

# Awareness and Attitude towards Use of Institutional Repositories by Academic Staff of Eastern University, Sri Lanka: A Method based on the Diffusion of Innovation (DOI) and the Theory of Reasoned Action (TRA)

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## ABSTRACT

Institutional repositories have risen to prominence in the worldwide push towards a knowledge community, serving as a key medium for education, research, and training. In the Sri Lankan environment, institutional repositories are becoming increasingly popular in the digital age. Despite the fact that the country has made significant investments in the development of innovative information and communication technology (ICT) products for education, in particular, the adoption and use of institutional repositories provide a number of obstacles, including issues of accessibility, dependability, copy rights, and so on. The purpose of this research is to examine academic staff awareness and attitudes regarding the usage of institutional repository at the Eastern University in Sri Lanka (EUSL). The survey approach was used; data was obtained by an on-line questionnaire and analyzed using the SPSS statistical software package. It was determined whether academic personnel were aware or had negative attitudes towards using institutional repository through the use of the Diffusion of Innovation (DOI) and the theory of reasoned action (TRA) theoretical models. According to the data, academic staff members have a high level of understanding concerning institutional repository. The findings suggested that academic staff did not deposit their research work into institutional repository on a regular basis since the vast majority of them were not aware of how to deposit their work into the repository. A recommendation from the study's conclusion is that libraries should provide appropriate awareness programs and training to researchers about the benefits of using institutional repositories, self-archive publishing, as well as encourage them to deposit their research work in these venues. Finally, it was discovered that the level of awareness and attitude toward institutional repository are both important factors in determining its use.

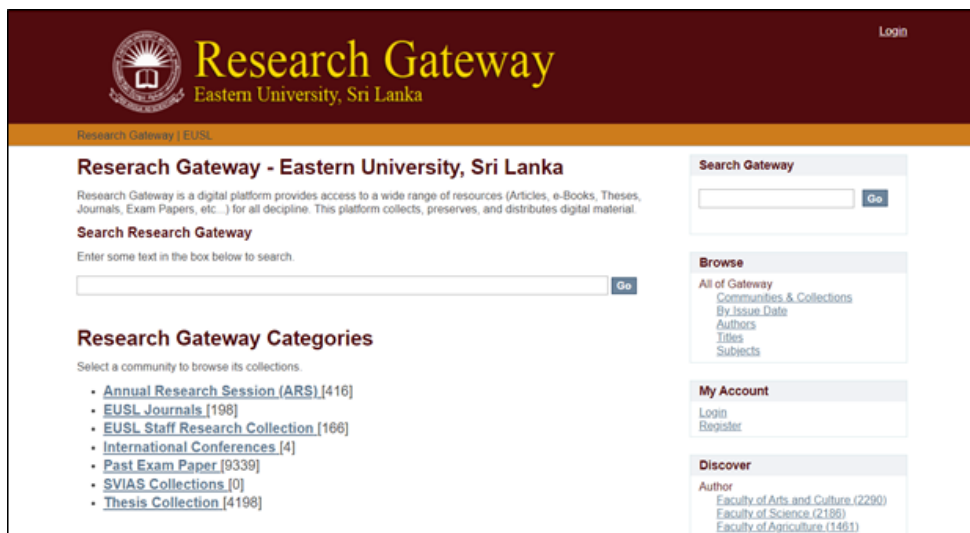
**Keywords:** Awareness, Attitude, Institutional Repositories (IR), Diffusion of Innovation, Theory of Reasoned Action

## INTRODUCTION

With the advancement of Information and Communication Technologies (ICT), the Internet and web-based resources have grown in popularity among academics for scholarly communication during the last few decades. The establishment of Institutional Repositories (IRs) for the purpose of information dissemination has revolutionized and redefined the relationship between writers, authors, and academic libraries. IRs are electronic systems that record, maintain, and make available academic researchers' intellectual work at a given institution. Furthermore, IRs offer long-term sustainable storage, preservation, and open access to materials. IRs also act as tangible measures of an institution's productivity, improving the visibility, reputation, and worth of the institution. Despite the fact that academic researchers are aware of the IR system, their research and publishing methods have not changed dramatically. The goal of this study is to look at academic personnel at Eastern University Sri Lanka's awareness and attitudes concerning the use of IRs. The EUSL is a State Government university that was established in 1986. Science, Health Care

Sciences, Technology, Commerce and Management, Agriculture, and Arts & Culture are its six faculties. In a study, Jayakanathan & Jeyaraj (2018) stated that the Library EUSL has launched many online digitized services since 2012 for the university community, such as Koha automation, DSpace repositories, VuFind Discovery Catalogues, and a dynamic Web Portal for library users. In particular, the DSpace based Research Gateway ([www.digital.lib.esn.ac.lk](http://www.digital.lib.esn.ac.lk)) is a major digital platform because it consists of research articles, theses, proceedings, student project reports and exam papers, a total of 15000 items.

Pratheepan & Jayakanathan (2018) claimed in a web analytics survey that 57.07 percent of EUSL academic staff used institutional repository (Research Gateway) for their scholarly work. Furthermore, it was discovered that EUSL library digital resources were viewed by 7052 people across the country during the 12-month study period, with a total of 34155 views. The study also found that overseas users have shown a strong interest in the EUSL web portal, particularly for IR. According to the library statistics report, students and academics made up the majority of the 6000 members who used the digital resources. Not only EUSL members, but also the general public, are interested in the research repository. As a result, a more in-depth investigation of the extent to which institutional repository practices have spread among academics is required.



## LITERATURE REVIEW

According to Manchu & Vasudevan (2018), a great majority of university academic scholars are aware with the concept of institutional repositories. The main advantage of adopting institutional repositories was that it improved academics' intellectual communication. The study also recommended that libraries give suitable awareness programs and training to academics about the benefits of using institutional repositories and self-archive publishing, as well as encourage them to deposit their work there. University researchers have low awareness of the institutional repository, according to Manjunatha & Thandavamoorthy (2011), but are interested in contributing their research work to the repository and have a positive attitude toward providing free access to their university's scholarly research results. Copyright concerns, a lack of time, a fear of plagiarism, a self-archiving culture and/or peer pressure, and the compensation system are the primary reasons cited by Tmava (2017) as affecting faculty participation in IR (tenure and promotion). Hedlund (2008) used a special framework of theories on practices in the digital era to describe acceptability and user behavior related institutional repositories. The research also confirmed a successful method, widening the study's theoretical foundation and providing a better knowledge of the research challenges. As a result, there is a need to investigate academic staff understanding of and attitudes toward institutional repositories in a university setting.

## Research Model

Several intention-based theories and models for describing user attitude and use of information technology breakthroughs have been presented and empirically examined over the previous decade. Fishbein and Ajzen proposed the Theory Reasoned Action (TRA) in 1975, Davis and his colleagues introduced the Technology Acceptance Model (TAM) in 1989, Ajzen proposed the Theory of Planned Behavior in 1991, and Roger tested the Diffusion of Innovation (DOI) in 1995. These theories have been used to a wide range of information technologies and populations in many circumstances (Li, 2010). By focusing on the attitude and awareness of academic staff behavior towards use of institutional repositories, which is our current research interest, the Diffusion of Innovation (DOI) and Theory Reasoned Action (TRA) are provide a solid base to explain academic staff attitude towards institutional repositories from a specific perspective and it has much potential in enhancing the understanding of technology usage and adoption (Venkatesh et al. 2003; Kripanont 2007).

Although Fishbein and Azjen created the TRA model in 1975 for sociological and psychological study, it has only lately established a foundation for investigating individuals' IT usage behavior (Kuo, Roldan-Bau & Lowinger, 2015). Any human behavior, according to this paradigm, is anticipated and explained by three primary cognitive components: attitudes, social norms, and intentions. To test and assess the TRA, three boundary criteria are defined: volitional control, intention stability over time, and measurement of intention in terms of target, time, context, action, and specificity.

The DOI studies the diversity of inventions by introducing four factors: time, communication methods (including social media), innovation, and the social structure. The DOI model is comprised of three important components: adopter characteristics, features of an invention, and the decision-making process surrounding innovation. A succession of communication channels among members of a comparable social system over a period of time have enabled the completion of five steps in the innovation decision step: confirmation, knowledge, implementation, decision, and persuasion. This has occurred in the innovation decision step. Five main constructs have been proposed as effective factors in any innovation acceptance, and they are as follows: relative advantage, compatibility, complexity, trialability, and observability. In terms of characteristics of an innovation step, five main constructs have been proposed as effective factors in any innovation acceptance. Early adopters, innovators, laggards, late majority, and early majority are defined in the adopter characteristics stage. Early adopters, innovators, laggards, late majority, and early majority are defined in the adopter characteristics step (Sila, nd). Finally, the DOI places a greater emphasis on system characteristics, organizational traits, and environmental elements than in the past.

**Table 1: DOI and TRA Measuring Statements**

Independent Variable	Measuring Statements
Awareness	I know the presence of the Research Gateway in my university
	I know the Research Gateway's significance
	I understand Research Gateway's mission
	I am familiar with the information on my university's Research Gateway.
	I am aware of the advantages of utilizing Research Gateway.
	I understand how to deposit academic articles at my university Research Gateway
	I learned about Research Gateway from our university library.
	The Research Gateway was brought to my attention by the media.
	My colleagues informed me about Research Gateway.
	My departmental meetings serve as a constant reminder to me.

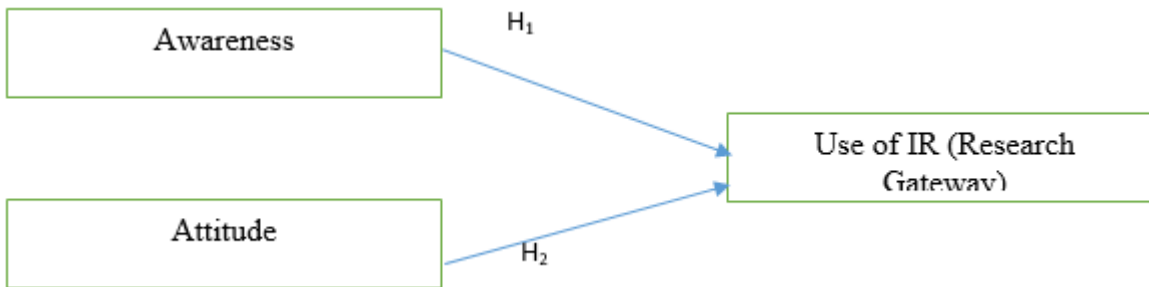
Attitude	Research Gateway services for research are a fantastic idea.
	It's a pleasure to use the Research Gateway.
	When my colleagues have had positive experiences using Research Gateway, I use it.
	When I see others utilizing Research Gateway, I use it as well.
	Most components of my work are compatible with the Research Gateway.
	On a trial basis, I'm using Research Gateway.
	I am able to do my research work more rapidly because to the Research Gateway.
	My work is better because of Research Gateway.
	It is simple for me to learn how to self-archive.
	My colleagues believe I should use Research Gateway.

### Research Hypothesis

The relevance of above DOI and TRA theories the following research hypotheses are formulated.

**H<sub>1</sub>**: There is a considerable association between academics' awareness and use of Research Gateway

**H<sub>2</sub>**: There is a considerable association between attitudes and academics' use of Research Gateway.



### METHODOLOGY

A descriptive survey was conducted among the academic staff at the EUSL for the purpose of this investigation. Out of 329 survey respondents from five different faculties at the university, a simple random sampling procedure was employed to choose a sample of respondents for the survey. In accordance with two theories: the Diffusion of Innovation (DOI) and the Theory of Reasoned Action (TRA), the questionnaire was circulated for a period of six months, from January to June 2021. The questionnaire included questions on fundamental information, awareness level, attitude toward the use of IR, and challenges associated with the use of IR, among other things. In the question, there was a five-point Likert scale choice, which was derived from Bamigbola (2014). In all parts, the Likert scale response options were 'strongly agree,' 'agree,' 'neutral,' 'disagree,' and 'strongly disagree,' with scores ranging from 5 to 1 for each option. The information was entered into SPSS in order to be analyzed further. The theories were tested with the use of correlation and regression analysis.

### RESULTS AND DISCUSSION

The totally 329 questionnaires were issued to users of institutional repositories from various faculties. Professors, senior lecturers, and junior lecturers are among them. 284 out of 329 questionnaires were returned, accounting for 86.3 percent of the total. Because the primary goal of this study was to investigate

academic staff in the EUSL’s awareness and attitudes toward the use of institutional repositories using the proposed research model, it was deemed necessary to understand the descriptive statistics for the population, as this would aid in drawing a reasonable conclusion from the sample. As a result, Table 1 shows the descriptive statistical results according to the research model. There were eleven statements in the awareness section. The respondents agreed that staff employees were sufficiently aware of IR, based on the average response. Similarly, the data reveal a lack of understanding of the nature and purpose of IR among academic employees. According to the findings, the majority of respondents had no idea how to submit their work to their university’s IR. Furthermore, their understanding of the content of their university’s IR was lacking. It implied that the respondents were unfamiliar with their university’s IR. Furthermore, the respondents learned about IR primarily via the university library and their peers.

**Table 2: Awareness Level of Academic Staff**

Statements (Awareness)	Mean	Std. Deviation
I know the presence of the Research Gateway in my university	2.13	.866
I know the Research Gateway’s significance	3.48	.934
I understand Research Gateway’s mission	3.85	1.076
I am familiar with the information on my university’s Research Gateway.	3.05	1.134
I am aware of the advantages of utilizing Research Gateway.	2.87	1.055
I understand how to deposit academic articles at my university Research Gateway	3.66	.994
I learned about Research Gateway from our university library.	3.18	1.046
The Research Gateway was brought to my attention by the media.	3.31	1.120
My colleagues informed me about Research Gateway.	2.18	.825
My departmental meetings serve as a constant reminder to me.	2.19	.736

The results in table 2, which provide the mean response, show that academic personnel mostly use the IR. Also, demonstrate that the employees accept the IR services because their previous experience with them was positive. In addition, the findings imply that IR services and activities boost the performance of academic employees.

**Table 3: Attitude of the Academic Staff**

Statements (Attitude)	Mean	Std. Deviation
Research Gateway services for research are a fantastic idea.	2.19	.750
It’s a pleasure to use the Research Gateway.	2.51	.919
When my colleagues have had positive experiences using Research Gateway, I use it.	2.20	.830
When I see others utilizing Research Gateway, I use it as well.	3.13	.970
Most components of my work are compatible with the Research Gateway.	3.01	.975
On a trial basis, I’m using Research Gateway.	1.81	.714
I am able to do my research work more rapidly because to the Research Gateway.	3.40	.999
My work is better because of Research Gateway.	2.62	.982
It is simple for me to learn how to self-archive.	3.08	.928
My colleagues believe I should use Research Gateway.	2.86	.953



Table 4 summarizes the correlation analysis used to examine the link between the independent and dependent variables (awareness, attitude and use of IR). The current study’s findings reveal that staff awareness has a favorable link with attitude and use of IR ( $p < 0.01$ ). The findings also point to a very significant (at the 0.01 level) link between IR awareness, attitude, and use.

**Table 4: Correlation Analysis**

		Awareness	Attitude	Use of IR
Awareness	Pearson Correlation	1	.197**	.153**
	Sig. (2-tailed)		.001	.000
	N	284	284	284
Attitude	Pearson Correlation	.197**	1	.311**
	Sig. (2-tailed)	.001		.000
	N	284	284	284
Use of IR	Pearson Correlation	.153**	.311**	1
	Sig. (2-tailed)	.000	.000	
	N	284	284	284

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The effect of awareness and attitude toward the use of IR is assessed using multivariate linear regression analysis. The research model is summarized in Table 5.

**Table 5: Regression Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.624 a	.405	.399	.271

a. Predictors: (Constant), Attitude, Awareness

The model explains 40.05% of the variance influence on academic staff’s use of IR. This can be considered as a good model as it is considered higher adjusted R square value. Table 6 represents the regression coefficients of the research model. The results indicate that academic staff awareness positively impacts on the use of IR ( $\beta = .395$ ,  $P < .001$ ). Therefore, H1 is supported. Also, the results show that attitude has a positive effect on the use of IR ( $\beta = .292$ ,  $P < .001$ ). Hence, H2 is supported.

**Table 6: Regression coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1	(Constant)	.649	.421		1.541	.125
	Awareness	.181	.109	.395	1.659	.008
	Attitude	.637	.126	.292	5.069	.000

a. Dependent Variable: Use of IR

## CONCLUSION

The purpose of this study was to fill a research gap in terms of academic staff awareness and attitudes

concerning the usage of IR. The study's findings show that university academic staff are well-versed in the idea of IR. However, they are unsure whether or not to use IR in teaching and learning activities. Although the majority of them have not used IR in their academic activities but they are ready to share their research findings. Independent factors (awareness and attitude) and dependent variables (use of IR) are supported by the proposed investigative study paradigm. Finally, the outcomes of the study indicated that there is a generally good attitude toward IR, and that the use of IR is influenced by both awareness and attitude.

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