# Developing an Organizational e-Learning Usage Model: A Qualitative Study on the Case of Lebanon

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***Abstract*—The study aims to investigate the factors that impact e-learning adoption among employees in Lebanese corporations. While prior research has mainly focused on developed countries, this study aims to fill the gap in understanding e-learning adoption in the context of Lebanon. A qualitative exploratory study was carried out with 12 employees and managers from four organizations using e-learning solutions. The study identified several key factors that influence positive attitudes towards e-learning, including management support, recognition, access to resources, and more. A model based on the Technology Acceptance Model 3 was then proposed to better understand e-learning usage within Lebanese corporations and provide guidance on improving e-learning adoption rates. To enhance e-learning adoption among employees, it is recommended that Lebanese corporations prioritize management support and recognition, establish regular monitoring practices, improve communication, provide relevant and quality content, implement user-friendly and interactive platforms, incorporate gamification elements and recognition tools, reduce barriers, and emphasize the personal and professional benefits of e-learning. It is important for corporations to continuously monitor and adapt their e-learning strategies to fit the subjective norms and social environment of their employees. This study offers valuable insights and practical guidance for corporations looking to implement e-learning solutions and improve adoption rates among their employees. It serves as a reference for future research on e-learning adoption in Lebanon and highlights the need to understand the factors that influence e-learning adoption to improve the success of e-learning programs and enhance organizational performance and employee development.**

***Index Terms*—E-learning, e-learning usage, organizational e-learning model, qualitative study, Lebanon**

## I. Introduction

The growing complexity of the business environments has led to the rise in expertized positions requiring particular skill sets outside of the scope of academic programs. Therefore, organizations had to develop or acquire training systems in order to ensure the acquisition of new skills that pertain to organizational needs and employees' professional responsibilities. Advancements in technology, particularly e-learning solutions, have allowed companies to pursue training efforts in a cost effective and efficient manner [1]. Recognizing the importance of both short term and lifelong training, organizational investments in Learning Management Software (LMS) and other online training platforms have thus become prominent and are expected to increase [2].

The dynamism of the business environment subjects' organizations to constant challenges which they must quickly resolve in order to ensure their survival and maintain a competitive advantage [3]. While traditionally limited to market and customer demands, organizational challenges have recently centered around the COVID-19 pandemic-induced global lockdown and the ensuing turbulence in global economies. With the implementation of social distancing measures and the closure of both academic and professional institutions, the world has seen a major shift towards distance education and online learning platforms. The sharp rise in the use of educational technology was observed in most countries around the globe, especially in the educational sector [4]. However, the potential of e-learning platforms and solutions remains dampened by the poor understanding of the factors facilitating its use and promoting positive attitudes towards the technology [5].

E-learning success in the middle east remains variable across different countries, generally lagging behind their counterparts from the western world. Despite the maturation of the ICT infrastructural landscape, e-learning usage in the Middle East region remains plagued with several barriers such as high cost of telecommunications, lack of local language-friendly material and limited research on outcomes and effectiveness [6]. In Lebanon, e-learning implementation remains relatively at its beginning, with efforts predominantly targeting the educational sector. Regardless, some private organizations have looked towards the integration of e-learning solutions into their training programs, yielding a positive and promising outlook for organizational e-learning in Lebanon [7].

However, researchers have yet to explore the barriers and influencers of positive attitude towards organizational e-learning in Lebanon, with all efforts directed towards academia [8–10]. The present study thus aims to employ qualitative interview-based approach within Lebanese organizations, gathering insights from both employees' and managers' perspectives. Based on the generated understanding of the e-learning landscape in Lebanon, the formulation of a model for the evaluation of e-learning usage in an organizational setting becomes possible. By applying the model, organizations can then elucidate the factors implicated in organizational e-learning usage and address them accordingly with targeted and applicable measures.

## II. Literature Review

E-learning literature is rich with published works attempting to elucidate the determinants and barriers of different e-learning solutions. E-learning solutions are

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considered an innovation when newly implemented and used in an organizational context despite it being well established in the industry [11, 12]. As such, the use of technology adoption models is appropriate in order to better understand technology, innovation [12], or adoption behavior. The majority of studies relying on the Technology Acceptance Model (TAM) in either of its three versions to establish their theoretical framework [9, 13, 14]. While the use of TAM was prevalent for the elucidation of intentions and attitudes towards e-learning, other models such as the Theory of Planned Behavior (TPB) [15], the DeLone-McLean Information System success model [16, 17], and the Unified Theory of Acceptance and Use of Technology (UTAUT) [18], have been reported. Regardless, researchers often extended the original TAM models with various factors in order to better account for behavioral intentions of e-learning users in a particular chosen setting [19–22] and provide a better understanding of the intricacies of e-learning behavior among users.

However, academia-centered approaches predominate existing e-learning literature, with many studies examining the determinants of educational e-learning use among students and academic populations [14]. While a number of studies were conducted in an organizational e-learning context [20–23], the variation in causal relationships between students and employees, particularly in the context of attitude, perceived ease of use, and perceived usefulness on behavioral intentions [14] calls for further research investigating e-learning solutions in the organizational setting.

In general, e-learning literature seems to support the relationships between perceived usefulness and perceived ease of use originally proposed in the TAM models [22, 24, 25], albeit with some noted exceptions [13]. Moreover, the effect of these variables on the intentions, attitudes, satisfaction and actual usage of e-learning systems was demonstrated in multiple studies [19, 24, 26]. While the intimate implication of user perceptions of the usefulness and ease of use of e-learning solutions has been widely established, e-learning usage remains subject to other factors that come into play. Extending TAM's conceptual model with quality attributes actually revealed the importance of service quality, content quality, and system quality in the formulation of positive attitudes towards e-learning systems. When e-learning platforms exhibited adequate system quality, information quality and service quality, user satisfaction was promoted [27], in addition to the actual use [16] and continuance intentions of e-learners [17].

The interplay between various organizational factors and user adoption behavior was also investigated in e-learning literature. Management support and organizational support were demonstrated to have widespread effects, particularly on the level of social norms, perceived usefulness, perceived ease of use and attitudes towards e-learning systems [21], [28]. Individual factors such as self-efficacy, computer self-efficacy, intrinsic motivations, locus of control, innovation attitude and motivation have also been cited in the literature [15, 20, 22, 29–31].

Previous research has validated the TAM3 model in the context of e-learning, thus reporting the applicability and validity of its various proposed relationships and constructs in different settings [32]. Regardless, the great variability of e-learning barriers and potentiators across user populations and geographical locations calls for further exploration of the applicability of a certain model or its underlying relationships in the intended context. Qualitative analysis was suggested to be appropriate for the detection of a phenomena's different structures, properties, meanings, and variations [33]. It is thus ideal for clarifying and understanding situations when operative variables cannot be identified ahead of time [34], such as the case of Lebanon where organizational e-learning is not yet empirically investigated.

## III. Methodology

An exploratory qualitative study of the factors affecting organizational e-learning use was conducted among 12 employees from four different organizations with headquarters in Lebanon. The cases under the study included a retail company (A), a bank (B), a telecommunication company (C) and an aviation company (D), each providing services to the Lebanese market as well as others in the Middle East. All four organizations have previously established the same e-learning solution in order to deliver business courses and educational material at the learner's convenience and pace.

Individual semi-directive interviews [35] served to identify employees' understandings about e-learning factors affecting their e-training practices. An interview guide was prepared in advance covering three main pillars related to e-learning in an organizational setting, namely the organization, the system (platform and content) and the end user. The four participating companies were contacted to request interviews with employees having access to the e-learning system, prioritizing those whose profile (ages, positions and educational backgrounds) would ensure a representative sample of employees as shown in Table I.

TABLE I: The Structure and Questions of the Interview Guides Used in the Study

| Interview Guide Questions | Pillar of Interest |
|---|---|
| What can an organization do to make employees use e-learning? | Company |
| How an e-learning system should be managed to have employees use the solution? | Company |
| What practices can the organization make to motivate/hinder the employees to use the e-learning? | Company |
| Describe an e-learning system where employees are motivated to use and adopt e-learning. | System |
| What would motivate the employee to use the e-learning system? | Employee |
| Why would an employee refuse to use or not use the e-learning system? | Employee |
| If you were to manage the e-learning usage, what measures or choices would you take to affect positively the e-learning platform usage? | Company/Employee/System |
| What can be done to promote for e-learning? | Company/Employee/System |

Interviews were completed at the company premises and lasted between 20 minutes and 45 minutes. Based on the phenomenon of semantic saturation, the sample was limited to nine end users and three HR managers or subject experts [36]. In other words, interviews were conducted until no novel responses were obtained and theme repetition was evident. The characteristics and profiles of interviewed employees are available in Supplementary Table I (cf. Appendices). Interviews were recorded, and transcribed. The most important aspects of the interviews were then identified from the interviews and selected for further analysis. After thematically categorizing interviews, various themes and subthemes were identified for end users and HR managers, as shown in Table II. The themes were generally identical with the exception of one subtheme, namely training cost, which was exclusively mentioned by managers.

TABLE II: THEMES AND SUBTHEMES EMERGING AFTER ANALYSIS OF INTERVIEW TRANSCRIPTS

| Themes | Employee Subthemes | Manager Subthemes |
|---|---|---|
| **External environment** | Time | Time |
| | Internet | Internet |
| | Tech support | Tech support |
| **Internal capacities** | English computer | English computer |
| **Platform characteristics** | User friendly | User friendly |
| | High tech flexible | High tech flexible |
| | Easy access | Easy access |
| | Interactive | Interactive |
| | Mobile access | Mobile access |
| **Content characteristics** | Easy access | Easy access |
| | Interactive | Interactive |
| | Short | Short |
| | Course test | Course test |
| **Benefit** | Personal professional development | Personal professional development |
| | - | Cost |
| | Applicability | Applicability |
| | Matching needs | Matching needs |
| | Incentive | Incentive |
| **Personal external representation** | Compete | Compete |
| | Result recognition | Result recognition |
| | Picture | Picture |
| **Managerial practices** | Commit | Commit |
| | Mandate | Mandate |
| | Link to project activity Training Needs Analysis (TNA) | Link to project activity Training Needs Analysis (TNA) |
| | Link perf post | Link perf post |
| | Follow-up | Follow-up |
| | Communication | Communication |
| | Reminders | Reminders |
| | Certificate | Certificate |
| **Results reporting** | Yes | Yes |
| **Training details** | Deadline | Deadline |
| | Complete target | Complete target |
| **Like** | Yes | Yes |

As suggested by Bardin [36], categorical analysis grids were then constructed based on the technique of thematic categorical coding. The latter favors the frequency repetition of the themes generally used as a recording unit for answers to open questions and semi-structured interviews which can be analyzed on the basis of the theme. Two levels of grid analysis were then adopted, following which the themes approached by each subject is reviewed (vertical analysis), which are then investigated according to the different forms of their appearance (horizontal analysis) [37].

## IV. Results

As shown in Table III, managers and end users' priorities differed in terms of theme frequency, albeit slightly. Managers were more concerned about managerial practices, internal capacities, and platform characteristics, whilst the benefit, content characteristics, personal external representation, and result reporting were more prevalent among employees. Themes that were comparable from both an end user and manager perspective were training details, external environment, and like. These themes will be presently discussed in the order of importance among employees.

TABLE III: The Results Change between the End Users and Managers' Interviews in Function of the Themes and SubThemes

| Themes | Subthemes | End users % subtheme out of theme | End users % theme out of total themes | End users Ranking | Managers % subtheme out of theme | Managers % theme out of total themes | Managers Ranking |
|---|---|---|---|---|---|---|---|
| **Managerial practices** | Commitment | 29.53% | 29.04% | 1 | 15.00% | 36.20% | 1 |
| | Mandate | 16.78% | | | 5.00% | | |
| | Link project activity TNA | 8.05% | | | 18.75% | | |
| | Link perf post | 8.05% | | | 11.25% | | |
| | Follow-up | 15.44% | | | 20.00% | | |
| | Communication | 14.09% | | | 17.50% | | |
| | Reminders | 7.38% | | | 8.75% | | |
| | Certificate | 0.67% | | | 3.75% | | |
| **Benefit** | Personal & professional development | 30.91% | 21.44% | 2 | 38.71% | 14.03% | 2 |
| | Cost | 0.00% | | | 3.23% | | |
| | Applicability | 24.55% | | | 22.58% | | |
| | Matching needs | 20.00% | | | 19.35% | | |
| | Incentive | 24.55% | | | 16.13% | | |
| **Content characteristics** | Easy access | 25.56% | 17.54% | 3 | 26.67% | 13.57% | 3 |
| | Interactive | 16.67% | | | 16.67% | | |
| | Short | 12.22% | | | 20.00% | | |
| | Course test | 45.56% | | | 36.67% | | |
| **Training details** | Deadline | 34.21% | 7.41% | 4 | 50.00% | 8.14% | 5 |
| | Complete target | 65.79% | | | 50.00% | | |
| **Platform characteristics** | User-friendly | 21.21% | 6.43% | 5 | 25.00% | 12.67% | 4 |
| | High tech flexible | 15.15% | | | 28.57% | | |
| | Easy access | 36.36% | | | 28.57% | | |
| | Interactive | 24.24% | | | 7.14% | | |
| | Mobile access | 3.03% | | | 10.71% | | |
| **External environment** | Time | 68.97% | 5.65% | 6 | 25.00% | 5.43% | 6 |
| | Internet | 6.90% | | | 16.67% | | |
| | Tech support | 24.14% | | | 58.33% | | |
| **Results reporting** | Results reporting | 100.00% | 5.65% | 7 | 100.00% | 2.26% | 9 |
| **Personal external representation** | Compete | 30.77% | 5.07% | 8 | 0.00% | 2.71% | 8 |
| | Result recognition | 42.31% | | | 66.67% | | |
| | Picture | 26.92% | | | 33.33% | | |
| **Internal capacities** | English<br>Computer | 100.00% | 0.97% | 9 | 100.00% | 3.62% | 7 |
| **Like** | Like | 100.00% | 0.78% | 10 | 100.00% | 1.36% | 10 |

### A. Managerial Practices

Managerial practices were the most frequently cited theme by both employees and managers and could be classified into 8 subthemes. Employee attitude was generally predominated by managerial commitment, which reflects the perceived fidelity and support of management towards online training. This in turn seemed to pressure employees into using e-learning solution and completing the training program. "We had follow-up from managers and reminders to complete the training. Follow-up and pressure emails made us feel that it was important to complete it" R5 interviewee answered. The communication style was not as important as the communication entity, which should be well known by the employees and representing a managerial organizational rank.

Different aspects of managerial commitment are discernible such as using the solution, recommending the solution, promoting it and explaining its advantages and added values from management, in addition to approving official learning hours during working hours. "You need to have the high-level managers' management buy in and the management needs to communicate their engagement for it and promote for it and cascade it down to employees" R7 interviewee answered. In other words, the attitude of management towards e-learning is reflected on an organizational level through their employees. Managerial commitment should be evident on different levels and follow a certain hierarchical process for intervention involving senior colleagues, the HR department and managers.

The obligatory aspect of e-learning use was also discussed and was the second most important aspect of managerial practices according to employees. All interviewed employees have cited the mandatory aspect of e-learning at least once and have linked it to employee commitment to e-learning usage. While all users have agreed on their impression about the mandatory setting for e-learning use, this perception was more discrete and subtle during the interviews with the managers. "It's been actually very difficult to find the right incentive so far I haven't really found it except for the stick" RM1 interviewee answered.

From their part, managers accorded higher importance to the follow-up of the learning activity, which was also highly evoked by employees in its different forms (email, direct messaging, reminders). All interviewees reported the positive link between detailed frequent follow-up and pressure to use the solution and complete the e-learning courses. While persistent and sometimes aggressive, follow-up was reported to help the employees remember to use the platform and engage them to responsibly complete assigned online training curriculum. It was also suggested that a follow-up on the acquired learning activity would be fruitful and would allow the employees to structure what they have learned and transfer it to their workplace, "There should be a follow up afterwards, to gather the employees and discuss the training to put an action plans for them, that can be followed up with HR department" RM1 interviewee answered.

Concerning the communication related to preparing, promoting for, as well as following up the e-learning solution and its results, managers mainly utilized the phone, emails, or direct messaging applications (e.g. WhatsApp) to communicate e-learning-related information. Email messages containing detailed e-training information specific to each user as well as encouragement or quotes messages were reported to encourage the completion of the courses and motivate employees. Individualized emails, reminders, and managerial recognition of the completed online learning assets through certificates all served to communicate management follow-up, commitment and recognition of employee effort.

While the e-learning activity can effectively be a standalone process, the benefit of linking it with other elements such as the Training Needs Analysis (TNA) report or establish it as a pre-requisite to some face-to-face training or a learning activity to validate acquired skills and have practical application to the job session was also suggested. Establishing an association between e-learning training results and yearly performance appraisals, personal development plan (PDP) or promotion would also increase the employees' motivation and commitment to adopt the e-learning solution. RM1 told that "if you can link it to promotions or if you link it to some kind of monetary thing, or if you link it to their development, you can move to the next step of 'What's in it for me' factor."

### B. Benefit

The benefit theme was equally important among both employees and managers, garnering the second most frequent citations. E-learning benefit includes all advantages of the solution that might attract and motivate the employee to use it.

Naturally, the e-learning system offers different benefits for employees than it does to organizations, in which setting it can grant a greater extent to the trained employees, a lower cost, less training settings management, greater business agility and reliable business goals (learning goals aligned with business goals). During the interviews, e-learning benefit manifested as either personal or professional development opportunity, incentives like monetary reward (money prize, salary raise linked to promotion) or material incentives (prize, gift), the applicability of the learned content out of which a better job performance, or the interest of a training content matching the needs.

Personal development was the predominating sub- theme when examining the benefit of e-learning in both sample subsets, followed by applicability. The opportunity presented by e-learning to achieve personal and career development motivated employees to access and use the e-learning solution, affecting its usage positively. RM2 told "some like to learn and develop their skills, you can know it by how they are accessing their notes, and how they were accessing more than the requested learning path, and some others just are not interested, they want to finish the requested homework because their managers are pressuring them". As for applicability, the attitude of employees and managers towards e-learning depended on being able to apply the learned information on the job, whether it is directly or indirectly. Some gaps persist in the presentation of e-learning and the inclusion of real life and practical examples potentiating the ability of employees to tackle issues faced in

the workplace.

Incentives and matching e-learning content to training needs were mentioned to a lesser extent, while the cost-effectiveness of e-learning was only brought to conversation by managers albeit with a low frequency. The ability of incentives to motivate employees to use e-learning solution for online training and retain the provided information was debatable, with both negative and positive connotations implied to the use of monetary and material incentives. Identifying appropriate incentives matching employee expectations was necessary but remains elusive as employees have distinct drivers of their motivation.

### C. Content Characteristics

The content of the e-learning assets, its quality, its length, its format, the degree of interactivity, as well as the adopted knowledge assessment methods were all important considerations influencing attitude towards the platform. Courses offering tests were regarded highly by employees and managers alike as an important tool for knowledge assessment and retention. Test scoring can motivate employees and provide a quantified parameter for the managers to assess employee performance and e-learning courses' understanding.

Concerns about the difficulty of e-learning material were comparable in employees and managers, with noted effects on e-learning attitude in both a positive and negative manner. There was a general consensus on the need to deliver clear content with adequate level of difficulty for each user level and motivation. This was suggested to be important so as not to discourage employees from using the e-learning solution all while providing valuable insights and avenues for skill improvement. R3 told that "They have to be easy and friendly to use, visually good, videos engaging, subtitles English or Arabic, with types of exams at the end of every course, the difficulty of every course should match the aspiration of the student". Providing a blend of interactive and updated assets was also recognized as an essential consideration for the retention of the learner's engagement and interest in the e-learning solution. Similarly, both employees and managers agreed that adequately designed adaptive e-learning assets are needed in order to prevent demotivation due to lengthy or difficult e-learning training solutions.

### D. Training Details

Clearly communicating training details involves emphasizing the number of assets for the employee to access and to complete within a particular timeframe or deadline. In the interviews, it was evident that receiving reminders concerning training details, be it the e-learning target or the deadline, notably facilitated the auto-management of e-learning activities. R1 said: "They always send reminders to show the activity, the target, the deadline and the remaining tasks, the fact that we had little choices and a clear target helped a lot not to get lost in the options."

Establishing firm deadlines encouraged and pressured employees to use the e-learning solution in order to achieve monthly or yearly targets, which resulted in improved priority management and consequently, higher completion rates. However, it is important to set feasible targets within reasonable timeframes, thus promoting positive attitude towards e-learning.

### E. Platform Characteristics

Platform characteristics concern e-learning platform features such as access, the perception of its use, its flexibility, gamification elements and interactivity with other users. Ease of access was the most important consideration in this regard, with employees further emphasizing the importance of e-learning platform interactivity and user-friendliness for the promotion and facilitation of its use. It is thus necessary to provide users with explanatory documents detailing how to access and use the e-learning platform in order to ensure easy navigation of the e-learning solution. Incorporating gamification options and communication tools in the e-learning solution allows learners to share their experience with others through forums or direct messaging, and provides avenues for rewards competitions. R7 interviewee told: "By showing benefits of e-learning, you can do gamification, the more you do, the more you can get rewards".

User friendliness of the e-learning platform was cited among the factors positively affecting attitude towards it as well as enhancing its perceived easiness. Providing a technologically competent and flexible platform which can be accessed at the user's convenience from various locations not limited to the workplace and its PC stations (constant home and mobile access) was also among the factors improving the value, perceived easiness and cost of e-learning solutions.

### F. External Environment

The external environment incorporates all external factors affecting the e-learning solution's usage. Time was among the prevailing factors affecting the attitude towards online learning among employees, and by extension, the actual use of the solution. Conflicting perspectives were reported from managers, who considered that lack of employee willingness to learn as opposed to lack of time could explain the low utilization of e-learning.

Technical support received from the organization was frequently reported as a facilitator of e-learning use. Such support includes formulating and providing documents guiding employees in the access and use of the platform, as well as ensuring the availability of the internet connection needed for its use. Personal managerial involvement was also cited as a means to resolve bottlenecks and potentiate the use of the e-learning system. RM3 told: "We were close to the learners. I remember that we availed computers for them, we brought them to HR, we sat with them, we explained the questions, went through steps with them and we broke it down to be easy and comfortable to use." Adequate workplace setup should also be ensured by the collaboration between management and the IT department to provide all the technical necessities of e-learning use, such as a compatible workstation and a good internet connection.

### G. Result Reporting

Both employees and managers recognized the capacity of reporting e-learning training results as an effective mean to prove or showcase e-learning outcomes. Through results reporting and certifications, users are able to share

automatically generated training results with their peers and document, which includes time spent in the module as well as test scores. RM2 interviewee said: "The certifications are a good motive to do the courses, after the exams, you can use the certificate for any career, everyone needs like a kind of recognition from any side."

### H. Personal External Representation

This theme reflects the perception of the employee among his/her managers and colleagues within the organization and its correlation with the use of the e-learning solution. Recognition of e-learning results and achievements by management and its communication to peers in the workplace was cited most frequently in the interviews as a driver of positive e-learning attitude. RM2 said that "Monthly meetings were held and some users presented what they have learned for a certain course for the rest of the team. The fact that you have a presentation and everyone will see you, will make you not only view the course and pass the test but also to think further how to apply it". Employees reportedly require attention and recognition more than they desire materialistic incentives. Recognition could be manifested morally through public praise and dissemination of e-learning achievements in the organizational milieu, namely among employees, line managers, managers, and c-level (meetings, announcements, emails, LMS platform). This recognition could be supplemented with visual elements, such as a picture of the employee to be communicated along with their achievement to all concerned parties, particularly managers. R5 recognize that "Everyone wanted his pictures to be sent with his achievements to managers". Alternatively, material recognition of e-learning results was also reported through symbolic gifts (e.g. inscribing a trophy or a T-shirt with the name of the employee and the e-learning achievement).

### I. Internal Capacities

The internal capacities or self-efficacy of employees in relation to the access and use of e-learning platform were also mentioned as influencers of user attitude towards the solution. Language barriers could prevent module use when employees do not speak the language in which the training is offered. Similarly, computer illiteracy significantly hinders e-learning usage. A personalized, efficient and simple approach targeting the potentiation of employee skills and self-efficacy in the workplace should be exercised in order to promote positive attitudes towards learning, particularly in an online setting. For RM2 interviewee "You need to analyze and understand why he refuses to use it, if he is afraid of using the computer because he is afraid for his image, in this case you give him computer courses".

### J. Like

The emotions, be they positive or negative, that employees experience towards the e-learning solution also emerged as a theme in the interviews. Few employees mentioned any type of affection towards the e-learning solution, despite some establishing its association with the intention and willingness to use it. On the other hand, managers seemed to like the e-learning courses and platform, albeit with relative reservation.

## V. Discussion

For a clearer reading, interpretation and a better mapping, the different reported themes and subthemes were linked to the three main pillars of interest: the organization, the employee and the e-learning solution.

On an individual level, the benefits of e-learning, personal external representation, skills needed for e-learning use, situational factors, and attitude towards e-learning were identified as important considerations. According to Ajzen's theory of planned behavior (TPB) [38], individuals' attitudes towards e-learning, perceived behavioral control, and subjective norms are key predictors of their intention to use e-learning.

Personal development as well as career advancement are two important considerations among e-learning users in an organizational setting. Another important factor is perceived usefulness, which has long been used to reflect user perceptions of the benefit of a particular technology's benefit in regards to their job or performance [4, 39]. Perceived usefulness can therefore be used to reflect e-learning benefits on a larger scale, incorporating both personal and professional advantages, self-development, incentives as well as matching learner interest and needs within the workplace. Themes emerging in the qualitative interviews fall in line with the suggestions of Venkatesh, and Bala [40] in the TAM3 model, where e-learning attitude depends on the technology's perceived usefulness, which in turn is affected by information-related characteristics of a system, namely the provision of practical, appropriate and updated content.

Moral recognition and image were found as notable motivators for e-learners in Lebanese organizations, while availability of time, internet connection, and technical support were concerns expressed by e-learners. Self-determination theory [41] highlights the role of autonomy and relatedness in motivating individuals to engage in e-learning, while self-determination theory of well-being at work (SDT-W) [41] emphasizes the importance of autonomy, relatedness, and competence in promoting employees' well-being and engagement with e-learning, where autonomy and competence were incorporated in the TAM3 model as self-efficacy to reflect the perception of individual's ability to perform a certain task using a computer [42].

Moral recognition emerged as a notable motivator of e-learners in Lebanese organizations, with competitions and championships often cited by interviewees. The concept of image was largely studied in psychology and commonly used by social and cognitive psychologists as self-schema, which influences the way a person thinks and remembers, a phenomenon known as "self-referential encoding" [43]. Self-image is not limited to how an individual sees oneself, but also incorporates one's perception of others' image of him/her [44, 45]. The modification of individual behavior in response to social normative influences was understood as the users' effort to establish or maintain a favorable image within a reference group [46], and that through the use of a particular innovation [47]. In information system (IS) literature, the influence of image was incorporated in the TAM3 model and positively linked to a technology's perceived usefulness at all adoption stages [40].

The social cognitive theory (SCT) [42] posits that individuals learn by observing and imitating the behavior of others, and that the behavior of others can serve as a model for their own behavior. This is supported by the study's findings that e-learners in Lebanese organizations are motivated by moral recognition and the image they project to others. Furthermore, the study also found that the availability of time, adequate internet connection, clear learning target and deadline as well as technical support are also crucial factors that affect e-learning adoption in Lebanese organizations. These factors are in line with the concept of "perception of external control" [40] in the TAM3 model, which posits that individuals' perception of the ease of use and availability of resources, such as time, internet connection, and technical support, affects their technology adoption.

The availability of time, adequate internet connection, clear learning target and deadline as well as technical support are all valid concerns expressed by e-learners in an organization. These concepts fall within the scope of different variables, such as facilitating conditions [48], perceived behavioral control [49], and perception of external control [40, 50]. These variables were proposed in IS literature to affect individual behavior and attitude towards a technology, with perception of external control validated in the TAM3 model to be a positive influencer of perceived usefulness at all adoption stages.

On an organizational level, managerial support, clear communication, and linking e-learning content to job performance were identified as important factors for promoting e-learning adoption. Organizational support theory (OST) [51] highlights the role of management in providing resources, guidance, and incentives for employees to engage with e-learning.

Managerial support emerges as an important consideration when implementing or promoting e-learning use within organizations. Managerial commitment, organizational mandates, clear communication, associating e-learning content and performance to one's job, as well as follow up and recognition should all be integrated into e-learning adoption strategies. Managerial support can be considered as a representation of an organizational declaration of the need for e-learning use within the workplace. This falls in line with subjective norms, which influence perceptions of technology usefulness based on individual perceptions of referents' opinion on whether a particular behavior should be performed [4, 38, 49, 52 53]. Considering the importance of management support in IT implementation success [54–58] and its association with both subjective norms and image [40], managerial practices could be represented by subjective norms as operationalized in the TAM3 model [40].

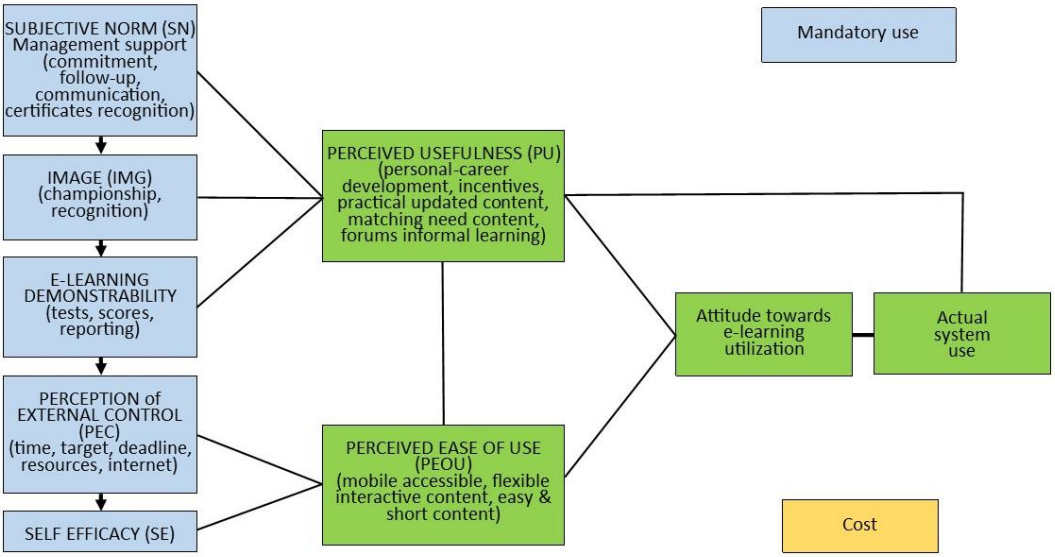


Fig. 1. TAM3 based of organizational e-learning use in Lebanon.

Also, to further promote positive attitudes towards online learning solutions, managers can capitalize on the effect of incentives on employee behavior, all while ensuring the applicability of the e-learning content and its matching of learning and job needs. These elements can be found in extant technology adoption factors, with multiple constructs coming to light, such as extrinsic motivation [59], job-fit [60], relative advantage [47], outcome expectations [61, 62] and performance expectancy [63].

From the point of view of the *e-learning solution it*self, platform characteristics as well as asset features should also be integrated when comprehensively examining this technology in an organizational setting. Providing clear, concise and useful e-learning content that matches the needs of learners is also directly related to the applicability of the solution in the workplace. This would be reflected in perceptions of the usefulness of the e-learning solution, demonstrated in the TAM3 model to be intimated related to system characteristics [40]. Careful consideration of ease of access, user- friendliness, flexibility, mobile accessibility, and interactivity should be also exercised when designing and implementing e-learning technology in the workplace. Another antecedent of perceived ease of use should be incorporated in the context of Lebanese e-learning usage, namely result demonstrability. Providing the option to report e-learning outcomes and use could promote positive attitudes

towards it, something that could be validated according to the original proposition of Venkatesh and Bala [40] in TAM3.

### A. Proposed Model

As detailed above, all of the variables extracted from the interviews could be linked to variables of the TAM3 model and operationalized accordingly.

The research model in Fig. 1 is thus proposed for the quantitative validation of e-learning usage predictors in a Lebanese organizational setting.

To note that important theme was excluded from the final proposed model due to its relatively limited influence or applicability in the present context. This was e-learning solution cost, which is most applicable in pre-implementation and on a managerial level only.

While insightful, the present study presents with some limitations. The study investigated an e-learning solution that was already implemented in the organizational setting and whose use was compulsory. This precludes the examination of the effect of voluntariness as well as pre-implementation adoption considerations [64, 65].

Moreover, the e-learning solution offered business soft skills and due to the controlled environment of the research, which included only well-established organizations with international organizational standards, no specific or particular context for Lebanon was traced. As a result of the above, the applicability of our findings to particular Middle East contexts might be limited and much remains to be learned about the determinants of employee attitude and actual e-learning usage in the workplace [66].

Additionally, the small size of the sample described in the research is due to the limited number of corporates accepting to participate to the study. The small sample size can limit the generalizability of the results to other contexts [67].

Furthermore, the theoretical underpinning of the technology acceptance model (TAM) is sometimes criticized, especially in terms of its practical effectiveness and its theoretical accuracy [64]. Additionally, the relationship between behavioral intentions and actual use, as proposed in the original TAM model, is questioned, with criticism that intention might not be capable of explaining actual use due to the possible influence of other factors on intention, which could lead to the modification of intentions and actual usage [67].

In conclusion, the research has several limitations that should be considered when interpreting the results. The compulsory nature of the e-learning solution, the lack of specific context for Lebanon, and the small sample size of well-established organizations with international organizational standards are some of the limitations of this study. Additionally, the theoretical underpinning of the Technology Acceptance Model (TAM) has been criticized, and the relationship between behavioral intentions and actual use has been questioned. Therefore, further research is needed to examine the determinants of employee attitude and actual e-learning usage in different contexts and settings.

## VI. Conclusion

To the best of our knowledge, the present study was the first qualitative approach to e-learning adoption behavior within a Lebanese organizational context. Interviews with employees and managers implicated in the use of e-learning solutions within the workplace revealed the factors associated with e-learning usage. This led to the formulation of a TAM3-based model for the exploration of e-learning usage within Lebanese organizations.

In conclusion, it is expected that various factors, such as management support, recognition, championship, tangible results, e-learning resources, incentives, job-matching content, and easy, interactive and flexible solutions, are intimately implicated in positive attitudes towards e-learning among Lebanese employees. To promote positive attitudes towards e-learning, it is important to consider these factors and take the appropriate actions to address them.

It is important to note that while this study focuses on e-learning attitudes among Lebanese employees, similar actions may also be beneficial for other populations. Further research is needed to determine the effectiveness of these recommendations in different contexts.

Further studies remain as well necessary in order to establish the empirical applicability of these factors and provide more insights into e-learning usage rates in Lebanese organizations.

## VII. Recommendation

Based on the findings of the research, it is recommended that the following actions be taken:

1) Link the learning objectives to the business targets for a C-level sponsorship with a clear structure and ownership of the e-learning initiative..
2) Promote management commitment by implementing a mandatory e-learning usage, exhibiting related managerial practices (involvement in the implementation and monitoring of the e-learning policy).
3) Ensure regular and continuous monitoring of learners so that they become aware of the importance of training (frequent detailed and personalized reporting solution, with reminders and encouragement emails and follow-up through different available communication channels).
4) Establish communication practices between managers and employees to emphasize the importance of online training (with the communication entity representing a managerial organizational rank).
5) Highlight the benefits of online training on a personal level (soft horizontal skills, life related competences) and professional level. (pre-requisite for face to face training, job relevance skills, link the training with the yearly performance appraisal, performance development plans, job positions or promotions).
6) Prepare for the implementation and the training initiation. (awareness campaign, marketing campaign, championship campaigns).
7) Recognize the efforts and results obtained by learners via learning certificates and highlight them in order to promote them within the company by presenting and sharing training results with names and pictures in the organizational milieu.
8) Identify and reduce external factors and barriers affecting

online (accessibility, internet connection and workstations, compatibility, allocated time, feasibility of target completion, language and computer literacy, technical support and guidebooks for the know-how to use the solution).

9) Provide learner-instructor interaction when needed facilitating the step (frequently Asked Questions, trained instructors, multiple channels' access).
10) Provide online training with concise relevant and quality content and adaptive and customizable to the learners' knowledge in the subject, while continuously improving the e-learning content to match the changing business needs and technological advancements (link the learning initiative to the Training Needs Analysis report with frequent update to the content)
11) Provide opportunities for feedback on employees' progress and assessment for their knowledge to measure the effectiveness of the training and identify areas where further development is needed.
12) Communicate on training details (clear reasonable targets, training resources, time frame, deadline).
13) Develop or use platforms that are easy to access from different devices (mobiles, tablets, ios or androids), pleasant to use, dynamic, interactive, engaging, with possible social learning and reporting and certificate options. gamification elements and communication tools).
14) Monitor and evaluate the effectiveness of the e-learning program by tracking metrics such as completion rates, feedback from employees and business performance indicators to be used for improving and optimizing the training content.

It is recommended that actions should be taken to encourage management support and recognition, ensure regular monitoring, establish communication practices, provide relevant and quality content, use easy and interactive platforms, include gamification elements and recognition tools, reduce barriers, promote interaction and emphasize on personal and professional benefits. These actions should be adapted to the subjective norms and social environment of learners and should be continuously monitored for improvement.

## APPENDIX

Supplementary Table I:

This presents the different profiles interviewed, R1 to R9 are the end user respondents and the RM1 to RM3 are the managers.

TABLE I: THE DIFFERENT PROFILES INTERVIEWED

| # | Company | Age | Gender | Computer Literacy | English literacy | Education | Job position |
|---|---|---|---|---|---|---|---|
| R1 | A | 31 | Male | Yes | Yes | Business administration accounting | Group financial analysis team leader |
| R2 | A | 38 | Female | Yes | Yes | Business administration and travel and tourism | Administration manager |
| R3 | A | 36 | Male | Yes | Yes | Business and management MBA | Regional operations team leader |
| R4 | B | 24 | Female | Yes | Yes | Banking and finance | Customer service officer |
| R5 | B | 25 | Male | Yes | Yes | Business | Teller |
| R6 | C | 36 | Female | Yes | Yes | BA psychology master | Senior analyst |
| R7 | C | 33 | Female | Yes | Yes | BA public administration | Operations |
| R8 | D | 35 | Male | Yes | Yes | Management Information System | Operations |
| R9 | D | 26 | Female | Yes | Yes | Finance | Customer service |
| RM1 | A | 49 | Female | Yes | Yes | Bachelor political science | Group talent performance manager |
| RM2 | B | 37 | Female | Yes | Yes | Banking management | Head of video banking |
| RM3 | C | 40 | Female | Yes | Yes | Bachelor public admin HR masters HR | Talent management manager |

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## AUTHOR CONTRIBUTIONS

Dr. El Horr: Designed and conducted the qualitative research study, including developing the research questions and methodology, recruiting and interviewing participants, transcribing and coding the data, and analyzing the results. Wrote the manuscript, including a detailed description of the research process and the findings of the study.

Dr. Lemoine: Advised on the research design and provided feedback on the manuscript. Reviewed the research process to confirm the validity of the steps taken and the credibility of the findings. Contributed to the interpretation and discussion of the results.

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