The information and communication technologies (ICT) and Internet tools are important in learning environments.

There are issues that can affect the potential benefits of e-learning systems [8].

Since 2008 there have been profound changes to higher education among students in Ecuador.

Research on technology acceptance is carried out in the USA [20], not enough of in Latin America.

Therefore, it was important to investigate the students’ acceptance of e-learning system in Ecuador.

In 1986 technology acceptance model (TAM) of F. Davis was created [13]. It is based on the theory of reasoned action of Fishbein and Ajzen.

**Objective**

To adapt a model that describes the behavior of use and intended use of e-learning systems students in Ecuador based on the TAM.

**Fig. 1. Research Model**

**Fig. 2. Structural Paths (no significant paths are underlined)**

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**Material and methods**

Survey using seven-point Likert scale
- 400 undergraduates and graduates (66% response rate) from Ecuador in 2014
- It included 35 adapted items [25, 26, 27, 28, 29, 30, 31]
- Voluntary and anonymous participation

Data processing
- Obtained with a web tool
- R software packages (plspm, lavaan)
- Structural equation modeling (SEM)
- Confirmatory factor analysis (CFA)
- Partial least squares (PLS)

**SEM**

Maximum likelihood
A set of indexes fit

**Table 1 SEM Statistics of Model Fit**

<table>
<thead>
<tr>
<th>Model goodness-fit indexes</th>
<th>Recommended value</th>
<th>Result in this study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-squared (χ²)</td>
<td>1295.213 *</td>
<td>1295.213 *</td>
</tr>
<tr>
<td>Degrees of freedom (df)</td>
<td>481</td>
<td></td>
</tr>
<tr>
<td>Chi-square/degree of freedom</td>
<td>≤ 3.00</td>
<td>2.618</td>
</tr>
<tr>
<td>Comparative Fit Index (CFI)</td>
<td>≥ 0.90</td>
<td>0.940</td>
</tr>
<tr>
<td>Tucker-Lewis Index (TLI)</td>
<td>≥ 0.90</td>
<td>0.930</td>
</tr>
<tr>
<td>Root Mean Squared Error of Approximation (RMSEA)</td>
<td>≤ 0.08</td>
<td>0.078</td>
</tr>
<tr>
<td>Standardized Root Mean Square Residual (SRMR)</td>
<td>≤ 0.08</td>
<td>0.068</td>
</tr>
</tbody>
</table>

**Note:** N = 263, * p < 0.05

The hypothesis can be accepted except H2.1 (influence of computer self-efficacy on perceived usefulness).

**Results**

**Discussion and Conclusions**

The PEOU stands out as the most important factor that influences the BI of using e-learning systems in Ecuadorian students.

This work was characterized by the inclusion of TS, SN and CSE.

Implementation of e-learning systems should focus on the social context and not on the technological one.