International Invention of Scientific Journal
Online ISSN: 2457-0958
Available Online at https://iisj.in **Volume 8, Issue 03 (July-August-September)|2024**|Page: 685-692
Original Research Paper-Social Sciences

Investigating the Effect of Adopting Cultural Material in Iranian EFL/ESL Syllabus

Corresponding Author:
Mehran Pishahang
MSc, Departmant of Space Engineering in the field of Control in technical System through a joint program between Khaje Nasir Toosi University of Technology (K.N Toosi University) in Tehran Iran and Peoples' Friendship University of Russia (RUDN University)in Moscow Russia

Article Received: 13-July-2024 Revised: 03-August-2024 Accepted: 23-August-2024

ABSTRACT:
Various disciplines have recently discussed implementing Internet of Things components into residential buildings. The notion of a Smart House has been popular among people around the globe due to the innovative capabilities of IoT systems. Since most of the literature is devoted to technical and implementation issues and the overall effect of IoT-based systems on residents` QoL, especially in the Iranian context, has not been investigated before, this study attempts to redefine. The current study aimed to explore the extent to which smart house residents are satisfied with IoT capabilities and then see if there is another significant difference in age factor (i.e., 18 to 28, 29 to 39, and 40 to 50 years old). Consequently, 51 residents of 20 smart house occupants participated in this research. Inclusion and exclusion criteria included minimum age of 18 and two years of occupancy. As the primary research tool, a self-administered questionnaire was developed and distributed among participants to obtain the necessary data for the study. The questionnaire consisted of five sections Performance Expectancy, Facilitating Condition, Hedonic Motivation, Use Behavior, and Preference. A Cronbach`s-Alpha test has been used to ensure internal data consistency; subsequently, the Chi-Square test was utilized to analyze the significance of each factor in each group. Further, the Kruskal-Wallis test has been operated to observe whether there are any relationships between groups in terms of five different factors; and results have been interpreted accordingly. However, any age factor was considered due to time and space limitations. Findings of this study would benefit a large population of people, academics, firms, and organizations regarding the benefits of IoT integration into residential buildings.

Keywords: Internet of Things (IoT), Technology Acceptance Model (TAM), Chi-Square Test, Kruskal-Wallis Test, Bonferroni test, Quality of Life (QoL), Smart Home Technologies, Smart Devices, the Unified Theory of Acceptance and Use of Technology (UTAUT)

INTRODUCTION:

Technology has made it possible to automate different aspects of the home, including security, lights, TV, sensors, and appliances that do not require constant attention. One aspect of 'Comfy Smart Home' is that it has promoted the life standards of human civilization, rising to new advanced levels of comfort and ease. This has been achieved through years of technological advancement by humans. The conception of Comfy Smart Homes is to make home appliances smarter by connecting them. It will also be cost-efficient and only need to pay for one extensive application that interfaces everything on a large platform. (Jadon S., Choudhary A., Saini H., Dua U., Sharma N., Kaushik K., 2020) With the recent popularity of smartphones, they are becoming a vital tool for developing and maintaining relationships worldwide. They are essential to people in every aspect of their lives (Abdelouahid, R.A., Debauche, O., Marzak, A., 2021). Smartphones have so many benefits to our lives; the IoT is one of them. They have saved us time and made life easier in so many ways. Phone use has increased significantly in recent years, driving the demand for smart devices such as the IoT (Qasim, M.T., 2021). All things being equal, collaboration of IoT, smart phones, and autonomy are integrated in smart buildings to increase Quality of Life (QoL) of residents. The collaboration between technology and home to make things easier for occupants and enhances QoL. Using only minimal manual effort enables them to live healthy and happy lives without extra costs associated with their disability (Jadon S. et al., 2020). Notions of QoL and Comfy Smart Home are used interchangeably in this study.

IoT is a networked system with smart devices that can communicate and interact in various ways. (Hsu and Lin 2016). IoT technology is becoming more popular in households, which has led to the emergence of the phrase 'smart home.' Intelligent appliances such as ovens and fridges are connected through IoT (Kim et al., 2017). Internet of Things technologies are a hot trend in tech and business. These can save time and effort by allowing a smoothly functioning business to

process seamlessly. The rapid development of these technologies is making it possible for businesses to offer an experience as engaging as ever before. McLellan (2020) states that The Internet of Things is quickly picking up speed, with thousands of new devices being bought from one company. These IoT things include sensors that can track almost anything and transmit their data wirelessly. Another growing trend in our world is the Internet of Things. There are real-world applications like smart homes, wearable devices, and industrial IoT like factories and farms. They range from consumer IoT to business enterprise. IoT is becoming a popular topic that can impact how other verticals operate. Connected devices and sensors could benefit several industries, including automotive, telecommunications, energy transmission, and production.

However, some technology adoption theories may not be appropriate for exploring IoT applications in residential buildings. In recent decades, brand-new technologies are appearing to facilitate human lives. It has been a while since the first embodiment of IoT in residential buildings; there are many studies around the globe regarding the effect of IoT-powered smart houses on the comfort level of residents. However, few studies concern smart houses and residents` QoL. The present study aimed to explore the extent to which Iranian smart house residents are satisfied using its components regarding three different age groups.

This study was made to understand what residents' beliefs account for and how much an individual is willing to purchase or use a particular set of IoT systems or applications. It was felt that there are variables other than the ones proposed by T.A.M. and other technology acceptance models, which could be equally or more important on which this study is based for gathering data. As a result, based on an extensive literature review and considering the primary goal of this study, a self-administered questionnaire has been adopted for this study. It was hoped that results would pave the way for further advancements.

As a quantitative study, it adopts a questionnaire to gather the necessary data. The primary study goal was to provide a realistic viewpoint toward the extent to which smart house residents are satisfied by operating IoT systems in their residential buildings. Consequently, actual residents of smart houses from Iran were reached electronically to observe how living in a smart house has affected their quality of life. The age range of the groups under investigation was 15 to 25 (the first group), 26 to 36 (the second group), and 37 to 47 (the third group), and each group consisted of seventeen members. The subsequent section is devoted to the theoretical background of the present study.

Theoretical Background:

In order to provide the reader with an informed opinion toward the present study, theoretical background of this study is provided in the following sections including IoT and IoT acceptance model in addition to five different factors analyzed in this research (i.e., Performance Expectancy, Facilitating Condition, Hedonic Motivation, Use Behavior, and Preference, respectively).

IoT:

IoT has been around for a while but is becoming increasingly popular. It can automate and integrate every aspect of business using cheap processors and wireless networks. Such a procedure will add digital intelligence to devices. Computers can communicate using the internet without needing any human execution. Around the 1980s, many scientists and developers discussed adding sensors and intelligence to those novel objects. It mainly dealt with a single project, the internet-connected vending machine, but progress was slow because of technological limitations. The term Internet of Things was coined in 1999 by Ashton; during a presentation, he gave at Procter & Gamble (P&G), a British technology pioneer made the following statement. "The Internet of Things combines the interconnectedness of human culture -- our 'things' -- with the interconnectedness of our digital information system -- 'the internet.'" That is the Internet of Things, according to Ashton (1999). The IoT seeks to expand the fruits of the traditional internet, such as continuous connectivity, remote manipulation, and data sharing, to physical objects (Peoples, C., 2013). Its driving force is effectiveness and creativity, facilitating connection for everybody, all things, and everywhere.

IoT acceptance model (IoTAM):

Some technology adoption theories may seem like they would help explore individual adoption of IoT applications, but these theories are not applicable. Following the technology acceptance model, also known as the TAM (Davis, F.D., 1989) and its modifications (Bagozzi, R.P., 2007; Benbasat, I.; Barki, H., 2001; Moon, J.W.; Kim, Y.G., 2001) were harshly critiqued, additional antecedents were incorporated, which resulted in the establishment of the Unified Theory of Acceptance and Use of Technology (UTAUT) (Benbasat et al., 2001) and subsequently UTAUT2 models (Macik, R., 2017).

Performance expectancy:

Performance Expectancy refers to how much someone believes that using technology will help them attain gains in performance and productivity (Venkatesh V, Morris MG, Davis GB, Davis FD., 2003; Venkatesh V, Thong JYL, Xu X. 2012). The workplace has seen the increased value of Artificial Intelligence, and implementing A.I. assistants across various industries is highly beneficial. For example, empirical research on technology acceptance proves that the utilitarian factor plays a role in I.T. use and acceptance (Williams MD, Rana NP, Dwivedi YK., 2015). Like other tech innovations, the ultimate goal for smart home technology adoption is to deliver value. The physical objects are usually acquired for their use cases in both the short- and long-term - and their monetary value.

For instance, a ventilation system is expected to keep the air fresh, and a light switch is expected to turn on the light. The difference in utility is the more capable device's ability to find and alert before home security breaches or maintenance needs arise, saving much hassle that would otherwise be hard to avoid. The value derived from IoT depends on the user's intended use case. If a user's intention is unclear, they are more likely to view the IoT as unnecessary and potentially harmful. This can mean the difference between optimization in lifestyle and investment in technology (Dwivedi YK, Rana NP, Jeyaraj A, Clement M, Williams MD., 2017; Lee MC. 2009; Dwivedi YK, Rana NP, Janssen M, Lal B, Williams MD., 2017; Faulkner P, Runde J., 2013; Hsu C-L, Lin J-C-C., 2016)

Facilitating conditions:

F.C. refers to any resources available on a device, such as apps, cameras, and other software. As companies increasingly use technology on the consumer side, they provide a variety of ways to get used to the new system. They can help with training resources, allowing them to adopt a new system quickly. In this case, an individual's perceived behavioral control helps guide their decision-making (Ajzen I., 1991). All things being equal, with greater access to financial capital, users are more likely to adopt technological innovations (Dwivedi YK., 2017a; 2017b; Baabdullah AM., 2018). Picking out which security system to get and getting it installed requires some research, but consumers with access to training resources on how to use home security systems with IoT are more likely than those without it.

Hedonic motivation:

The technology H.M. uses captures the enjoyment and pleasure the user derives from using it. Residents are constantly looking for new products and services that reflect their personalities. Occupants have the power to change their habits, and this is a result of innovation. (Venkatesh V., 2012; Agarwal R, Prasad J. A., 1998) Consumer innovativeness increases the level of H.M. derived from accepting and using a particular technology (ibid). In the literature-based discussion of I.T. acceptance, H.M. is seen as an influential driver (ibid). H.M. has been shown to positively affect attitudes toward technology (Yang HC., 2013). Consumer IoT owners can derive much satisfaction from engaging with new technologies. As the saying goes, "Enjoy the little things." They are also more likely to be interested in other aspects of their home than individuals who do not enjoy them as much. Experts see H.M. as influencing users' attitudes toward IoT and an essential factor in IoT adoption.

Use Behavior:

IoT devices are generally linked to other technology networks to be accepted. Such systems are crucial for the future, so more research is being done about their acceptance (Lee M-C., 2008). Researching the use of IoT from residents` viewpoint would provide helpful insights into their needs and concerns. This study explores the factors that affect perceived usefulness, perceived ease of use, and attitude in the context of IoT systems. Since information on IoT systems is increasing and studies have not sufficiently defined Iranian smart house occupants' general perception toward integrating IoT into residential buildings, there is much confusion regarding how the rise in these new technologies should be portrayed. The new IoT framework offers many benefits, including awareness, efficiency, and cost savings. This is all possible because of this new model (IoTAM). According to Prayoga and Abraham (Dwivedi YK., 2017b), IoT is based on techno-psychological points of view and must be explained in terms of its affective, cognitive, behavioral, and technological elements. The findings of this study are meant to be used as knowledge that can help a wide range of stakeholders successfully integrate the Internet of Things. These include management, designers, and other interested parties in the technological integration of devices such as IoT. (futu)

Preference:

When consumers find themselves in a situation where they have to choose from a selection of goods and services, traditional decision-making models focus on identifying the best alternatives that can fit such a scenario. However, in the case of smart buildings, it can be claimed that it is the like yes or nothing, and this is because IoT systems are a must in turning conventional construction into a smart one. However, in terms of Preference, participants were asked to give their opinions on whether they intend to keep using IoT systems, use them even more frequently, price-value factor, and if they are willing to recommend it to others. Generally, it has been attempted to investigate the overall satisfaction status of operating IoT systems with the assistance of the self-administered questionnaire.

Problem Statement:

Much research has focused on how IoT technologies are used from the point of view of the technical issues (Schlick, J.; Ferber, S.; Hupp, J., 2013), while little attention has been devoted to understanding the acceptance of IoT technologies from the perspective of smart house occupants (Li, X.J.; Wang, D., 2013). However, the present literature on smart buildings seems either too technical or too specific in that a relatively new surveillance system and its components are introduced and implemented, and results are obtained. In this context, the overall effectiveness of implementing IoT devices on the comfort level of residents remains unsolved. The present study attempts to fill this knowledge gap by exploring the effect of integrating IoT into residential buildings and its consequent impact on the QoL of residents living in smart houses for at least two years.

Aims:

There are a lot of theoretical concerns related to IoT products and applications. One is knowing how individuals perceive them and helping adoption through understanding the different components. This research aims to identify the factors that influence a person's intention to adopt an IoT product or application. This will have significant implications for understanding how to encourage adoption across all Iranian age demographics of 18 to 50 years old. This study attempted to answer three questions as listed below:

- Which factor(s) has affected the QoL of residents most significantly?
- Is there any significant difference among the three groups living in smart houses regarding their QoL?

Significance:

Ever since the first innovation of IoT and its embodiment in residential houses, there has been a large body of literature regarding smart houses (Dwivedi YK., 2017b). To the best of the author's knowledge, most related studies are concerned with proposing a relatively new IoT-based system and evaluating its performance. By adopting a quantitative research methodology, this study attempted to provide an exact and realistic viewpoint toward smart houses powered by IoT and how it affects residents` quality of life from different age ranges. This study aimed to reconsider the effectiveness and applicability of integrating IoT into residential buildings.

Participants were chosen from the customer list of a service provider who provides the installation and setup of proprietary systems at the building. In the context of this study, IoT smart home service is defined as the IoT-based functionality provided to the household by a service provider or third party. Accordingly, residents comprised the study sample, and their opinions have created this study's demanded data. Results would help recognize the most influential aspects of living in a smart house and redraw the future paths ahead of smart houses.

METHODOLOGY:

This study aimed at assessing the effect of living in smart houses on the quality of life or comfort level of occupants**.** Based on the goal set for this study, quantitative research methodology has been adopted as the primary data analysis tool to reach the objective. Quantitative research is a form of analysis use to measure the exact degree of effect to interpret and make sense of experiences to better understand the subject matter (Agarwal R, Prasad J. A., 1998). Results obtained from distributed questionnaires were gathered and organized for further analysis. The questionnaire was divided into five sections, each covering a particular aspect of living in an IoT-based smart house, which will be discussed later in this section. Questionnaires ensured that the in-ground affectivity of IoT-based smart buildings and their subsequent effect on residents' quality of life was obtained.

By adopting a systematic random sampling, participants of this study have been chosen, including 20 smart houses with a total number of 51 residents from different regions of Iran were selected. Inclusion and exclusion criteria included being at least 18 years old with two years of occupancy in a smart house, and other participants were ignored. Consent forms were sent to the participants to become aware of the purpose of this study. All participants were acknowledged for the survey and assured that their demographics and opinions would not show without permission. The same control system powered all twenty houses with at least five active devices connected to it. Participants were identified from the customer list of the company. Due to the large geographical region under investigation, questionnaires were created in three languages to ensure readability. Research contributors were using IoT-powered devices to monitor and control different gadgets installed in the building, including CV cameras, automatic door locks, air conditioners, multi-media devices, fire systems, emergency calls, and others.

To make the data transferable, the credibility, conformability, and dependability of the data retrieved from the questionnaires were evaluated (Alqahtani, M.M., Arnout, B.A., Fadhel, F.H., Sufyan, N.S.S., 2021). Participant surveys helped ensure the accuracy by being rechecked multiple times to ensure the accuracy (ibid). On the other hand, the conformability of the data was established as content analysis and a review of relevant literature were performed before designing the questionnaire. On the other hand, all participants were asked the same questions and the reliability of the data was established (ibid). Because the required conditions were met, the data can be considered valid and reliable (Kyngäs, H., Kääriäinen, M., Elo, S., 2020).

The first part of the questionnaire involved residents' performance expectancy of smart house residents using IoT systems. The second section of the questionnaire is regarding the effect of smart house systems on facilitating indoor conditions for residents. The third part of the questionnaire explored the hedonic motivation of residents to use IoT systems. Further, in the fourth part, the user behavior of occupants of smart houses was investigated. Eventually, the fifth section investigated IoT systems' preference over conventional residential buildings. The data have been extracted from questionnaires and inserted into Microsoft SPSS 26 to organize the data. In order to ensure the internal consistency of gathered data, a Cronbach's Alpha test has been used via SPSS 26 and subsequently. Furthermore, to answer the first research question, the Chi-Square test has been used to measure the significance level of each variable in each group separately. Additionally, a non-parametric Kruskal-Wallis test was used for independent samples to decide

whether there was any considerable difference across groups.

RESULTS:

The Cronbach's Alpha test is used to ensure internal consistency, and results are given in Table 1. Internal consistency is confirmed as Cronbach's Alpha test results indicated 0.529, which is sound.

Table 1. Cronbach`s Alpha test result

Reliability Statistics

Cronbach's Alpha	N of Items
.529	20

To answer the first research question, the Chi-Square test has been used to determine the degree to which each age group`s QoL has been affected by research variables. A hypothesized significance level of the Chi-Square test has been set on 4, and results are provided in the following table.

Table 2. Chi-Square results of the first research sample (i.e, 18-28 yo)

	Chi-Square	df	Asymp. Sig.
Performance Expectancy	14.588	2	.001
Facilitating Condition	3.824	5	.575
Hedonic Motivation	11.588	5	.041
Use Behavior	3.941	3	.268
Preference	5.235	5	.388

According to the results Chi-square test of the second age group, Performance Expectancy (Sig. 0.001) and Hedonic Motivation (Sig. 0.41) had a considerable effect on the QoL of participants, respectively. However, Facilitating Condition (Sig. 0.575), Preference (Sig. 0.388), and Use Behavior (Sig. 0.268) had no impact on the QoL of research participants. The first group is the only group favoring the Hedonic Motivation aspect of IoT.

Table 3. Chi-Square results of the second research sample (i.e, 29-39 yo)

	Chi-Square	df	Asymp. Sig.
Performance Expectancy	4.765	1	.029
Facilitating Condition	3.118	5	.682
Hedonic Motivation	6.647	5	.248
Use Behavior	8.059	5	.153
Preference	3.471	3	.325

On the contrary, based on the Chi-square test results, Performance Expectancy (Sig. 0.029) has shown a significant effect on the QoL of the second age group (i.e., 18 to 28). On the other side, Facilitating Condition (Sig. 0.682), Preference (Sig. 0.325), Hedonic Motivation (Sig. 0.248), and Use Behavior (Sig. 0.153) had no impact on the QoL of the second group.

Table 4. Chi-Square results of the third research sample (i.e, 30-40 yo)

	Chi-Square	df	Asymp. Sig.
Performance Expectancy	9.118	3	.028
Facilitating Condition	6.059	7	.533
Hedonic Motivation	6.647	5	.248
Use Behavior	9.176	4	.057
Preference	5.647	4	.227

Based on the outcomes, the Performance Expectancy (Sig. 0.028) of IoT among the third group members has considerably affected residents` QoL. Nonetheless, other factors, including Facilitating Condition (Sig. 0.533), Hedonic Motivation (Sig. 0.248), and Preference (Sig. 0.227), have depicted no significant role in the QoL of the third group members. In general terms, the results of the second and third groups were somewhat identical. The following section gives an answer to the second research question.

Answer to the second research Question:

To answer the second research question, the Kruskal-Wallis test is utilized to rank the scores for the whole sample and then compares the mean rank for each group. Results of the Kruskal-Wallis test are provided in the table below.

Table 5. Results of kruskal-Wallis test

Distribution across groups	Total N	Test Statistics	df	Asymptotic Sig.(2-sided test)
Performance Expectancy	51	37.473	2	.000
Facilitating Condition	51	2.922	2	.232
Hedonic Motivation	51	.758	2	.684
Use Behavior	51	.561	2	.561
Preference	51	1.172	2	.337

Based on the results of Table 5, Performance Expectancy (Sig. 0.000) has considerable differences, at least among the two groups, which will be identified further in this section. However, Facilitating Condition (Sig. 0.232), hedonic motivation (Sig. 0.684), Use Behavior (Sig. 0.561), and Preference (Sig. 0.337) among a sample of all three regions have demonstrated no significant impact on residents' QoL and do not show any difference across groups.

Drawing on the results of the Kruskal-Wallis test, the distribution of four of five independent variables of the present study did not exhibit any considerable difference. However, performance expectancy significantly differed across the three regions; as a result, a pairwise comparison of the three groups has been made, and the results are given in Table 6. A pairwise comparison of three groups (18-28, 29-39, and 40-50 yo) developed by the Dunn-Bonferroni (sig. 0.000) test is also included in deciding which groups differ regarding Performance Expectancy that depicted considerable difference.

Table 6. Pairwise Comparisons of Groups

Sample Sample 2	1-Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]
18to28-29to39	-15.853	4.874	-3.253	.001	.003
18to28-40to50	-30.559	4.874	-6.270	.000	.000
29to39-40to50	-14.706	4.874	-3.017	.003	.008

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

As an inferential framework of the independent Kruskal-Wallis test, the Bonferroni test has made multiple pairwise comparisons and redefined (i.e., the possibility of falsely rejecting the null hypothesis) for this analysis. Based on the results of pairwise comparisons of the group, as the p-value of West-South ($p < 0.001$) is lower than the significance level (Sig. 0.000), there is solid evidence to suggest a difference between these two age groups.

Further, following charts depict the average rank of the data across three groups, and figure 1 demostrates Bonferroni test result shows the average rank of groups to provide better insight. The pairwise comparisons page below shows the results of the Dunn-Bonferroni tests on each pair of groups. Again, there is a significant difference between the First (18-28 yo) and Third (29-39 yo) groups regarding Performance Expectancy.

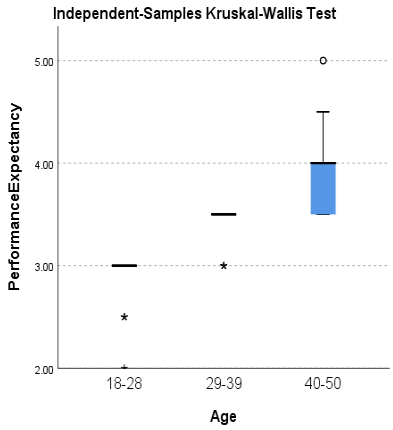

Fig. 1. The Bonferroni's average rank based on age in the independent Kruskal-Wallis test result framework

Nonetheless, since there is no considerable difference in independent variables (i.e., Facilitating Condition, Hedonic Motivation, Use Behavior, and Preference)

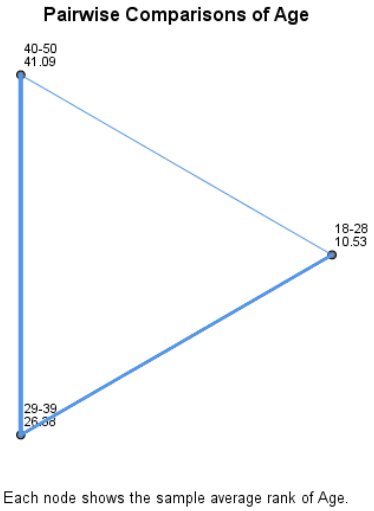

Fig. 2. The pairwise comparisons tests result of the Dunn-Bonferroni

across the three groups, multiple comparisons are not performed because the overall test did not show significant differences across samples. Kruskal-Wallis's average rank of groups for other factors is provided accordingly.

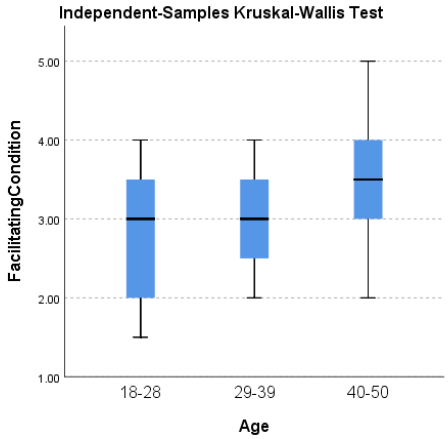

Fig. 3. The Kruskal-Wallis's average rank of Facilitating Condition based on age

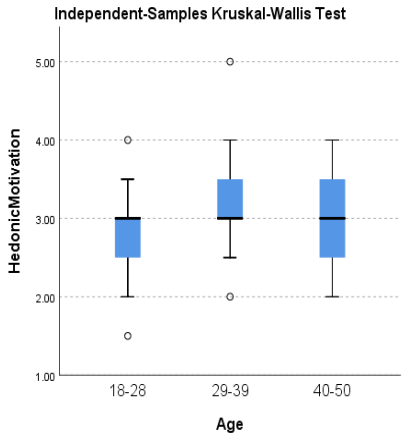

Fig. 4. The Kruskal-Wallis's average rank of Hedonic Motivation based on age

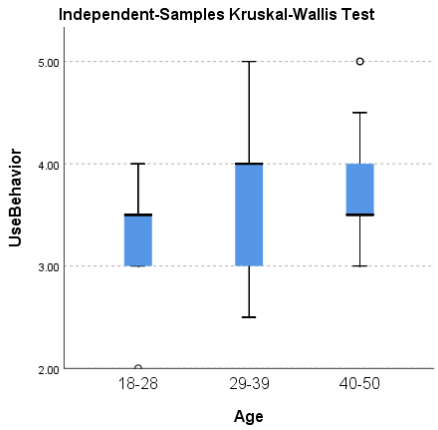

Fig. 5. The Kruskal-Wallis's average rank of Use Behavior based on age

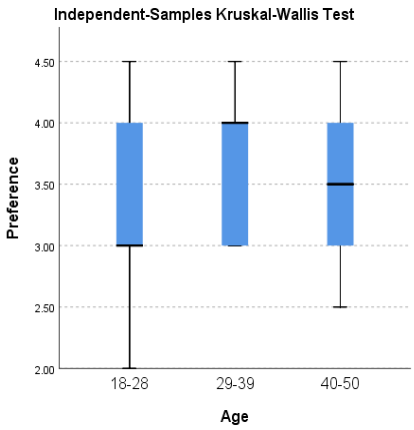

Fig. 6. The Kruskal-Wallis's average rank Preference based on age

According to the results of Table 3, variables of hedonic motivation (0.041) and facilitating condition (Sig. 0.045) have significantly affected the QoL of residents in the first research sample. However, the performance expectancy did not have a significant (Sig. 0.072) effect on the QoL of residents, in addition, to use behavior. Preference has depicted 0.153 significance, and it seems participants from the Northern region had no large IoT-powered smart building compared to traditional building types.

CONCLUSION:

The present study was an attempt to explore the effect of IoT-powered smart home features on residents` overall Quality of Life regarding three different age groups ranging from fifteen to forty-seven years old. Several 20 smart houses with 51 residents were reached from the consumer list of a successful firm. A self-administered questionnaire including five different sections has been distributed among participants.

Further, by operating SPSS 26 software, necessary statistics were generated to see whether there were any significant differences among group members. First, a Cronbach`s Alpha test has been used to ensure the internal consistency of the data. To answer the first research question, the Chi-square test has been utilized to determine how much each group`s QoL has been affected by study variables. Results have indicated that Performance Expectancy and Hedonic Motivation have significantly affected the QoL of the first research sample (i.e., 18 to 28 years old); on the other hand, Performance Expectancy was the only significant factor found in the second group (i.e., 29 to 39 years old) and the third group (i.e., 40 to 50 years old).

Additionally, a Kruskal-Wallis test has been utilized to rank the scores for the whole sample and then compare the mean rank for each group; in addition, Dunn-Bonferroni was employed to make multiple pairwise comparisons and redefined the meaning of α of the Kruskal-Wallis test result. Findings indicated no significant differences in research variables across the three groups except for Hedonic Motivation, in which a considerable difference was found between first and third group members. Future studies might widen the scope by taking gender into consideration as well; and participants can be chosen from other geographical regions around the globe. Even though this study analyzed five factors, further research must be consider other variables to help providing more in-depth view into the subject matter.

REFERENCES:

1. Abdelouahid, R.A., Debauche, O., Marzak.: Internet of things: a new interoperable IoT platform. Application to a smart building. Proced Comput Sci 191, pp. 511–517 (2021)
2. Agarwal R, Prasad J. A conceptual and operational definition of personal innovativeness in the domain of information technology. Inf Syst Res. 1998; 9(2):204–15. doi:10.1287/isre.9.2.204.
3. Ajzen I. The theory of planned behavior. Organ Behav Hum Decis Process. 1991; 50(2):179–211. doi:10.1016/0749-5978(91) 90020-T.
4. Alqahtani, M.M., Arnout, B.A., Fadhel, F.H., Sufyan, N.S.S.: Risk perceptions of COVID-19 and its impact on precautionary behavior: a qualitative study. Patient Educ. Couns. 104(8), pp. 1860–1867 (2021)
5. Ashton, K. That ‘internet of things’ thing. Rfid J. 2009, 22, 97–114.
6. Baabdullah AM. Consumer adoption of Mobile Social Network Games (M-SNGs) in Saudi Arabia: the role of social influence, hedonic motivation and trust. Technol Soc. 2018; 53:91–102. doi:10.1016/j.techsoc.2018.01.004.
7. Bagozzi, R.P. The legacy of the technology acceptance model and a proposal for a paradigm shift. J. Assoc. Inf. Syst. 2007, 8, 244–254.
8. Benbasat, I.; Barki, H. Quo vadis, TAM? J. Assoc. Inf. Syst. 2007, 8, 211–218.
9. Davis, F.D. Perceived usefulness, perceived ease of use, and user acceptance of

information technology. Mis Q. 1989, 13, 319–340.
10. Dwivedi YK, Rana NP, Janssen M, Lal B, Williams MD, Clement M. An empirical validation of a unified model of electronic government adoption (UMEGA). Gov Inf Q. 2017; 34 (2):211–30. doi:10.1016/j.giq.2017.03.001.
11. Dwivedi YK, Rana NP, Jeyaraj A, Clement M, Williams MD. Reexamining the unified theory of acceptance and use of technology (UTAUT): towards a revised theoretical model. Inf Syst Front. 2017;191–16.
12. Faulkner P, Runde J. Technological objects, social positions, and the transformational model of social activity. MIS Q. 2013; 37.
13. Hsu C-L, Lin J-C-C. An empirical examination of consumer adoption of internet of things services: network externalities and concern for information privacy perspectives. Comput Human Behav. 2016; 62:516–27. doi:10.1016/j.chb.2016.04.023.
14. Hsu, C.-L., & Lin, J. C.-C. (2016). An empirical examination of consumer adoption of internet of things services: Network externalities and concern for information privacy perspectives. Computers in Human Behavior, 62, 516–527. https://doi.org/10.1016/j.chb.2016.04.023.
15. Kim, Y., Park, Y., & Choi, J. (2017). A study on the adoption of IoT smart home service: Using value-based adoption model. Total Quality Management and Business Excellence, 28(9–10), 1149– 1165. https://doi.org/10.1080/14783363.2017.1310708.
16. Kyngäs, H., Kääriäinen, M., Elo, S.: The trustworthiness of content analysis. In: The Application of Content Analysis in Nursing Science Research, pp. 41–48. Springer (2020)
17. Lee M-C. Factors influencing the adoption of internet banking: an integration of TAM and TPB with perceived risk and perceived benefit. Electron Commer Res Appl. 2009; 8(3):130–41. doi:10.1016/ j.elerap.2008.11.006.
18. Li, X.J.; Wang, D. Architecture and existing applications for internet of things. Appl. Mech. Mater. 2013, 347, 3317–3321.
19. Macik, R. The Adoption of the Internet of Things by Young Consumers–an Empirical Investigation. Econ. Environ. Stud. 2017, 17, 363–388.
20. McLellan, C. Cyber Security in 2015: What to Expect; 2015; Available online: https://www.zdnet.com/article/ cybersecurity-in-2015-what-to-expect/ (accessed on 3 November 2020).
21. Moon, J.W.; Kim, Y.G. Extending the TAM for a World-Wide-Web context. Inf. Manag. 2001, 38, 217–230.
22. Peoples, C.; Parr, G.; McClean, S.; Scotney, B.; Morrow, P. Performance evaluation of green data centre management supporting sustainable growth of the internet of things. Simul. Model. Pract. Theory 2013, 34, 221–242.
23. Prayoga, T.; Abraham, J. Technopsychology of IoT Optimization in the Business World. In The Internet of Things in the Modern Business Environment; IGI Global: Hershey, PA, USA, 2017; pp. 50–75. Available online: https://www.igi-global.com/chapter/technopsychology-of-iot-optimization-inthe-business-world/234934 (accessed on 29 October 2020).
24. Quasim, M.T.: Resource Management and Task Scheduling for IoT using Mobile Edge Computing. Wireless Personal Communications (2021)
25. Schlick, J.; Ferber, S.; Hupp, J. IoT applications–value creation for industry. In Aalborg; River Publisher: Gistrup, Denmark, 2013.
26. Tsai, M.-C.; Lee, W.; Wu, H.-C. Determinants of RFID adoption intention: Evidence from Taiwanese retail chains. Inf. Manag. 2010, 47, 255–261.
27. Venkatesh V, Morris MG, Davis GB, Davis FD. User acceptance of information technology: toward a unified view. MIS Q. 2003;425–78. doi:10.2307/30036540.
28. Venkatesh V, Thong JYL, Xu X. Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. MIS Q. 2012; 157–78. doi:10.2307/41410412.
29. Williams MD, Rana NP, Dwivedi YK. The unified theory of acceptance and use of technology (UTAUT): a literature review. J Enterp Inf Manag. 2015; 28(3):443–88. doi:10.1108/JEIM-09-2014-0088.
30. Yang HC. Bon Appétit for apps: young American consumers' acceptance of mobile applications. J Comput Inf Syst. 2013; 53:85–96.