International Journal in Management and Social Science
Volume 08 Issue 12, December 2020 ISSN: 2321-1784 Impact Factor: 6.319
Journal Homepage: http://ijmr.net.in, Email: irjmss@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal

THE EFFECT OF INDIVIDUAL FACTORS ON THE INTENTION OF E-LEARNING EMPIRICAL STUDY ON INDUSTRIAL SECTOR IN SYRIA

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Abstract

Purpose: This research aims to identify, understand and study the personal factors that affect the intention of e-learning in Syria from the employees' perspective. In other words, it aims to study the personal factors that may hinder or enable the adoption of e-learning systems to create a more effective use and acceptance process in the Syrian Arab Republic.

Methodology: A model was developed consisting of (motivation to learn, self-efficacy, habit, perceived ease of use).

Data were collected from employees working in the industrial sector in Syria and experimented with e-learning using a questionnaire between March and May 2020.

Findings: The results showed that the intent of the e-learning was significantly influenced by motivation to learn and the habit.

Recommendations: Set e-learning methods within the approved training strategies, motivating workers to use e-learning methods on an almost daily basis to become their habit, making the Internet available for a specific period of time per day within work for e-learning, and subscribing to e-learning platforms.

Keywords: E-Learning, Motivation to learn

1. Introduction.

Efforts to reduce costs and improve information technology have led to an inevitable increase in e-learning, such as computer and Internet learning, and multimedia learning environments, as e-learning has emerged as a necessity to address the challenges presented by the development of information technology and access to knowledge in a greater way.

There are many studies of the impact of communication and information technology (IT) on learning. Innovative technologies are still being explored with the aim of attracting learners' interest, and creating active and customized learning environments so that learners are able to pursue learning, in a stimulating manner, using various tools of information technology.

The advancement of information technology has contributed to the rapid growth in e-learning in recent years. This technological advancement has enabled employees to have a real educational experience without attending the institution building or training center. Organizations have sought to enhance their competitiveness by encouraging a culture of continuous learning.

Given the importance of e-learning and its modernity, and the scarcity of local studies related to this topic, we have pushed us to delve into this field publicly. We can present a new study that takes into account the special conditions in the Syrian Arab Republic to reach recommendations that may contribute to raising the efficiency of the human element and thus increase the positive contribution of e-learning to plans Local human resource development.

2. Research problem.

The rapid advancement in technology, the widespread use of the Internet, the great improvement in information and communication technology, and the successful experiences of electronic services around the world have led to the interest of companies in e-learning as one of the most important means of learning, and urged employees to use and adopt e-learning to provide effective lifelong learning. Easily accessed, regardless of age, time and location.

However, the individual factors affecting the adoption of e-learning in different regions and societies may not be the same as those in developed countries (with varying degrees of intensity or importance). Therefore, it may not be necessary to follow the models available by different countries and societies. Thus, the influencing factors may differ from one case to another.

This research studies the individual factors that would influence the adoption of e-learning in industrial companies in the Syrian Arab Republic.

3. Research objectives and questions.

This research contains the following main goals and objectives:

1. Identify and study the personal factors that affect the intention of e-learning in Syria.
2. Presenting a number of recommendations to decision-makers in Syrian companies to achieve successful e-learning systems.

As this research studies the personal factors that would influence the intention of e-learning in industrial companies in the Syrian Arab Republic. The following main questions were formulated from which this research was launched:

1. What is the level of existence of personal factors related to the learner in industrial companies in Syria?
2. What is the level of intent for e-learning?
3. What are the individual factors affecting the intent of e-learning?

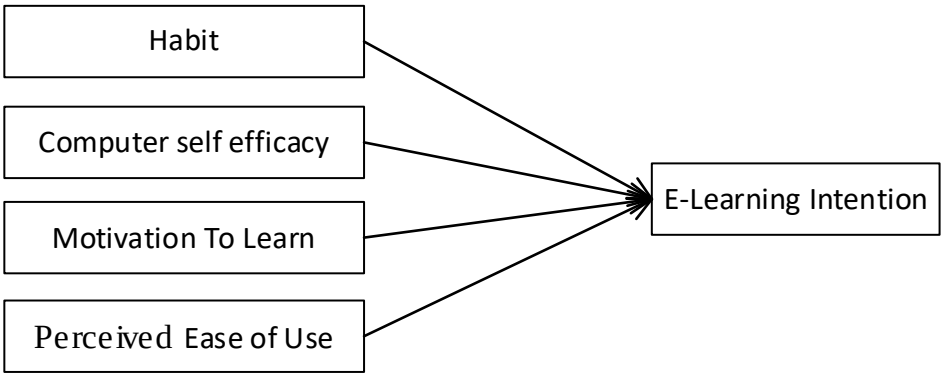
4. Research Model and Hypotheses

H1. Habit has a positive effect on e-learning intention.

H2. Computer Self-Efficacy has a positive effect on e-learning intention.

H3. Motivation to Learn has a positive effect on e-learning intention.

H4. Perceived Ease of use has a positive effect on e-learning intention.



5. Research Variables

5.1 Independent Variables:

- **Habit**: It is defined as a cognitive intent to do something often and regularly. In other words, when an individual repeats an action regularly and is satisfied with the outcome, the action becomes a habit (Venkatesh et al. 2012).
- **Computer Self-Efficacy**: It is defined as the conviction of individuals about their ability to organize and implement the procedures required to produce specific gains (Bandura, 1997).
- **Motivation to Learn:** is defined as the specific desire of the trainee to learn the content of the training program (Noe and Schmitt, 1986) and fully embrace the training experience (Carlson et al., 2000).
- **Perceived Ease of Use**: is defined as "the degree to which a person believes that the use of a particular system will be free of physical and mental effort" (Davis, 1989).

5.2 Dependent Variable

• **E-Learning Intention** is defined as the personal likelihood that users will carry out the relevant behavior; Hence, intent is supposed to greatly influence the use of the technology in learning (AlAwadhi & Morris, 2008, Jaradat et al. 2013).

6. Literature Review

The period of previous studies converged from each other and was between 2009 and 2017, as the common goal of most studies was to study the factors affecting the intent of e-learning. The samples and the study population differed in the previous studies, so the study (Chatzoglou, 2009) was in Greece on the employees of large and medium companies, while the study (Ramayah, 2012) was in Malaysia, where the study was conducted on the employees of

multinational companies, while we find that the study (Nguyen, 2014) was In Vietnam, for employees who intend to use e-learning methods, a study (Tarhini, 2017) was in Britain and was applied to students of two universities, while the study (Wang, 2016) was in Taiwan, and it was applied to public sector employees.

The studies of (Chatzoglou, 2009), (Ramayah, 2012), (Nguyen, 2014) and (Tarhini, 2017) agreed that there is an effect of personal motivation on e-learning intent. The study (Tarhini, 2017) is unique in that there is an effect of self-efficacy on the intent of e-learning, perhaps because it is the only study that was conducted on university students. The effect of perceived ease of use on e-learning intention was demonstrated in the two studies (Chatzoglou, 2009) and Wang (2016). A study (Nguyen, 2014) added an effect of habit in using e-learning.

Previous studies have clarified the factors that affect the intention of e-learning, including the personal factors of the trainee, in addition to factors related to e-learning methods and external factors such as administrative and organizational support.

As for the current study, it is one of the Arab studies that dealt with the Syrian business environment, which studied the personal factors of the trainee only by studying the effect of these factors on the intention of e-learning. In addition to providing suggestions that can contribute to improving the level of e-learning, which in turn improves the level of human resources in general.

7. Research methodology and procedures

The descriptive and analytical approach was used because of the accurate description of this approach that can be expressed quantitatively or qualitatively when studying a specific phenomenon, and this approach was applied through conducting a field survey aimed at studying the individual factors affecting the intention of e-learning, in addition to studying the intent of e-learning as a dependent variable.

To achieve this purpose, questionnaires were distributed to collect information related to the research and then analyze and interpret them to arrive at the research results to be used in making recommendations for small and medium companies.

The research community consists of employees in industrial companies in Syria who have practiced e-learning.

After reviewing the relevant academic studies, the researcher developed a questionnaire consisting of two sections:

The first section: dedicated to general questions, and includes the demographic characteristics of the research variables, which are: (age, gender, academic degree, number of years of experience, job position).

The second Section: is concerned with personal factors and the intention of e-learning, as he benefited from the following studies:

Table 1 Research scale

Variable	Scale	No. of items
Habit	Venkatesh et al (2012)	4
Computer Self-Efficacy	Zhang and Zhao 2008	3
Motivation to Learn	Yi and Davis (2003)	4
Perceived Ease of Use	Davis (1989)	4
E-Learning Intention	Venkatesh et al (2012)	4

It was distributed in paper form and via the Internet, as it was sent to employees in different companies. 40 paper questionnaires were sent, (30) paper questionnaires were retrieved, two of them were rejected for lack of completeness of information, so that the number of paper questionnaires was (28) in addition to (179) electronic questionnaires, so that the total number of the sample was (207) in the statistical analysis.

The researcher collected the primary data during a period of approximately two months, from the beginning of March 2020 to the end of April 2020.

SPSS was used to analyze the primary data collected through direct questionnaires and electronic questionnaires. The researcher tested the reliability of measures in addition to analyzing the sample and testing the hypotheses using several statistical methods based on the types of variables used and the required results according to the following:

- Cronbach's alpha coefficient to measure of internal consistency of the questionnaire.
- Frequencies and percentages of describing the research community according to variables (age, gender, educational qualification, years of experience and job level).
- Averages and standard deviations of the Variables of the questionnaire (according to each variable).
- One Sample T-Test, to verify the significance of the prepared items of the questionnaire compared to the hypothetical mean.
- Linear regression analysis using the (Stepwise) method to determine the level of contribution of factors affecting the intention and use of e-learning.

8. discussion and analysis

8.1 Reliability Analysis

Cronbach's alpha values in Table (2) indicate that the model designs are internally consistent.

According to the results below, All Variables present high reliability and one variable present moderate high reliability.

Table 2 Reliability Analysis

Variable	Cronbach's Alpha
Habit	0.786
Computer Self-Efficacy	0.811
Motivation to Learn	0.883
Perceived Ease of Use	0.866
E-Learning Intention	0.854

8.2 Descriptive Results of the Survey

8.2.1 Gender

Table (3) shows the distribution of the sample according to gender. About two thirds of the participants were males and one third were females. The researcher attributes that the majority of workers are males and that is due to the difficult nature of work in industrial companies that require work 27/7, especially in the night shifts, which was the reason for the refusal of females to work in the night shifts and this is due to the customs and traditions that ensure that females do not work during the night periods And the nature of the Syrian society and its traditions.

Table 3 Gender of Respondents

Gender	Frequency	Percentage
Male	137	66.2
Female	70	33.8
Total	207	100.0

8.2.2 Age:

Table (4) shows the distribution of the sample according to the age, and according to the researcher's opinion that the age group that ranges from 25 to 37 is targeted more than the rest of the age groups in industrial companies because the person has a better health condition - at this age approximately - in addition to the fact that the human life is at this age, they are more productive and experienced. As for people in younger age groups, they are less experienced and older age groups are less productive according to health status.

Table 4 Age of Respondents

Age	Frequency	Percentage
<25	29	14
25 - 30	64	30.9
31 - 37	57	27.5
38 - 44	41	19.8
>44	16	7.7
Total	**207**	**100**

8.2.3 Educational Level

Table (5) shows the distribution of the sample according to Educational Level, the researcher believes that practitioners of e-learning often have the minimum necessary, such as university degrees. The percentage of High Education people is generally a minority in companies because they are only those who occupy senior management positions.

Table 5 Educational Level of Respondents

Educational Level	Frequency	Percentage
Secondary School	42	20.3
Bachelor Degree	130	62.8
High Education	35	16.9
Total	**207**	**100.0**

8.2.4 Managerial Level

Table (6) shows the distribution of the sample according to the managerial level. These ratios are considered reasonable according to the organizational hierarchy from lowest to highest for companies.

Table 6 Managerial Level of Respondents

Managerial Level	Frequency	Percentage
Employee - without supervisory duties	68	32.9
Supervisory Level	55	26.6
Middle Management	56	27.1
Senior Management	28	13.5
Total	**207**	**100.0**

8.2.5 Years of Experience

Table (7) shows the distribution of the sample according to years of experience. These ratios are considered reasonable according to the proportions of employees at each job level.

Table 7 Years of Experience of Respondents

Years of Experience	Frequency	Percentage
0 – 4	74	35.7
5 – 9	44	21.3
10 – 15	45	21.7
>15	44	21.3
Total	**207**	**100.0**

8.3 Description of Factors that Influence the intention of e-learning

The mean and standard deviation were calculated to determine the level of influence of the variables (factors) on the intention of e-learning. The scale consists of 26 questions divided into 5 variables according to the five-point Likert scale.

8.3.1 Habit

Table (8) shows that the mean in general is distributed between (3.43 - 4.06), meaning that the practice of e-learning as usual was high as the mean was (3.7886) with a standard deviation (0.8), so it falls within the range (3.39 - 4.2) and this indicates to a high level of e-learning practice as usual for employees, and where all significance levels were less than (0.05) for all items. This is a positive indicator, Where the highest average question (I must use electronic means in the learning process) was (4.06), while the lowest value (3.43) was on the item (I am addicted to using the Internet for educational purposes). Using the Internet for the purpose of learning has not yet matured.

Table 8 Mean and standard deviation for Habit

Statement	Mean	Std. Deviation	Ranking	"T"	Sig
The use of Internet and e-learning system has become a habit for me.	3.67	1.07	3	8.961	0.000
I am addicted to using Internet and e-learning system for educational purpose.	3.43	1.167	4	5.241	0.000
I must use Internet and e-learning in my learning activities.	4.06	0.922	1	16.500	0.000
Using Internet and e-learning system has become natural to me.	4	0.948	2	15.256	0.000
Total	**3.789**	**0.80484**			

8.3.2 Computer Self-Efficacy

When asked about their self-efficacy in using e-learning tools, including computers, software, and websites. Table (9) also shows that the mean, in general, is distributed between (3.71 - 3.84), meaning that the self-efficacy of the sample members is high and where all levels of significance were less than (0.05) for all statements, as the mean of the variable was (3.789) with a standard deviation (0.83) It falls within the range (3.4 - 4.2) and this indicates a high level of self-efficacy among the employees. This is due, in the researcher's opinion, to the fact that the majority of employees have bachelor, Master and PhD degrees therefore perceive self-confidence from them using computers and the Internet.

Table 9 Mean and standard deviation for Computer Self-Efficacy

Statement	Mean	Std. Deviation	Ranking	"T"	Sig
I am confident of using the e-learning system even if there is no one around to show me how to do it	3.84	0.95	1	12.736	0.000
I am confident of using the e-learning system even if I have only the online instructions for reference	3.82	0.971	2	12.164	0.000
I am confident of using the e-learning system even if I have never used such a system before	3.71	1.007	3	15.188	0.000
Total	**3.789**	**0.83158**			

8.3.3 Motivation to Learn

The personal motivation towards learning was studied by asking respondents about their level of enthusiasm, interest, and motivation to attend e-learning materials. Table (10) shows that the mean in general is distributed between (4.00 - 4.21), meaning that the motivation towards the sample members is high as the total mean is (3.789) with a standard deviation (0.83), so it falls within the range (3.4 - 4.2) and this indicates A high level of motivation towards learning among respondents. And where all significance levels were less than (0.05) for all paragraphs, and this is due in the opinion of the researcher, the majority of employees, supervisors and middle management who are still looking for different training methods to continue improving their career path.

Table 10 Mean and standard deviation for Motivation to Learn

Statement	Mean	Std. Deviation	Ranking	"T"	Sig
I am very much excited about attending this program	4	0.95	3	15.141	0.000
I am interested in learning the training material that will be covered in this program	4.1	0.909	2	17.365	0.000
I will try to learn as much as I can from this program	4.21	0.866	1	20.135	0.000
I am motivated to learn the training material that will be emphasized in this program	4	0.983	4	14.568	0.000
Total	**4.076**	**0.79817**			

8.3.4 Perceived Ease of Use

Given that the use of technology may constitute a barrier to e-learning, the perceived ease of use was studied by asking respondents about the level of ease and flexibility of e-learning systems and means. As shown in Table (11), the mean was in general distributed between (3.94 - 4.13), meaning that the perceived ease of use is high as the mean was (4.03) with a standard deviation (0.70581), so it falls within the range (3.4 - 4.2) and this indicates A high level of perceived ease of use among respondents. And since all significance levels were less than (0.05) for all paragraphs, and this is due to the researcher's opinion, that the majority of employees are graduates and postgraduates, and therefore they perceive the ease of using any platform.

Table 11 Mean and standard deviation for Perceived Ease of Use

Statement	Mean	Std. Deviation	Ranking	"T"	Sig
Learning to operate E-Learning Systems would be easy for me.	4.06	0.813	2	18.807	0.000
I would find it easy to get E-Learning Systems to do what I want it to do.	3.99	0.853	3	16.699	0.000
I would find E-Learning Systems to be flexible to interact with.	3.94	0.848	4	15.898	0.000
It would be easy for me to become skillful at using E-Learning Systems.	4.13	0.829	1	19.625	0.000
Total	**4.03**	**0.70581**			

8.3.5 E-Learning Intention

The sample was asked about their intention to use e-learning tools in terms of doing and repeating during the next stage until they engage in the e-learning process. As shown in Table (12), all levels of significance were less than (0.05) for all statements, and where the mean in general is distributed between (3.78 - 4.08), meaning that the intention of e-learning was high as the total mean is (3.9565) with a standard deviation (0.76437) It falls within the domain (3.4 - 4.2) and this indicates a high level of intent of e-learning among the sample members.

Table 12 Mean and standard deviation for E-Learning Intention

Statement	Mean	Std. Deviation	Ranking	"T"	Sig
I intend to use the e-learning system to do different things, from downloading lecture notes and participating in chat rooms to learning on the Web	4.08	0.907	1	17.158	0.000
I predict I would use e-learning system in the next semester	3.99	0.908	2	15.686	0.000
In general, I plan to use e-learning system frequently for my coursework and other activities in the next semester	3.97	0.881	3	15.861	0.000
I intend to engage in e-learning routinely	3.78	0.968	4	11.626	0.000
Total	**3.957**	**0.76437**			

8.4 Regression analysis

The researcher conducted a stepwise regression analysis to determine the effect of the independent variables (habit, self-efficacy, motivation to learn and perceived ease of use) on the dependent variable (e-learning intention). The variables are placed in the regression equation one by one in the progressive regression according to statistical criteria. The researcher has summarized the results of this test as shown in Table (13).

Table 13 Factors affecting e-learning intention

Summary Model						dependent variable (e-learning intention)
Model	Independent Variables	R	R Square	Adjusted R Square	Sig.	
2	Motivation to learn	0.609	0.37	0.37	0	
	Habit				0.014	

As mentioned in table 13 we find that R2 = 0.37 for the Model 2 and this indicates that 37% of the variance in e-learning intention can be explained by motivation to learn and habit.

Table (14) represents the analysis of variance, and testing the significance of the regression model for the independent variables (motivation to learn and habit) on the dependent variable (the intention of e-learning). We find that the (F) values for all Stepwise models were statistically significant, because all values have p <0.05, so the regression model (motivation to learn and habit), influences the dependent variable, the intention of e-learning and this model explains the changes That happen in the intention of e-learning for employees.

Table 14 Regression Model Estimating Parameters

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
2	(Intercept)	1.41	0.24		5.86	0
	الدافع نحو التعلم	0.48	0.06	0.5	7.45	0
	العادة	0.16	0.06	0.17	2.47	0.01
	Dependent variable: Intention of e-learning					

Table (14) displays the regression model coefficients and their significance levels, and it was found that the regression coefficients (β) for each of the model variables were positive. Therefore, this confirms the validity of the relationships for this part of the study model. Thus, the regression equation will be as follows:

$$INT=1.41 + 0.48\ MO + 0.16\ HA + 0.609$$

whereas:
INT: Intention for E-Learning
MO: Motivation to Learn
HA: Habit

From the study, we find that the intention of e-learning among employees of industrial companies in Syria is affected by two main factors, Motivation to learn and Habit.

As for the results, they were consistent with most of the previous researches which confirmed that the motivation towards learning and habit were the main factors the intention of e-learning among the employees. When employees have a great motivation to learn, and the habit of e-learning is embedded in them, they will show greater interest in e-learning courses.

Compared with the previous literature, this study differs with the study (Tarhini, 2017), which was applied in British universities on the existence of an effect of Computer self-efficacy on the intention of e-learning, while the rest of the studies are consistent with our study as it did not find a statistically significant effect.

The current study agreed with all the previous studies mentioned except for the study (Mbarek, 2013) and (Wang, 2016) that there is an effect of the motivation to learn on the intention of e-learning while the rest of the studies that studied the motivation did not find a statistically significant effect.

9. Results

Based on the results of the previous analyzes, the following results appeared:

According to the averages, the following dimensions (habit, self-efficacy, motivation towards learning, perceived ease of use) achieved a high level, and this indicates that the majority of aspects related to personal aspects were high.

Finally, workers have achieved a high level of intent to e-learning, and this reflects the great ability of the industrial sector employees to e-learning.

The main objective of this study was to identify and study the factors that affect the intention and use of e-learning in the industrial sector Syria.

The results showed that the employees' intention to use e-learning tools was greatly influenced by the motivation to learn and habit, while the rest of the factors were not significantly affected by it.

Motivation toward learning and habit were tested in this study to explore the level of influence on users' intent of e-learning systems. Motivation to learn refers to the user's perceived enjoyment, whereas habit refers to the perceptual structure of doing something often and regularly. The results showed that motivation to learn and habit are critical determinants of intention. In other words, if e-learning has become a habit for employees and they also feel pleasure using these tools, employees are more likely to intend to use these methods periodically.

10 Conclusion

This study proposed a conceptual model that could be used as a frame of reference for further research by testing this model in different contexts or countries. It can be expanded to include additional or different factors such as cultural influences and language barriers.

This research was limited to employees of industrial companies in Syria. The participation of different groups such as students, employees, and even citizens and different sectors such as

government ministries and the private sector will help in generalizing this research and identifying more factors that will influence the adoption of e-learning.

The following imperial suggestions can be provided to develop e-learning methods:

1. Perception among employees about the concept of e-learning and self-learning should be enhanced by supporting them with modern concepts and terminology related to e-learning.
2. Developing and aligning e-learning procedures with organizational priorities through administrative support and investment in infrastructure to develop a sustainable learning environment.
3. Providing specialized technical personnel, expanding e-learning techniques and tools, as well as accessing them faster and easier.
4. Activating and developing the technical support department within the companies to facilitate the e-learning process.
5. The educational materials must be adequately developed during the design process. The design should not be merely the presentation of educational materials in files distributed over the Internet.
6. An appropriate time should be allocated to train employees on how to use e-learning methods before the start of any educational process, so that trainees can gradually adapt to learning, using these tools
7. Workshops and training courses should be provided to develop e-learning skills among members of the training teams in the companies' human resources departments.
8. Understanding and providing support strategies for learners and developing their level using computers positively affects the structure of e-learning.
9. Putting electronic learning methods within the approved training strategies.
10. Motivate workers to use e-learning methods on an almost daily basis, to make them a habit.
11. Make the Internet available for a specified period of time per day within the work for e-learning.
12. Subscribe to global e-learning platforms.
13. Submit paper and electronic certificates proving the employee's attendance to the electronic training courses.

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