

## Usage of Technology Acceptance Model (TAM) by External Users (Parents and Students) of Indian B-Schools in measuring the effectiveness of Human Resource Information System (HRIS) tool

by Sibi Shaji<sup>[a]</sup> & Dr. B. Rose Kavitha<sup>[b]</sup>

### Abstract

Demographic factors refer to the personal characteristics that are used to collect and evaluate data on respondents in a given population for a study. The different analysis made in this article is with respect to the effectiveness of the usage of Human Resource Information System tools being used by the parents and the students of various B-schools, in order to find out the significant difference or similarities or associations in their usage of the tool and thereby derive the effectiveness of the system. The study clearly states that not only the employees are the users of the HRIS tools, but also more than 50% of the external users like parents and students are using the tool on a regular basis. The study indicates that there is no much gender difference in the usage of the HRIS tool. Both the genders almost equally make use of the system. Applying the Technology Acceptance Model with the collected sample data, using t-test, it was found that there is no significant gender difference in terms of Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude towards Use (ATU). But, in terms of Behavioral Intention to Use (BIU) and Actual System Usage (ASU), there is a significant gender difference. The study also indicates that in terms of Parents and Students (external users) using the HRIS tool, there is no significant difference between parents and students in using HRIS tools in terms of Perceived Usefulness (PU), Perceived Ease of Use (PEOU) and Actual System Use (ASU). In terms of Attitude towards use (ATU) and Behavioural Intention to use (BIU), there are significant differences between the parents and the students' usage. The study also brings out the fact that there is significant association between parents and students (external users) i.e., more than 90% of the parents and 85% of the students agree to the availability of HRIS tool in the B-schools. There is also significant association among different genders about the availability of HRIS tool in B-schools. There is a close association between external users (parents and students) and the various activities of the HRIS tool. These significant difference or associations proves the effectiveness of the HRIS tool among the external users (in addition to the internal users – employees).

**Keywords:** *Technology Acceptance Model (TAM), Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Behavioural Intention to Use (BIU), Attitude Towards Use (ATU) and Actual System Use (ASU).*

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## **1. Introduction:**

The study on the effectiveness of HRIS tools is majorly categorized as two aspects based on the kind of respondents: (i) Parents & Students, (ii) The Employees / staff of the B-Schools. This article majorly focuses on the attitude and behavioural intention of students and parents on the actual acceptance of technology and the actual usage of HRIS tools. The demographic factors refer to the particular characteristics that are used to collect and evaluate data on respondents in a given population for a study. The key to competitiveness lies in a proper infrastructure of the Information System (IS) that seamlessly align with the process of the business. Information Systems are used as a tool to improve the service to the customers, reduce the cost and reduces the turnaround time. The different analysis made in this article is with respect to the effectiveness of the usage of Human Resource Information System tools being used by the parents and the students of various B-schools, in order to find out the significant difference or similarities in their usage and thereby derive the effectiveness of the system.

## **2. Literature Review:**

Hisham Al-Mobaideen, et al (2013), describes about the key factors that have an impact on the successful adoption of HRIS tool by the employees in ASEZA with an organization in Jordan. According to this study using the TAM model, the employees of the organization related the successful adoption based on IT infrastructure; but the remaining factors like PU, PEOU has no effect on the successful adoption of HRIS tool. Hisham also suggests that there is a strong foundation of IT infrastructure in ASEZA which contributes in successful IS application.

Dr. Mohammed Owais Quershi, et al (2013), in his study makes an analysis on the number of organizations using Human Resource Information System (HRIS) and its impact on process improvement of HR activities in organizations operating in India. According to this study it has practical and policy implications for the organizations in the Information Technology. The effectiveness of the usage of HRIS tool depends on the type of users: than from the financial sectors, the users from HR professionals, or from business processes identifies significant process improvement by using HRIS tool in their actual activities in the organization.

The unified theory of acceptance and use of Technology (UTAUT) proposes the performance expectancy, effort expectancy, and social influence predict behavioural intention towards the acceptance of information technology. According to Ayankunle Adegbite Taiwo et al (2013), the outcome of their study is that only the relationship between the performance expectancy and behavioural intention is strong, while the relationships between effort expectation, social influence and behavioural intention are weak. The significance of the relationship between facilitating condition and use of behaviour does not pass the fail safe test while the significance of the relationship between behavioural intention and use of behaviour does not pass the fail safe test satisfactorily. According to this study, only the relationship between Perceived usefulness and Behavioural intention is strong while others are slightly weak, but significant.

The review of these papers enabled the researcher to probe into the effectiveness of the HRIS tool in B-schools as the target respondents: both by external and internal users.

### **3. Research Problem:**

The problem of the study is to identify the major factors that have strong effect on the usage of HRIS tool by the external users (parents and students) of the B-schools in India. The aim of the study in this paper is to answer the following questions:

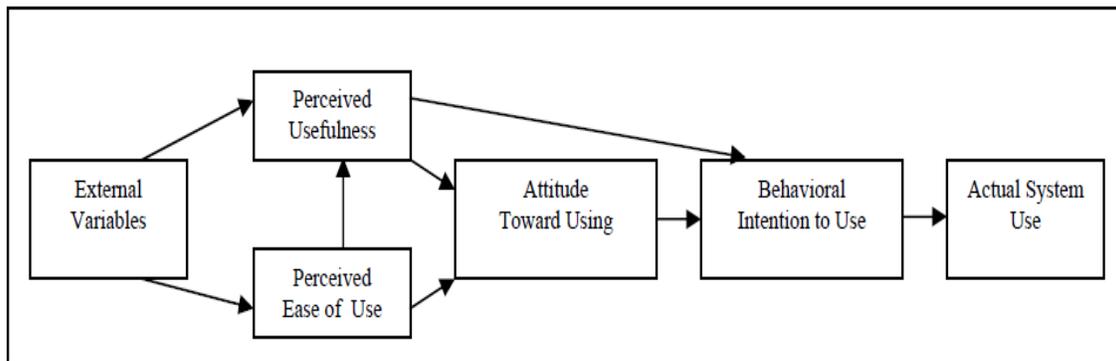
- a. What percentage of parents and students are actually involved in the usage of the HRIS tool?
- b. Is there a gender based response in terms of effectiveness of using the tool in accepting variables of the model like Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude towards Use (ATU), Behavioral intention toward use (BIU) and the Actual System Usage (ASU).
- c. Is there an association or differences in terms of parents or students in accepting the HRIS tool usage and for its availability?

### **4. Research Aim and Objectives:**

- a. To test whether the Technology Acceptance Model (TAM) can be used in testing the above listed Research problems.
- b. To examine the impact of HRIS tool among the external users or their adoption level in terms of types of external users or gender.
- c. To understand the importance of individuals accepting the technology and using the same and at what levels.

### **5. Background and Theoretical Framework:**

The volume of data and information that is multiplied widely led to the management of Information Systems (MIS) where the initial The study involves the usage of Technology Acceptance Model (TAM) to understand the acceptance level of technology in the usage of the HRIS tool. TAM is an intension based model developed particularly for predicting the user acceptance of computer Technology. [Maslin Masrom, 2007]. The application of attributes like Perceived Usefulness (PU), Perceived Ease of Use (PEOU) are the predictors of the users' attitude and behavior towards the technology users.



**Figure 5.1: Technology Acceptance Model (TAM):**

Source: Davis (1989) Technology Acceptance Model (TAM)

This Technology Acceptance Model (TAM) is used in the study to set the Hypotheses and to prove that the effectiveness of the usage of Actual system i.e., Human Resource Information System Tool according to the study purely depends on the Perceived Usefulness (PU), and the Perceived Ease of Use (PEOU), which directly influence and the Attitude of the user which leads to the effective actual usage of the final system.

## **6. Methodology: (Result and Discussion)**

The researchers study on this article focuses on the external users (parents and students) who use the HRIS tool. The study is to understand the depth of the effectiveness of the usage of the HRIS tool in Indian B-schools. The study is majorly categorized as two aspects based on the kind of respondents: (i) Parents & Students, (ii) The Employees / staff of the B-Schools. The study involved random sampling dividing the country demographics into 4 zones as North and Central, North East, West and South which includes 20 states and 81 B-schools with 493 respondents rounded off to 500 responses (from the employees) and 291 respondents rounded off to 300 responses (from parents and students).

The questionnaire - 1 included the general details of the respondents, the demographic details, and structured questionnaire on the various attributes of the Technology Acceptance Model (TAM) like Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude Towards Use (ATU), and Behavioural Intention Towards Use (BIU) and Actual System Use (ASU).

The questionnaire-2 was prepared to obtain feedback / responses from the other angle i.e., Parents and Students. This resulted in obtaining around 291 respondents rounded off to 300 respondents.

## 7. Data Analysis:

The study involved parents and students as respondents who were given structured questionnaires to respond. From the sample that was taken, it was revealed that close to 50% of the external users – parents and students are already using the HRIS tool effectively. This awareness has to be widened in order for the remaining respondents to make use of the tool, thereby the effectiveness and the usage is increased.

### 7.1 Frequency analysis based on HRIS users:

Here is the frequency analysis based on the type of users (parents /students)

**Table 7.1: Frequency Analysis based on HRIS users**

Users	Frequency	Percentage (%)
Parents	155	52%
Students	145	48%
Total	300	100%

The Table 7.1 indicates the frequency analysis of the external users (respondents – parents and students). From the analysis it known that 52% of parents and 48% of students are using the HRIS tool on a regular basis.

### 7.2 Frequency Analysis based on Gender:

Here is the frequency analysis based on the gender of the respondent.

**Table 7.2: Frequency Analysis based on Gender of HRIS users**

Gender	Frequency	Percentage (%)
Male	138	46%
Female	162	54%
Total	300	100%

The Table 7.2 indicates the frequency analysis of the external users (respondents – parents and students). The analysis indicates that there is no much difference in terms of gender – male / female. 46% of the male and 54% of the female gender are already using the HRIS tool on regular basis.

### 7.3 t-test with Gender (parents and students)

The t-test is conducted with respect to Gender and the different variables used in the model to find out if there is any significant difference between the two gender male / female. The hypotheses set are listed below:

**Hypotheses:**

H<sub>01</sub> There is no significant difference between male and female with respect to Perceived Usefulness (PU)

H<sub>02</sub> There is no significant difference between male and female with respect to Perceived Ease of Use (PEOU)

H<sub>03</sub> There is no significant difference between male and female with respect to Attitude Towards Use (ATU)

H<sub>04</sub> There is no significant difference between male and female with respect to Behavioural Intention towards Use (BIU)

H<sub>05</sub> There is no significant difference between male and female with respect to Actual System Usage (ASU)

**Table 7.3: t-test with Gender difference**

Attribute	Gender	N	Mean	t value	p value
PU	Male	138	3.85	5.92	.016
	Female	162	3.92		
PEOU	Male	138	3.91	.321	.572
	Female	162	3.92		
ATU	Male	138	4.11	2.192	.141
	Female	162	3.97		
BIU	Male	138	3.76	14.47	.000**
	Female	162	3.94		
ASU	Male	138	1.00	49.35	.000**
	Female	162	1.14		

\*\* Significant at 1% level; \* Significant at 5% level

The result of Table 5.3 indicates that the t-Test is done with respect to Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude Towards Use (ATU), Behavioral Intention Towards Use (BIU) and Actual System Usage (ASU) between the genders Male and Female. From Table 5.3 it is understood that the p value is greater than 0.05 (5% level significance) with respect to H<sub>01</sub>, H<sub>02</sub>, and H<sub>03</sub> (PU, PEOU, ATU). I.e., the null hypothesis is accepted. I.e., There is no significant difference in using HRIS tool with respect Gender in terms of Perceived Usefulness, Perceived Ease of Use, and, Attitude towards Use. Whereas, in the case of BIU and ASU, the p value is less than 0.01 (1% level significance). Hence the null hypothesis is rejected and the alternate hypothesis is accepted. I.e., There is significant difference between Gender in using HRIS tool with respect to Behavioral intention towards use (BIU) and Actual system Usage (ASU).

#### 7.4 t-Test with users (Parents and Students)

A t-test was done to find if there is any significant difference in terms of external users – parents / students with respect to the various variables used in the model for the study. The hypotheses are set and are listed below:

**Hypotheses:**

H<sub>0 1</sub> There is no significant difference between Parents and Students with respect to Perceived Usefulness (PU)

H<sub>0 2</sub> There is no significant difference between Parents and Students with respect Perceived Ease of Use (PEOU)

H<sub>0 3</sub> There is no significant difference between Parents and Students with respect to Attitude Towards Use (ATU)

H<sub>0 4</sub> There is no significant difference between Parents and Students with respect to Behavioral Intention Towards Usage (BIU)

H<sub>0 5</sub> There is no significant difference between Parents and Students with respect to Actual System Usage (ASU)

**Table 7.4: t-Test with Gender (Parents and Students)**

Attribute	Gender	N	Mean	t value	p value
PU	Parent	155	3.95	5.92	.000**
	Student	145	3.83		
PEOU	Parent	155	3.94	.321	.026
	Student	145	3.90		
ATU	Parent	155	4.02	2.192	.225
	Student	145	4.05		
BIU	Parent	155	3.87	14.47	.464
	Student	145	3.84		
ASU	Parent	155	1.10	49.35	.041
	Student	145	1.05		

The result of Table 5.4 indicates that the t-Test is done with respect to Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude Towards Use (ATU), Behavioral Intention Towards Use (BIU) and Actual System Usage (ASU) between the respondents Parents and Students. From Table 5.4 it is understood that the p value is less than 0.05 (5% level significance) with respect to H<sub>01</sub>, H<sub>0 2</sub>, and H<sub>0 5</sub> (PU, PEOU, ASU). I e., the null hypothesis is rejected and the alternate hypothesis is accepted. I e, There is significant difference between Parents and Students with respect to Perceived Usefulness, Perceived Ease of Use, and, Attitude System Usage. Whereas, in the case of BIU and ATU, the p value is greater than 0.05 (% level significance): hence the null hypothesis is accepted. i.e There is no significant difference between Parents and Students with respect to Attitude Towards Usage and Behavioral Intention Towards Usage (BIU)

### 7.5 Chi Square Test based on Association of Parents and students with respect to Availability of HRIS tool:

Chi Square test is the statistical method assessing the goodness of fit between a set of observed values and those expected theoretically. Below given is the study using Chi square test to find out if there is any significant difference or variation or association between any two entities used in the study

The Chi Square test is conducted based on type of respondents – Parents & Students to understand if there is any association between Parents and Students, and the availability of HRIS tool.

#### Hypothesis:

H<sub>01</sub> There is no significant association between the kind of respondents and the availability of HRIS tool in B-Schools

H<sub>11</sub> There is significant association between the kind of respondents and the availability of HRIS tool in B-schools

**Table 7.5: Chi Square table for kind of Respondents and Availability of HRIS tool**

			Availability of HRIS tool		Total
			Yes	No	
Users	Parents	Count	140	15	155
		% within Users	90.3%	9.7%	100.0%
	Students	Count	125	20	145
		% within Users	86.2%	13.8%	100.0%
Total	Count		265	35	300
	% within Users		88.3%	11.7%	100.0%

**Table 7.5.1: CHI SQUARE TEST RESULT**

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	64.380 <sup>a</sup>	1	.000
Continuity Correction	63.361	1	.000
Likelihood Ratio	65.175	1	.000
N of Valid Cases	300		

Significant at 1% level of significance

The survey shows that 90.3% of parents and 86.2% of students agree to the fact that HRIS tool is available. 9.7% of parents and 13.8% students out of the total respondents' state that there is no HRIS tool available. From the result it was understood that majority of the Parents and Students agree to the fact that there is a proper HRIS tool available in their B-Schools. This indicates that there is a fair knowledge about the HRIS tool among the students and the parents. According to the result, the p value is less than 0.01 (1% level significance). Hence, the null hypothesis is rejected and the alternate hypothesis is accepted. I.e, There is significant association between the kind of respondents (Parents & Students) and the availability of HRIS tool.

### 7.6. Chi Square Test based on Association between Gender and The Availability of HRIS Tool In The B-Schools:

The Chi Square test is conducted to know whether there is any association with gender and is the availability of HRIS tool in the B-schools.

#### Hypothesis:

H<sub>0</sub> There is no association between gender and the availability of HRIS tool in the B-schools

H<sub>1</sub> There is association between gender and the availability of HRIS tool in the B-schools

**Table 7.6: Chi Square table for Gender and Availability of HRIS tool**

			Availability of HRIS tool		Total
			Yes	No	
Gender	Male	Count	125	13	138
		% within Gender	90.9%	9.1%	100.0%
	Female	Count	140	22	162
		% within Gender	86.2%	13.8%	100.0%
Total		Count	265	35	300
		% within Gender	88.3%	11.7%	100.0%

**Table 7.6.1: CHI SQUARE TEST RESULT**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.280 <sup>a</sup>	1	.002
Continuity Correction	6.261	1	
Likelihood Ratio	6.175	1	
N of Valid Cases	300		

Significant at 1% level of significance

The result of Table 6 indicates that 90.9% of male gender and 86.2% of female gender agrees that HRIS tool is available in B-Schools. 9.1% of male and 13.8% of female gender says that there is no HRIS tool available in the B-schools out of the samples taken from Parents and students.

From the above result it is understood that majority of male and female gender agrees about the availability of HRIS tool in the B-schools. Only a small percent is to be trained and awareness need to be created on the availability of HRIS tool in B-schools. The result of Table 5.6.1 states that p value is 0.02 which is greater than 0.01 (1% level significance). Hence the null hypothesis is rejected and the alternate hypothesis is accepted. i.e, there is association between gender and the availability of HRIS tool in the B-schools.

### **8. Discussion and findings:**

- 1) Around 52% of the parents and 48% of the students of B-school are aware of the availability of HRIS tool in B- schools and use them regularly.
- 2) Out of the external users, 46% of the male and 54% of the female are using the HRIS tools effectively.
- 3) There is no significant difference in using HRIS tool with respect Gender in terms of Perceived Usefulness, Perceived Ease of Use, and, Attitude towards Use. Whereas, in the case of BIU and ASU, there is significant difference between Gender in using HRIS tool with respect to Behavioral intention towards use (BIU) and Actual system Usage (ASU).
- 4) There is significant difference between Parents and Students with respect to Perceived Usefulness, Perceived Ease of Use, and, Attitude System Usage. Whereas, in the case of BIU and ATU, there is no significant difference between Parents and Students with respect to Attitude Towards Usage and Behavioral Intention Towards Usage (BIU)
- 5) There is significant association between the kind of respondents (Parents & Students) and the availability of HRIS tool.

## 9. Conclusion and Recommendations:

The study proves that in addition to the employees or the internal users of HRIS tools in their institutions / organizations, there are also external users like students and parents who are effectively using the tool. The study from this article draws clear conclusion that around 50% of the parents and students, irrespective of the gender difference are using the HRIS tool. The study further also indicated that there is no significant difference or significant association between / amongst the Perceived Usefulness (PU), Perceived Ease of Use (PEOU), with respect to the external users – parents and students. However, the study states that in terms of Behavioural intention of use (BIU) and Attitude towards use (ATU), there are significant differences and associations. Hence, the TAM model is an efficient model to find the effectiveness of HRIS tool in Indian B-Schools.

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