ILSAS CONFERENCE ON LEARNING & DEVELOPMENT (ICLAD) 2019

Mövenpick Hotel & Conference Centre, 2-3 October 2019

"THE PERCEPTION TOWARDS E-LEARNING SYSTEM FOR COMPETENCY TRAINING AMONG NON-EXECUTIVE EMPLOYEES IN UTILITY COMPANY"

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Contents

- Introduction
- Objective
- Theoretical Framework
- Methodology
- Results & Discussion
- Conclusion
- Future Recommendations

Introduction

Problem Statement

- The organization contains **employees with different background** and this might differentiate their insight towards new technology
- The application of e-learning system with regards to training will require the employees to be acquainted with **digital technology practice**
- Decision-makers consider that the implementation of e-learning programs in educational institutions **may results in an abrupt change in both content and styles of pedagogy**
- **High dropout cases** show the lack of interest on new approach of learning via e-learning rather than the traditional way of learning which is through classroom methods
- The adaptation of e-learning in competency training will **influence learning in general**. The impact will be on the employees' confidence level, interest, practice, enjoyment, progression, knowledge gain and attitude change.
- The issues that raised in this situation is whether this new approach of training, specifically with new learning materials, will be able to **positively impact the employee in term of their competency.**

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Introduction

Literature Review

- The important factors that should be considered are **learners' perception of, attitude towards and intention to use e-learning**

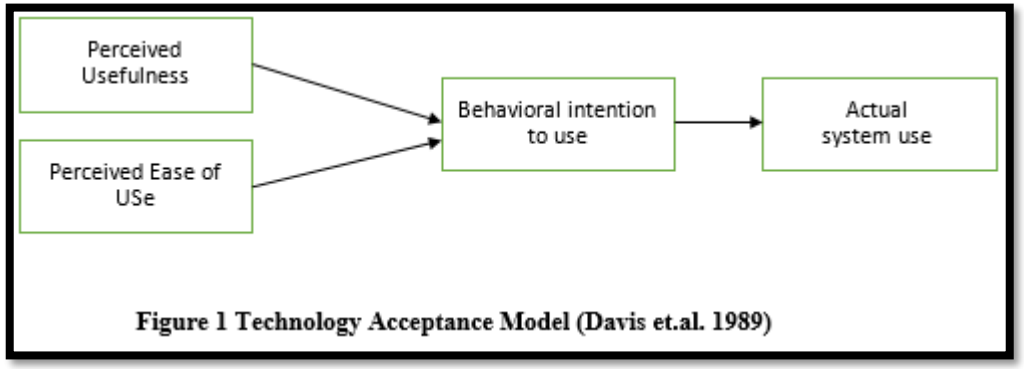

Figure 1 Technology Acceptance Model (Davis et.al. 1989)

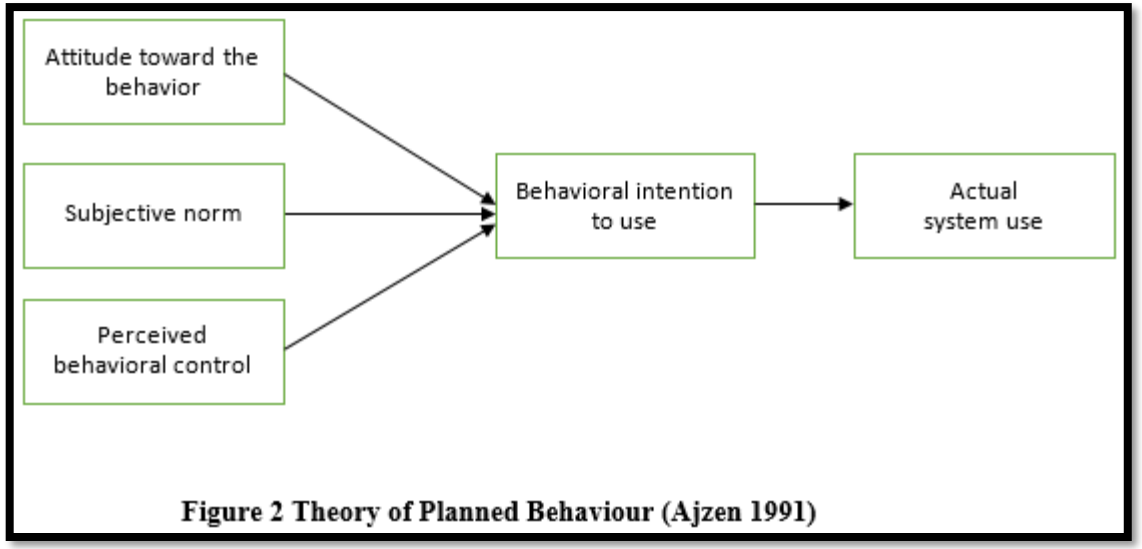

Figure 2 Theory of Planned Behaviour (Ajzen 1991)

Objective

Research Objectives

- The aim of this study is to **explore the perception of employees from a utility company** as they will be using e-learning as their training system in the near future. By having the insight of the employees, this can help the management to formulate the possible concerns needed due to the introduction of new technology among its employees. The objectives of the study are suggested as below:

  i. **To identify the relationship** of Perceived Usefulness, Perceived Ease of Use, Perceived Behavioral Control, Subjective Norms, and Organizational Management Support towards the Behavioral Intention to use e-learning for training purpose.

  ii. **To recognize the influence** of Perceived Usefulness, Perceived Ease of Use, Perceived Behavioral Control, Subjective Norms, and Organizational Management Support towards the Behavioral Intention to use e-learning for training purpose.

Research Hypotheses

- There is a **significant relationship** between Perceived Usefulness, Perceived Ease of Use, Perceived Behavioral Control, Subjective Norms, Organizational Management Support and the Behavioral Intention to use e-learning for training purpose.
- There is a **significant influence** of Perceived Usefulness, Perceived Ease of Use, Perceived Behavioral Control, Subjective Norms, Organizational Management Support and the Behavioral Intention to use e-learning for training purpose.

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Theoretical Framework

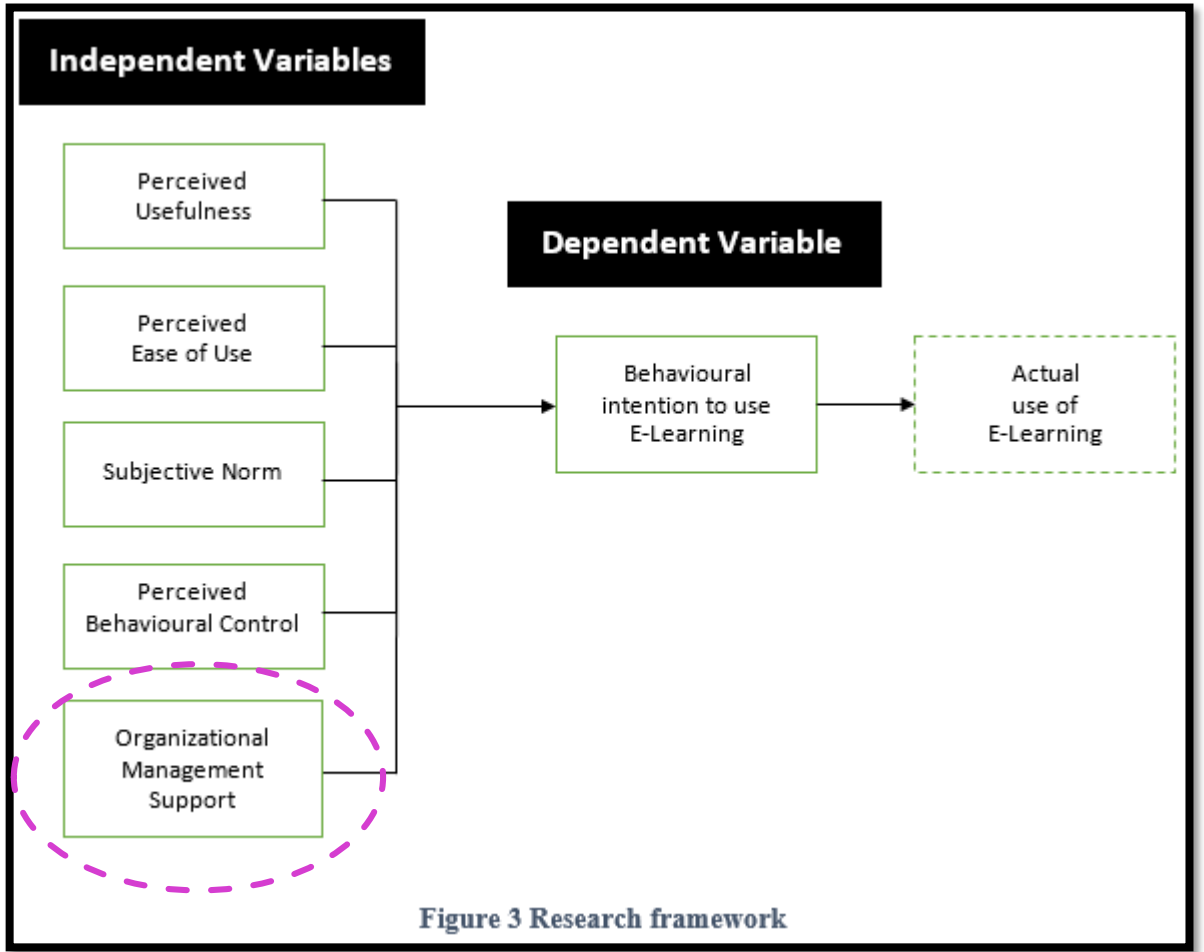

Figure 3 Research framework

- adopted research model from Technology Acceptance Model (TAM) in order to identify the level of acceptance and perception of the company employees towards using e-learning technology for training purpose
- almost equivalent to a new model called **combined TAM-TPB model**
- additional independent variable has been considered; **organizational management support.**

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Theoretical Framework

Perceived Usefulness (PU)	• the degree to which a person believes that using a particular system would enhance his/her job performance
Perceived Ease of Use (PEOU)	• the degree to which a person believes that using a particular system would be free of effort
Subjective Norm (SN)	• the perceived social pressure to engage or not to engage in a behaviour.
Perceived Behavioural Control (PBC)	• refers to people's perceptions of their ability to perform a given behaviour
Organisational Management Support (OMS)	• the willingness of management to promote behaviour; including the championing of innovative ideas and providing the resources people require

Methodology

- The research conducted is using **quantitative method**
- has been **questionnaires and surveys** developed in order to gather data from non-executive employees of a utility company.
- Questionnaires consist of 7 sections with total of 35 items has been distributed to total of **380 respondents and 307 samples were taken** for analytical study.
- There are **approximately 20000 non-executive employees (the majority)** in the utility company comprises those technical and non-technical.
- Thus, it was proposed that the number of sample are estimated to be from 380 respondents as this is determined by using **Krejcie and Morgan 1970**
- Statistical Package for the Social Sciences (SPSS) v16 was used for statistical analysis purpose

Methodology

- In order to examine whether the data is reliable, **reliability test** has been be conducted.
- Specifically, the Cronbach's coefficient alpha or also known as **Cronbach's alpha is used to estimate the consistency reliability.** According to George and Mallery (2003), the rule of thumb to be applied to Cronbach's Alpha are as follows:

Table 1 Summary of section in questionnaire

	Section	Number of Item
Section A	Demographic Profile	8 items
Section B	Perceived Usefulness	5 items
Section C	Perceived Ease of Use	5 items
Section D	Subjective Norms	5 items
Section E	Perceived Behavioral Control	4 items
Section F	Behavioral Intention to Use	4 items
Section G	Organizational Management Support	4 items

Table 2 Value of Cronbach's Alpha

Cronbach's Alpha	Internal Consistency
> 0.90-1.0	Excellent
>0.80-0.89	Good
>0.70-0.79	Acceptable
>0.60-0.69	Questionable
>0.50-0.59	Poor
<0.5	Unacceptable

Methodology

- **The Pearson correlation** is used to measure the **degree of relationship between linear variables**. If the outcome of the analysis shows a high number of coefficient, it signifies that the two or more variables have a strong relationship.
- Whereby, if the outcome of the analysis shows a low number of coefficient, it signifies that the variables are hardly related.

Table 3 Rule of Thumb for size of a correlation coefficient

Size of correlation	Interpretation
0.90 – 1.00	Very high (positive/negative) correlation
0.70 – 0.90	High (positive/negative) correlation
0.50 – 0.70	Moderate (positive/negative) correlation
0.30 – 0.50	Low (positive/negative) correlation
0.00 – 0.30	Little if any correlation

Methodology

- **The regression analysis** has been applied to test the hypotheses to estimate the dependent variable of the study which is the behavioral intention to use the e-learning.
- At the end, it will essentially examine the relationship between the independent variables and dependent variable.
- Thus, the study was conducted by **Multiple Linear Regression analysis to analyze the objectives of the study**. We attempted to model the relationship between the IV & DV using a linear relationship to observed the data.
- All the data was analyzed using Statistical Package for the Social Sciences (SPSS) programmed version 16.

Results & Discussion

- Table below presented the Cronbach's Alpha coefficients for all 6 variables in the questionnaires.
- Higher score imply higher reliability in the measurement scale.
- **Reliability score of 0.70 is accepted as a minimum value (Hair et al., 2017).**
- Therefore, the reliability results presented in Table below are **acceptable** since all of the **reliability coefficients are over 0.70.**

Table 4 Reliability Analysis Results

Variables	Cronbach's Alpha	Number of items in constructs
DV (Behavioural Intention to Use)	0.870	4
IV1 (Perceived Usefulness)	0.920	5
IV2 (Perceived Ease of Use)	0.899	5
IV3 (Subjective Norm)	0.906	5
IV4 (Perceived Behavioural Control)	0.850	4
IV5 (Organizational Management Support)	0.936	4
ALL	0.977	27

Results & Discussion

- The first objective of the study is **to identify the relationship** of Perceived Usefulness, Perceived Ease of Use, Perceived Behavioral Control, Subjective Norms, and Organizational Management Support towards the Behavioral Intention to use e-learning for training purpose.

- The **Pearson Product-Moment Correlation (PPMC) analysis** has been applied in order to prove the first objective.

Results & Discussion

Table 5 Correlations between the variables

		DV	IV1	IV2	IV3	IV4	IV5
DV	Pearson Correlation	1	.809**	.830**	.858**	.842**	.805**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	307	307	307	307	307	307
IV1	Pearson Correlation	.809**	1	.853**	.864**	.813**	.777**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	307	307	307	307	307	307
IV2	Pearson Correlation	.830**	.853**	1	.826**	.802**	.788**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	307	307	307	307	307	307
IV3	Pearson Correlation	.858**	.864**	.826**	1	.851**	.824**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	307	307	307	307	307	307
IV4	Pearson Correlation	.842**	.813**	.802**	.851**	1	.753**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	307	307	307	307	307	307
IV5	Pearson Correlation	.805**	.777**	.788**	.824**	.753**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	307	307	307	307	307	307

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

- As shown in the full analysis Table 5 below, the correlation between the dependent and independent variables were tested where it shows that all of the correlation has significant relationship.
- As it is shown is the table, there is a high correlation between DV and all of the IVs since the value ranges from r=0.805 until r=0.858.
- In conclusion, the Pearson Correlation analysis has proved that **there is high correlation (positive) between all the stated independent variables** which are Perceived Usefulness, Perceived Ease of Use, Perceived Behavioral Control, Subjective Norms, and Organizational Management Support towards the Behavioral Intention to use e-learning for training purpose.

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Results & Discussion

- **The Multiple Linear Regression analysis** is conducted in order to prove the second objective. The result of the study can be observed based on the result in Table 6-7.

Table 6 Model Summary for Multiple Linear Regression

R	R^2	Adj R^2	Durbin Watson	P-Value
0.902	0.814	0.811	1.953	0.000

Hence, the model the multiple linear regression equation as below:

$$\hat{y} = \hat{\beta_0} + \hat{\beta_1}x_1 + \hat{\beta_2}x_2 + \hat{\beta_3}x_3 + \hat{\beta_4}x_4 + \hat{\beta_5}x_5$$

Where:

Y = Behavioural Intention to Use
x_1 = Perceived Usefulness
x_2 = Perceived Ease of Use
x_3 = Subjective Norm
x_4 = Perceived Behavioural Control
x_5 = Organizational Management Support

- The model summary shows a high R^2 value which is more than 60%. A high R^2 value interprets the variation in the response variable (Dependent Variable) that can be explained by **the predictor**.

- The **p-value which is less than significant value (0.05) indicates that the model is significant.**

Results & Discussion

Table 7 Model Coefficients for Multiple Linear Regression

Dependent Variable	Independent Variable	β	Sig.
DV (Behavioural Intention to Use)	Constant	0.247	0.012
	x_1 (Perceived Usefulness)	0.009	0.876
	x_2 (Perceived Ease of Use)	0.231	0.000
	x_3 (Subjective Norm)	0.260	0.000
	x_4 (Perceived Behavioural Control)	0.288	0.000
	x_5 (Organizational Management Support)	0.159	0.000

Based on the Table 7, **all of the independent variables are significant to the dependent variable since the p-values < a (0.05) except for Perceived Usefulness.** From Table 7, we can model the equation as:

$$\hat{y} = \hat{\beta_0} + \hat{\beta_1}x_1 + \hat{\beta_2}x_2 + \hat{\beta_3}x_3 + \hat{\beta_4}x_4 + \hat{\beta_5}x_5$$

y (Behavioural Intention to Use)
$= 0.247 + (0.231)$Perceived Ease of Use $+ (0.260)$ Subjective Norm
$+ (0.288)$ Perceived Behavioural Control
$+ (0.159)$ Organizational Management Support

Results & Discussion

$$\hat{y} = \hat{\beta_0} + \hat{\beta_1}x_1 + \hat{\beta_2}x_2 + \hat{\beta_3}x_3 + \hat{\beta_4}x_4 + \hat{\beta_5}x_5$$

y (Behavioural Intention to Use)
$= 0.247 + (0.231)$Perceived Ease of Use $+ (0.260)$ Subjective Norm
$+ (0.288)$ Perceived Behavioural Control
$+ (0.159)$ Organizational Management Support

From the equation, we can conclude that:
β_0= 0.247. When all the predictor variables are held constant, the DV (Behavioural Intention to Use) will be 0.247

- For every 1 unit increase in Perceived Ease of Use, the DV (Behavioural Intention to Use) will increase by 0.231 (scale)
- For every 1 unit increase in Subjective Norm, the DV (Behavioural Intention to Use) will increase by 0.260 (scale)
- For every 1 unit increase in Perceived Behavioural Control, the DV (Behavioural Intention to Use) will increase by 0.288 (scale)
- For every 1 unit increase in Organizational Management Support, the DV (Behavioural Intention to Use) will increase by 0.159 (scale)

Hence, the finding specifically answers the research question below:
H_0: There is a positive significant impact of Perceived Ease of Use on DV
H_0 : There is a positive significant impact of Subjective Norm on DV
H_0 : There is a positive significant impact of Perceived Behavioural Control on DV
H_0 : There is a positive significant impact of Organizational Management Support on DV

Conclusion

- The research and Questionnaires survey were distributed in order to acquire response from employees on their perception towards e-learning system if it was going to be applied in competency training.

- The utility company goal to initiate e-learning for competency training within the organization is **an optimistic improvement for the organizational transformation** activity whereby it is one of the approach to move the employees closer to the digital world, in view of this type of system has been applied in most of the corporate sectors and university or higher learning institution.

- The introduction of new competency training system considered as a change that will be face by the employees within the utility company. And it is something that the organization has to cope. E-learning system for training usually comes with the introduction of Learning Management System (LMS). The use of LMS will surely benefit in term of reducing training costs and flexibility of training events through e-learning. **The employees should be familiarized with the LMS platforms.**

- In addition, **digital workplace awareness and culture will help to improvise** the introduction of e-learning among the employees in order to make certain acceptance of new e-learning programs once introduced.

Conclusion

- The research analysis shows that many employees believe that it requires a lot of effort to interact with the e-learning system. This makes them **oblivious of the prospect that e-learning system is easy and accessible from any place** which provides helpful guidance in performing tasks. Hence, the results from this analysis will be able to cultivate and **improve awareness about the benefits from e-learning in developing and shaping their competency through learning**.

- Demographic analysis take into account on different prominence on the perceived ease of use, subjective norms, perceived behavioural control and organizational management support towards adjustment and behavioural intention to use e-learning and therefore will conveys to employees acceptance on new system of competency training that at the end will benefit them.

- E-learning is important towards the adaptation of digital technology into organization working culture especially when this research is focusing on competency training within an organization. The introduction of e-learning will build a better cost structure for training and gives flexibility for the learners in learning and knowledge shaping**. E-learning has the potential to reduce time away from the workplace, minimizes the necessity for travel, and eliminates the need for over-hourly classroom-based training**.

Conclusion

- Thus, it is important for employees to accept this e-learning system for training and aware of the benefits for themselves and the organization. With proper rollout sessions, approaches and awareness to the employees, it will determine the success of e-learning implementation

- Perceived ease of use, subjective norms, perceived behavioural control and organizational management support are significant and affect the behavioural intention of employees in the direction of initial perception and acceptance of e-learning system once implemented for competency training.

- Among these factors, **perceived behavioural control is the most prominent factor** in contrast to perceived ease of use, subjective norms and organizational management support towards the introduction of e-learning. Then again, **employees' perception towards e-learning system is very much impressed and impact by these four factors** and considerably employee will be able to appreciate the benefits they will achieve from e-learning rather than face-to-face or classroom learning.

- The utility company will have to put more **attention on awareness among the employees, ability introduce digital and computerized workplace culture, familiarizing employees with suitable e-learning platforms such as LMS** and provide essential support for the employees if needed.

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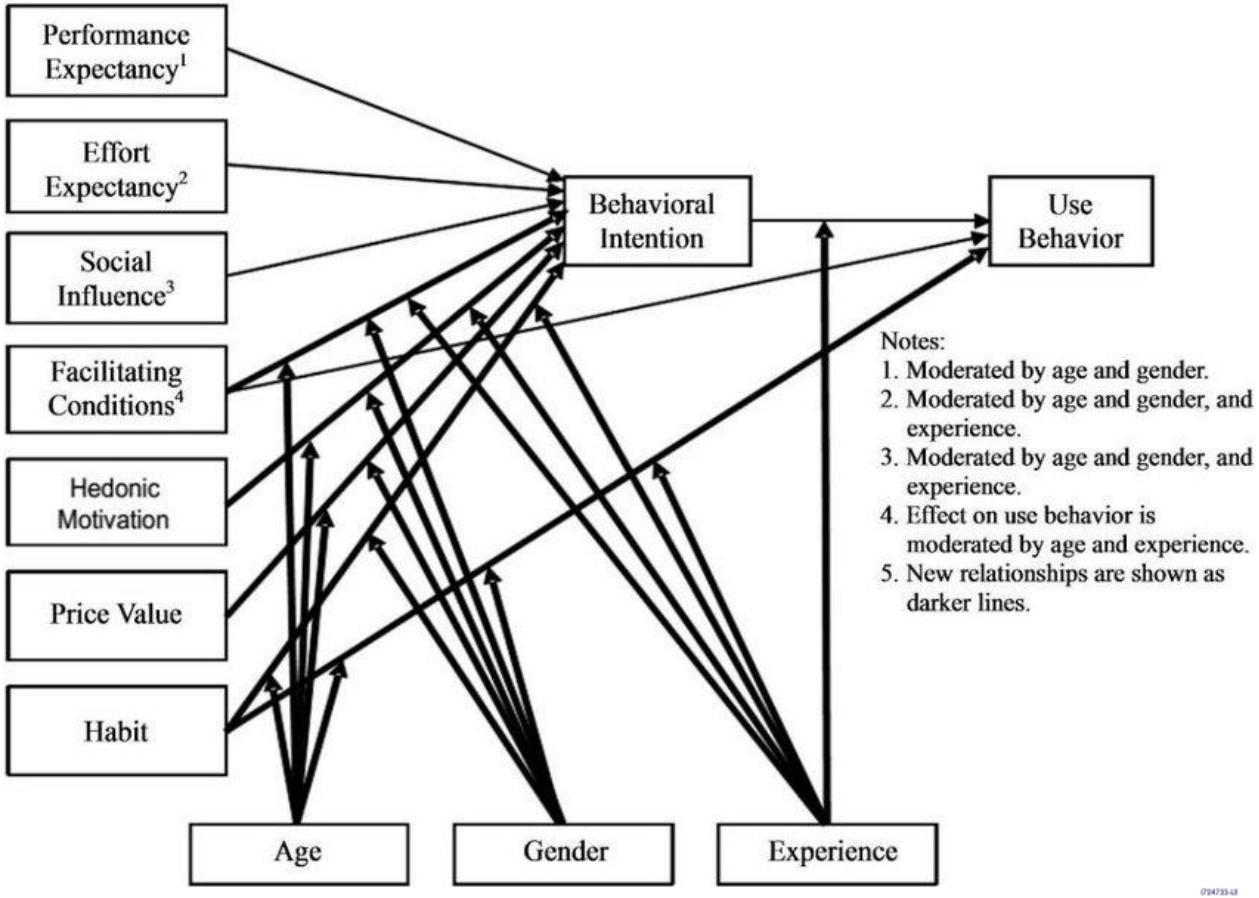
Future Recommendations

- For further improvement, the research can use the extended version of Theory of Acceptance (TAM) which is **Unified Theory of Acceptance and Use of Technology (UTAUT2).**

- To cover the **other different group of employees** for instance the executive groups in order to understand their perception towards e-learning in contrast to non-executive groups. Then, their perceptions result can be compared and analysed in order to find the potential solution to embark e-learning system thoroughly within the organization and at the end it can be embedded as a culture for them.



Future Recommendations

- The future researcher may possibly want to consider exploring **qualitative assessment** by interviewing a number of related parties such as the employees, organization's management group, human resource representatives or the e-learning system developers in order to capture a broader perspective of e-learning as it is going to be part of competency training system.

- Additionally, as the e-learning implementation has been conducted, even at the pilot stages, it is possible for the future researcher to **gain the acceptance level of the employees** as they should have already experience to use the e-learning in actual training situation.

- Plus, it is conceivable **to measure the effectiveness of it in terms of knowledge, skills and attitude changes** on the employees through training evaluations. And at the end, it is suitable to study level of understanding and acceptance on the new technology among the employees within the utility company.

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