The Role of Perceived Learning Performance and Learner Expectation on Virtual Learning Use Continuity

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Background of the Study

The future age must be known as "Virtual Age" since during this era, IT can make a virtual feature for any phenomenon, e.g. **E-Commerce**, **E-Shopping**, **E-Banking**, **E-Entertainment**, E-Learning (Behroozi et al., 2014).

A platform for learning resources like **Learning material**, **announcements, assignments**, **discussions and group work**, and **quizzes** and **tests** (Ho, W et al., 2009)

It is suggested, conceivably, that the success of any virtual learning environment depends on the adequate skills and attitudes of **learners** (Lee et al., 2001)

Also the **instructor's teaching style** and **attitudes** (Al-Adwan, A. S., (2021).

Instructor characteristics include **timely response, technical knowledge**, **confidence** and **innovativeness** (Alrousan, M. K., et al., 2021)

There is a **sensory relationship requirement** (Alarabiat et al., 2021)

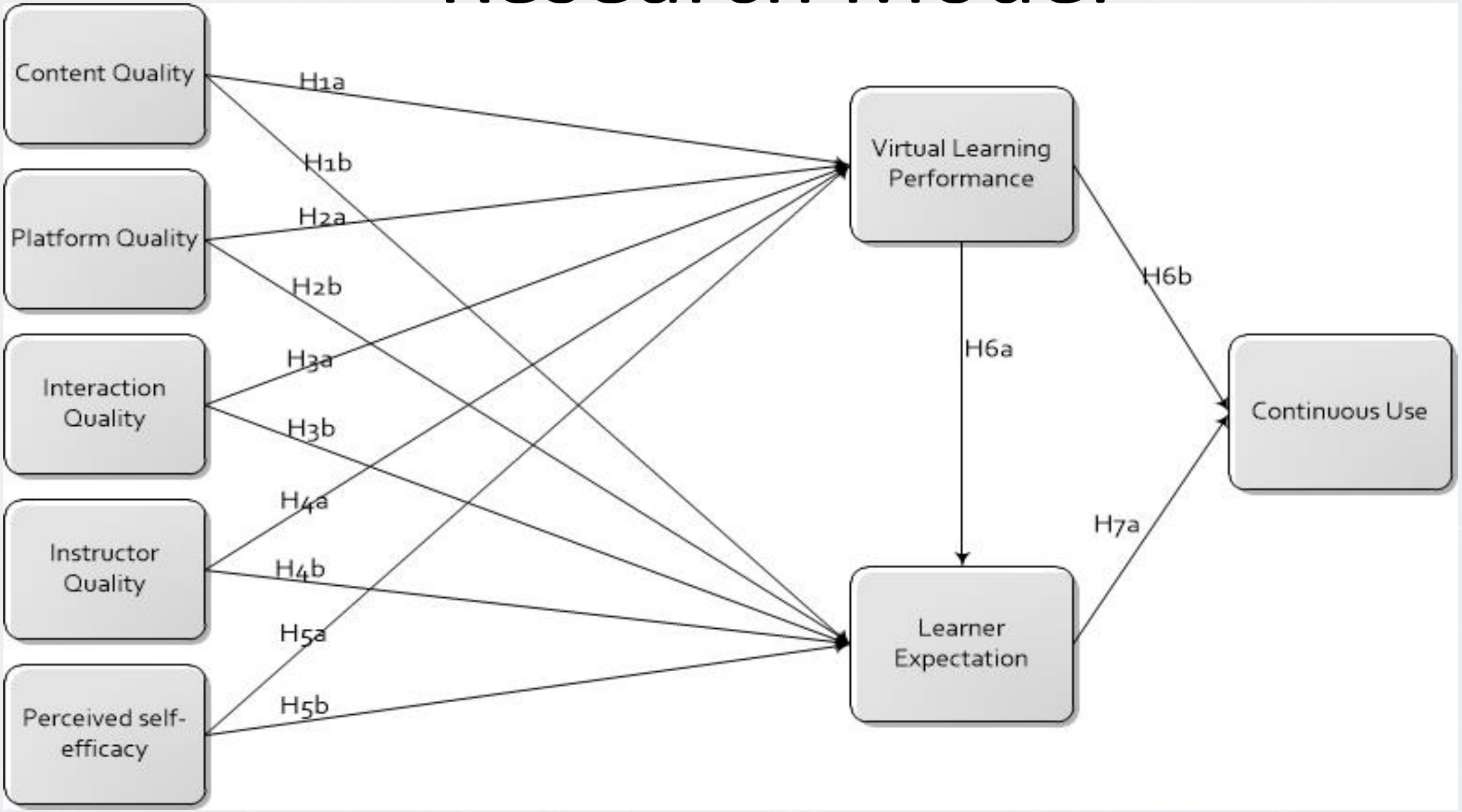
Learning Performance and Learner Expectation

- In general, Learning Performance is effective in bonding social capital (Diep, N. A., et al., M. (2017).
  - **The process**, **the results**, **the skill, the time,** (Moccozet, L. (2012)
- Expectation is used to interpret student expectation from such virtual learning experiences (Bessadok, 2022)
  - Learner's belief that they system will help perform well in their job (Keller, C, 2005)
  - Positive relationship between performance expectancy and continuance intention (Mohammadyari, S., & Singh, H. (2015)

- Learning Contents that is **update**, **comprehensive**, and suitable to **meet learner's expectation** (Al-Adwan, A. S., (2021).

  – **well designed**, **easy to understand**, **interesting** (Akugizibwe, E., & Ahn, J. Y., 2020)

Research Model



The Variables of the Research Model

Factors	Description	Reference
Content quality	The learning material and personal needs. It include content attributes like accuracy, usefulness, reliability, comprehensibility, availability, relevancy, completeness, and being up-to-date	[1], [2], [3], [4]
Platform Quality	Could be described as the performance of the IS in terms of reliability, convenience, ease of use, functionality, and other system metrics	[5], [6]
Interaction Quality	The extent to which the learners believe the constructive and reflective conversations with peers online contributed to their learning motivation and knowledge construction	[7], [8], [9]
Instructor Quality	The degree to which learners perceive that the instructor's attitude that relates to the instructor's response, timeliness, teaching style, and help toward learners	[10], [9], [3]
Continuous Use	Student's feeling and intention regarding to continue using the virtual learning system	[11], [4]
Perceived Learning Performance	A measure of how well students are learning in terms of knowledge and skills development	[10], [4], [12]
Learner Expectation	The expectation is what a student believes will happen in the future [regarding their learning career]	[12]
Perceived self-efficacy	The belief in one's capabilities to organize and execute the courses of action required to manage prospective situations	[13]

Methodology

Data Analysis:
SPSS v24 and PLS-SEM with Smart-PLS 4.0

Research Design: Quantitative : survey research design.

Instrument Validation:
Existing literature

Measurement Scale: 5 point Likert Scale

The Methods and Techniques

Population:
Students at higher learning institutions

Instrument:
Questionnaire

Sampling Method:
Purposive sampling(Rowley, 2014; (Chua, 2012)

Sample Size: 243 responses

Methodology (Cont..)

Measures and Questionnaire

- The items were sourced from the literature
- **Content quality** from (Ojo, 2017), (Wu et al., 2010), (Al-Adwan et al., 2021), (Tawafak et al., 2020), **platform quality** from (Jargalsaikhan et al., 2019), (Gu et al., 2021), **interaction quality** from (Sun et al., 2008), (Diep et al., 2017), (Kim et al., 2022), **instructor quality** from (Gopal et al., 2021), (Kim et al., 2022), (Al-Adwan et al., 2021), **continuous use** from (Alarabiat et al., 2021), (Tawafak et al., 2020), **Learner expectation** from (Bessadok, 2022), **perceived self-efficacy** from (Alrousan et al., 2022), and perceived virtual **learning performance** from (Gopal et al., 2021), (Tawafak et al., 2020)

Sample and Data Collection

- Online Questionnaire
- 243 valid Responses
- About 90% below 30
- 83% single
- 66% (male) and 34% (female)
- Education level: most of them Bachelor's Degree

Results

Data Analysis with PLS-SEM

Assessment of Measurement Model

- Examining individual item reliability: **used outer loadings and AVE**
- Ascertaining internal consistency reliability: **Composite reliability**
- Ascertaining discriminant validity: **Fornell & Larcker Criterion and Cross-loadings**

Assessment of Structural Model

- Assessing the significance of path coefficients
- Coefficient of Determination (R^2)
- Determining the effect size (f^2)

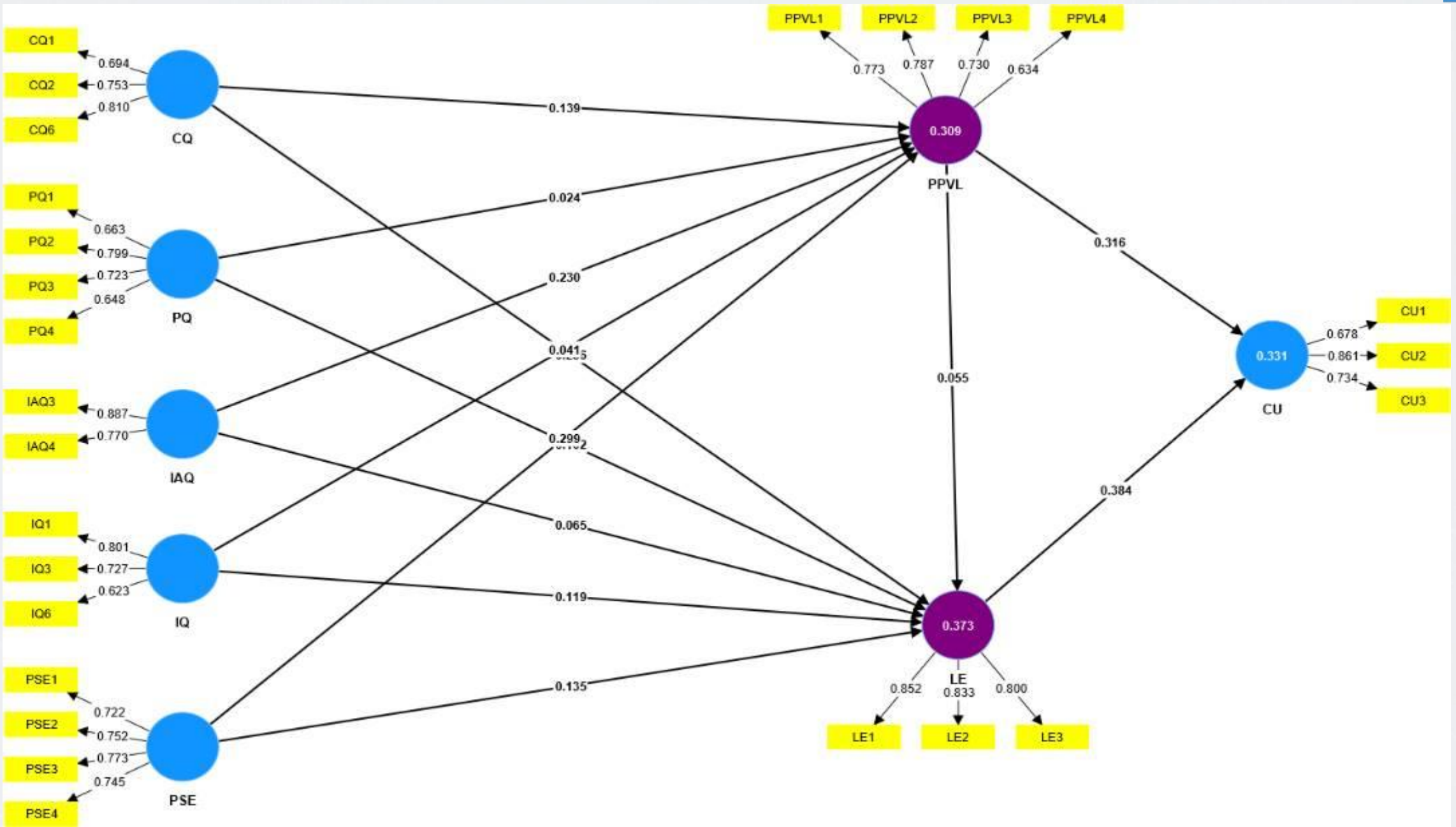
Construct	Items	Outer Loading	CR	AVE
Content Quality	CQ1 <- CQ	0.648	0.812	0.521
	CQ2 <- CQ	0.783		
	CQ3 <- CQ	0.681		
	CQ6 <- CQ	0.766		
Continuous Use	CU1 <- CU	0.702	0.810	0.588
	CU2 <- CU	0.847		
	CU3 <- CU	0.744		
Interaction Quality	IAQ3 <- IAQ	0.883	0.806	0.676
	IAQ4 <- IAQ	0.757		
Instructor Quality	IQ1 <- IQ	0.779	0.791	0.558
	IQ2 <- IQ	0.762		
	IQ3 <- IQ	0.698		
Learner Expectation	LE1 <- LE	0.847	0.871	0.692
	LE2 <- LE	0.840		
	LE3 <- LE	0.808		
Perceived Performance	PP1 <- PP	0.758	0.833	0.555
	PP2 <- PP	0.799		
	PP3 <- PP	0.754		
	PP4 <- PP	0.663		
Platform Quality	PQ1 <- PQ	0.683	0.800	0.501
	PQ2 <- PQ	0.779		
	PQ3 <- PQ	0.686		
	PQ4 <- PQ	0.679		
Perceived self-efficacy	PSE1 <- PSE	0.737	0.838	0.564
	PSE2 <- PSE	0.742		
	PSE3 <- PSE	0.775		
	PSE4 <- PSE	0.751		
	LE x PPVL -> LE x PPVL	1.000		

Discriminant Validity (Cross-loadings and Fornell & Larcker Criterion

Constructs	CQ	CU	IAQ	IQ	LE	PPVL	PQ
CQ	**0.722**						
CU	0.412	**0.767**					
IAQ	0.319	0.359	**0.822**				
IQ	0.432	0.403	0.352	**0.747**			
LE	0.582	0.497	0.336	0.407	**0.832**		
PPVL	0.396	0.454	0.399	0.329	0.357	**0.745**	
PQ	0.611	0.415	0.35	0.381	0.464	0.347	**0.708**
PSE	0.507	0.463	0.361	0.505	0.478	0.483	0.487

Constructs	CQ	CU	IAQ	IQ	LE	PPVL	PQ	PSE
CQ1	**0.694**	0.268	0.166	0.183	0.306	0.218	0.365	0.376
CQ2	**0.753**	0.321	0.295	0.222	0.353	0.263	0.432	0.298
CQ6	**0.810**	0.252	0.207	0.265	0.479	0.341	0.481	0.389
CU1	0.068	**0.678**	0.263	0.200	0.268	0.327	0.247	0.260
CU2	0.365	**0.861**	0.324	0.335	0.456	0.414	0.370	0.427
CU3	0.363	**0.734**	0.140	0.286	0.382	0.275	0.339	0.341
IAQ3	0.233	0.355	**0.887**	0.365	0.324	0.360	0.273	0.375
IAQ4	0.265	0.156	**0.770**	0.219	0.181	0.302	0.269	0.198
IQ1	0.269	0.269	0.241	**0.801**	0.372	0.221	0.277	0.462
IQ3	0.151	0.262	0.243	**0.727**	0.270	0.238	0.321	0.400
IQ6	0.228	0.266	0.316	**0.623**	0.167	0.294	0.239	0.330
LE1	0.451	0.394	0.220	0.346	**0.852**	0.298	0.418	0.396
LE2	0.429	0.450	0.303	0.332	**0.833**	0.307	0.411	0.429
LE3	0.406	0.380	0.259	0.276	**0.800**	0.259	0.354	0.323
PPVL1	0.260	0.418	0.376	0.300	0.295	**0.773**	0.272	0.339
PPVL2	0.317	0.341	0.248	0.258	0.355	**0.787**	0.356	0.414
PPVL3	0.271	0.238	0.276	0.247	0.175	**0.730**	0.146	0.347
PPVL4	0.244	0.299	0.272	0.183	0.157	**0.634**	0.191	0.304
PQ1	0.354	0.252	0.216	0.294	0.260	0.202	**0.663**	0.354
PQ2	0.477	0.390	0.255	0.331	0.430	0.285	**0.799**	0.411
PQ3	0.391	0.277	0.237	0.235	0.364	0.238	**0.723**	0.307
PQ4	0.391	0.260	0.209	0.237	0.269	0.233	**0.648**	0.331
PSE1	0.292	0.318	0.180	0.413	0.336	0.304	0.332	**0.722**
PSE2	0.372	0.375	0.269	0.425	0.352	0.346	0.423	**0.752**
PSE3	0.332	0.286	0.285	0.378	0.320	0.417	0.386	**0.773**
PSE4	0.403	0.394	0.328	0.451	0.382	0.364	0.334	**0.745**

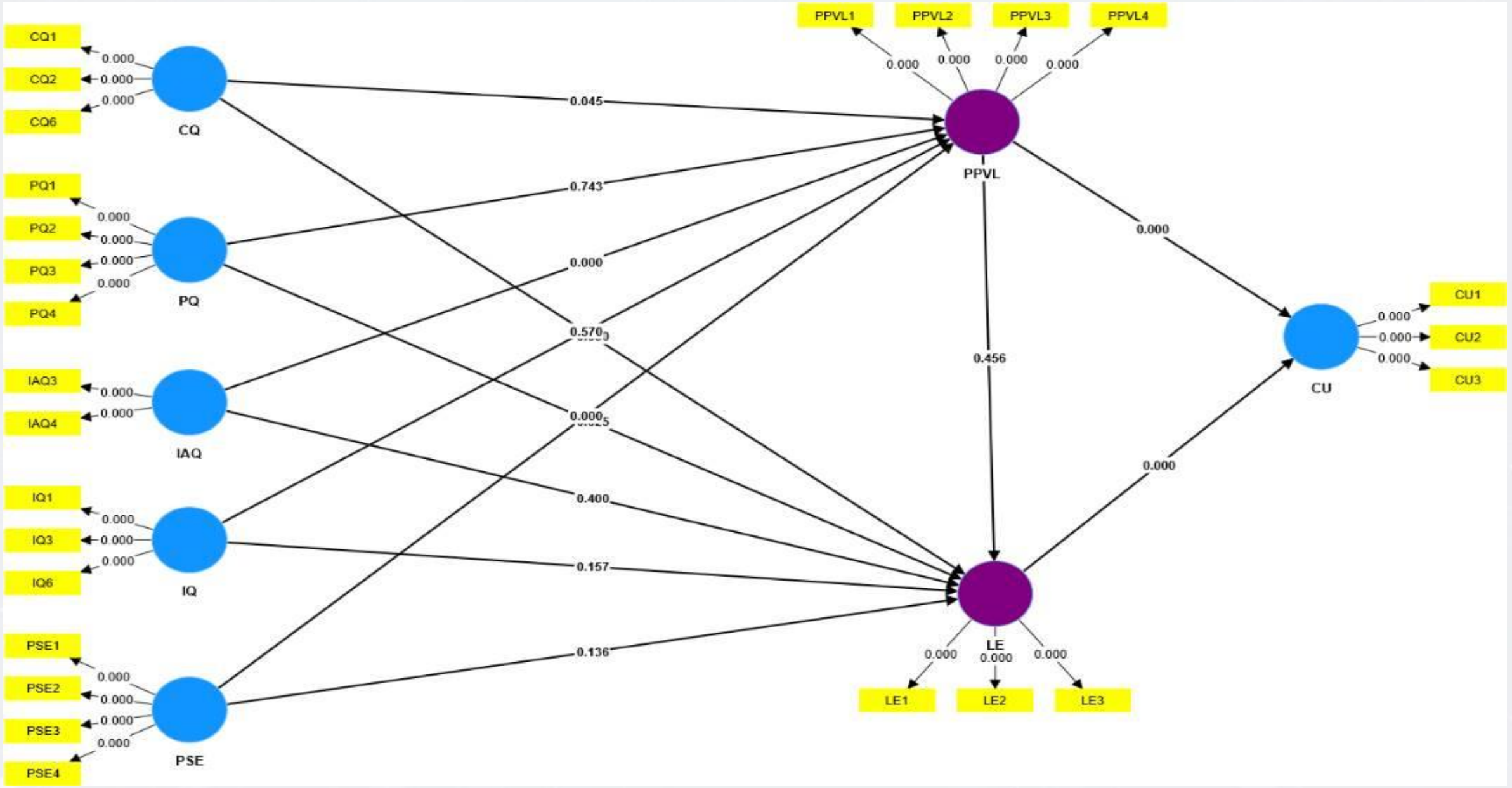
The Measurement Model



Path Coefficient

Path Coefficients	Original sample (O)	Sample mean (M)	STDEV	T statistics	P values	Decision
CQ -> LE	0.286	0.287	0.064	4.482	0.000	Supporte
CQ -> PPVL	0.139	0.140	0.069	2.009	0.045	Supported
IAQ -> LE	0.065	0.067	0.077	0.842	0.400	Not Supported
IAQ -> PPVL	0.230	0.227	0.065	3.555	0.000	Supported
IQ -> LE	0.119	0.125	0.084	1.414	0.157	Not Supported
IQ-> PPVL	0.041	0.044	0.071	0.567	0.570	Not Supported
LE -> CU	0.384	0.384	0.068	5.629	0.000	Supported
PPVL -> CU	0.316	0.319	0.070	4.517	0.000	Supported
PPVL -> LE	0.055	0.058	0.074	0.746	0.456	Not Supported
PQ -> LE	0.162	0.161	0.072	2.247	0.025	Supported
PQ -> PPVL	0.024	0.028	0.072	0.328	0.743	Not Supported
PSE -> LE	0.135	0.133	0.090	1.489	0.136	Not Supported
PSE -> PPVL	0.299	0.299	0.082	3.653	0.000	Supported

The Structural Model



Conclusion

- Quality content meets students expectation and contributes to their performance in learning
- Interaction quality quality highly contributes to the students' performance
- Higher expectation also begets continuous use in virtual learning applications
- Learning Performance contributes to continuity as well
- Students put a higher expectation on learning platforms
- Students' perceived self efficacy leads to their performance in virtual education

END