience	0.089	.494	0.032	0.857	1.093
Unpublished*	1.637	.378	18.767	0.000	5.141
Published	1.486	.814	3.332	0.068	4.417

Notes: * Refers to significance at 1 per cent level

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