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Success Factors for e-learning implementation in Afghan Higher Education institutions

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Abstract. There are several factors that need to be considered while planning and designing e-learning programs. This study discusses the success factors that influence e-learning in Afghan higher education Institutions. It is intended to reveal success factors perceived by e-learning dealers and experienced instructors in Afghan Universities. The identified items were ranked by using a convenience sampling survey, gathered data from 72 instructors from several HEIs/Universities in Afghanistan. The results presented five dimensions. These are Awareness (technology pedagogy training, LMS training, Computer skills and competence, and Use and access to MOOCs); Technology (technical support, Access to Internet, and e-learning tools); governance (planning, formal governance structure, collaboration and partnership, and commitment); attitude (control of teaching and content, learning environment, Pedagogy and teaching style, and localization); and e-content development (design and development, and support unit). These factors can contribute to the understanding of e-learning success as a guide, planning tool, and an assessment mode for the efficacy of existing programs.

Keywords. e-learning, Success Factors, Afghanistan.

1 Introduction

e-learning helps the learning environment to a different, more efficient and attractive way (Kromydas, 2017). e-learning has benefited to overcome obstacles of time, space and geography providing learning opportunities for anyone, anytime, anywhere, and in any mode (Mikre, 2011). E-learning supports students to develop their interests based on their educational potential, arrange the desired contents and knowledge for their own learning styles, and improves the quality of their learning through different ways (Bhuasiri et al., 2012). E-learning improves the performance of learners and creates a student-centered learning environment where students work collaboratively, construct their own knowledge, and enhance problem solving and higher-order thinking skills (Wright, 2011).

Higher education, like many other areas, is planning the use and development of technologies to cope with the challenges in this modern world. The policy makers have found a profound impact of these technologies on the missions of the higher education institutions (Surry, 2002). The introduction and growth of using digital technologies in education defined various terms and types of Information and communication technologies (ICTS) for interaction and information

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delivery. The most used term or type in higher education is e-learning (Tinio, 2003). It is now apparent that e-learning has become an important tool assisting higher education systems (Sarkar*, 2012). The modern style of learning in higher education through ICTs is also called e-learning (Sanyal, 2001).

This research study identifies the key factors influencing the successful implementation of e-learning in Afghanistan higher education institutions. This will help to modernize teaching, learning, research and administration by integrating recent technologies in a proper fashion in the context of Afghanistan.

2 Factors affecting the success of e-learning

The term critical success factor for the first time appeared in the 1970s when there was an interest in understanding the success of organizations than others or to ensure the successful performance for the individual, department, or organization (Chitiba, 2011). Critical success factors (CSFs) are the fundamental variables to the success of the implementation, and an organization must follow these in order to have a successful implementation of the project. CSFs are "*those things that must be done if an organization is to be successful*" (Valsamidis et al., 2016). CSFs should be few in numbers, controllable, measurable, and show positive impacts and influence on the success of e-learning implementation. These factors should be applicable to pre-implementation, during and post-implementation and address the standards, sustainability, operation and mission (Mcpherson, 2007). The review of literature identified 5 dimensions within relevant 17 sub-factors as shown in Table 2.1.

Table 2.1: literature reviewed identified factors

Dimension	Sub-Factors
Awareness (Professional Competence) (Training and professional development) (Elkaseh et al. 2015; Selim, 2007; Alhomod & Shafi in (2013); Odunaike et al., (2013); Bhuasiri et al. (2012); Raman* et al., (2019); Cheriyan (2019); Mohamed Amin Embi, 2011; Andersson, 2007; Aparicio et al. 2017);	Computer Skills and Competences, LMS training, MOOCs, and technology Pedagogical Training.
Technology Parsazadeh et al. (2013); Basak et al. (2016): Selim, 2007; (Volery & Lord, 2000); Mcpherson et al. (2000); McPherson & Baptista Nunes (2006); Cheriyan (2019); Andersson, 2007; Valsamidis et al., 2016; Aparicio et al. (2017).	Access to internet, Technical Support, e-learning tools
Governance Alhomod & Shafi in (2013); Odunaike et al., (2013); Bhuasiri et al. (2012); Mcpherson et al. (2000); McPherson & Baptista Nunes (2006); Cheawjindakarn et al. (2012); Mohamed Amin Embi, 2011; Andersson, 2007; Samarasinghe (2012),	Organization Commitment, Planning, Formal governance structure, Collaboration and partnership
Attitude Elkaseh et al. (2015); Parsazadeh et al. (2013); Selim, 2007; Bhuasiri et al. (2012); Raman* et al., 2019; Cheriyan (2019); Ozkan & Koseler, (2009); (Volery & Lord, 2000); Cheriyan (2019);	Learning Environment, Pedagogy and teaching style, Control of teaching and content, and Localization

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Valsamidis et al., 2016; Cheawjindakarn et al. (2012); Andersson, 2007; Samarasinghe (2012);	
e-content development Selim, 2007; Odunaike et al., (2013); Raman* et al., 2019; Mcpherson et al. (2000); McPherson & Baptista Nunes (2006); Cheawjindakarn et al. (2012); Mohamed Amin Embi, 2011; Andersson, 2007; Aparicio et al. (2017)	Support Unit and Design and Development

3 E-learning in Afghanistan

Afghanistan has made positive efforts in building ICT infrastructures to offer better services. With an important strategic move, new policies were adopted to support the proper development of ICTs and to facilitate faster roll-out of services to all big, small towns and rural areas. According to the Ministry of Communication and Information Technology (MCIT), the number of active GSM subscribers are 22,413843, and total 3G and 4G subscribers are 8,174,226 in 3rd quarter 2019 (MCIT, n.d.). Based on the Asia Foundation organization survey report of 2019 shows, Approximately, 17.6% of the Afghan population use the internet (Akseer et al., 2019).

The Ministry of higher Education (MoHE) initiated several steps for the development of e-learning. In August 2015, the first e-learning conference took place in the American University of Afghanistan (AUAF) by MoHE and cooperation of donor agencies. The aim was to develop and discuss the operational plan of e-learning in considering the integration, development, and support aspects. The 2nd workshop was in October 2015 at Herat University following the agenda of the 1st conference in AUAF. The conclusion was the establishment of e-learning committees at the Ministry and Universities level, and drafting of the e-learning policy. In February 2016, the 3rd e-learning workshop conducted with the goal to manage and regulate the establishment and development of e-learning program. In November 2016, the 4th workshop occurred to finalize the curriculum and e-learning by-law.

In the series of workshops, the next step in e-learning program development was the introduction of massive open online courses (MOOCs). In January 2018, the Introduction to edX workshop initiated. The main objective was to gradually move to the development of e-contents, develop online courses and provide access to learning/course materials. Successively, the MoHE signed an MoU with edX platform holders in February 2018. The derived platform of edX for Afghan MOOC is named AfghanX. This will provide the opportunity for Afghan instructors to create and publish online courses. The IIT Mumbai University in India supports the development and publication of courses in AfghanX. The most recent e-learning workshop was in October 2019 to strengthen and expand e-learning in higher education institutions in the bottom level.

4 Methodology

The literatures were reviewed to determine the items relevant to the success of e-learning. The identified items were ranked by using a convenience sampling survey employing a self-administered questionnaire. The convenience sampling methods place primary emphasis on generalizability. In convenience sampling, subjects are chosen that are more promptly accessible (Etikan et al., 2016).

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The participants selected were the instructors from large Universities and Higher education institutions of Afghanistan. The questionnaire is concerned about the view of instructors, and an effort has been made to select experienced and knowledgeable participants in the e-learning era. The responses are gathered from 72 instructors from several HEIs/Universities in Afghanistan.

5 Results and Analyze

The result from data analysis and synthesis method of the literature review is to specify the success factors for e-learning in Afghanistan higher education institutions. The rank of each factor is determined by the level of agreement and the mean value. The respondents' perceptions were measured by using a five point Likert scale ranging from strongly disagree (1) to strongly agree (5). Table 5.1 shows the demographic profiles of the 72 respondents who participated in this research study. Faculty members from 18 Universities, 15 different Faculties, and 28 different Departments participated in this study. The high rate of participants 35 (49%) belongs to the Computer Science and Information Technology department. The second-high rate of participants 10 (14%) were education discipline faculty members. The third-high rate of participants were Language and Literature, and Engineering as follows 6 (8.3%) and 6 (8.3%).

Table 5.1: Demographics of the Survey Respondents

		Frequency	Percentage %
Position	AI Researcher	1	1.4
	Dean	4	5.6
	Deputy Dean	1	1.4
	HoD	8	11.1
	HoD QA	1	1.4
	Instructor	55	76.4
	VCAA	2	2.8
Total		72	100
Education Level	Bachelor	6	8.3
	Master	60	83.3
	PhD	6	8.3
Total		72	100
Gender	Male	68	94.4
	Female	4	5.6
``**Total**		72	100
Age	Less than 25 years	1	1.4
	25-35 years	48	66.7
	36-45 years	21	29.2
	46-55 years	1	1.4
	More than 55	1	1.4
Total		72	100

The Ranking of Awareness Factors

The awareness dimension has been analyzed and ranked for e-learning implementation. There are four sub-factors specified: computer skills, LMS training, MOOCs, and Technology Pedagogy, seen in Table 5.2.

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Table 5.2: Ranking of Awareness Factors

Rank	Awareness	Mean Score
1	Technology Pedagogy Training	4.38
2	LMS Trainings	3.93
3	Computer Skills and Competence	3.74
4	MOOCs Training	2.91

The results show that 95.8% of the participant's sample surveyed agreed that the awareness factor is important for e-learning. As shown in the Table 5.2, the mean ranks of all factors range from the technology pedagogy training factor, with a mean score of 4.38, in the second place LMS training, with a mean score of 3.93, and in the third place computer skills and competence, with a mean score of 3.74, to MOOCs training, with a mean score of 2.91.

The variables that influence the awareness and help to enhance the competences about e-learning program implementation are nine items and can be seen in Table 5.3.

Table 5.3: Influential Factors for awareness

Statements	N	Mean	Std. Deviation
Creating online contents and courses	72	4.25	.59930
Computer literacy	72	4.13	.67003
Communication and Collaboration tools (Skype, Google drive ...)	72	3.92	.72675
Social Media (Facebook, Twitter ...)	72	3.85	.78111
Information literacy	72	3.83	.75059
Data Visualization	72	3.75	.80053
Office Suit (Ms Office, G Suit)	72	3.68	.81925
Media literacy	72	3.68	.78411
Operating System (Ms Windows, Linux ...)	72	3.61	.86490
Valid N (listwise)	72		

The Ranking of Technology Factors

In this dimension, there are 3 technological Sub-factors: Technical support, access to the internet, and e-learning tools. The results indicate that 88.9% of the sample surveyed gave responses of agreement with the technology factors. In Table 5.4, the mean ranking of all technology factors ranges from technical support with a mean score of 4.42 (first place), in the second place access to the internet, with a mean score of 4.29, to e-learning tools with a mean score of 4.23.

Table 5.4: Ranking of Technology Factors

Rank	Technology	Mean Score
1	Technical support	4.42
2	Access to internet	4.29
3	e-learning tools	4.23

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The Ranking of Governance Factors

In this dimension, there are 4 Sub-factors: Planning, formal governance structure, collaboration and partnership, and organization commitment. The results indicate that 98.6% of the sample surveyed gave responses of agreement with the governance factor. In Table 5.5, the mean ranking of all governance factors ranges from planning with a mean score of 4.49, in the second place formal governance structure with a mean score of 4.22. The third place collaboration and partnership with the mean score of 4.16, to organization commitment with the mean score of 4.06.

Table 5.5: Ranking of Governance Factors

Rank	Governance	Mean Score
1	Planning	4.49
2	Formal governance structure	4.22
3	Collaboration and partnership	4.16
4	Organization Commitment	4.06

The Ranking of Attitude Factors

In this dimension, there are 4 factors: control of teaching and contents, learning environment, pedagogy and teaching style, and localization. The results indicate that 97.2 % of the sample surveyed gave responses of agreement with the attitude factors. In Table 5.6, the mean ranking of all attitude factors ranges from control of teaching and content with a mean score of 4.225 (first place), in the second place learning environment with a mean score of 4.13. In the third place pedagogy and teaching style with the mean score of 4.01, to localization with the mean score of 3.93.

Table 5.6: Ranking of Attitude Factors

Rank	Attitude	Mean Score
1	Control of teaching and Content	4.225
2	Learning environment	4.13
3	Pedagogy and Teaching style	4.01
4	Localization	3.93

The Ranking of e-content development Factors

In this dimension, there are 2 e-content development factors: design and development, and support unit. The results indicate that 77.8 % of the sample surveyed gave responses of agreement with the e-content development factor. In Table 5.7, the mean ranking of all e-content development factors ranges from design and development with a mean score of 4.36 (first place), to support unit with a mean score of 4.23 (second and last place).

Table 5.7: Ranking of e-content development Factors

Rank	e-content development	Mean Score
1	Design and development	4.36
2	Support Unit	4.23

6 Discussion

In this study we investigated factors to contribute to a better understanding of the implementation and development of e-learning in Afghan HEIs context. These factors are classified into five general dimensions and 17 sub-factors. The awareness, technology, governance, attitude

towards e-learning, and e-content development. The awareness dimension includes the sub-factors such as technology pedagogy training, LMS training, Computer skills and competence, and Use and access to MOOCs. The technology dimensions comprise of the sub-factors such as technical support, Access to Internet, and e-learning tools. The governance dimension includes the sub-factors such as planning, formal governance structure, collaboration and partnership, and commitment. The attitude towards e-learning dimension includes the sub-factors such as the control of teaching and content, learning environment, Pedagogy and teaching style, and localization. The e-content development dimension includes the sub-factors as design and development, and support unit.

Dimension 1 Awareness

One of the main reasons for unsuccessful implementation of e-learning could be attributed to the lack of low awareness of instructors and students. Adequate training program is a very important enabler of successful e-learning implementation (Alhomod & Shafi, 2013). The impact of awareness on successful e-learning implementation were mostly influenced by computer skills, the usage of LMS, use and access to MOOCs, and the pedagogical knowledge about technology use in teaching and learning. These key influencing factors relevant to awareness are described as follows.

- **Technological Pedagogy Training**

The only Introduction of technology will not modify the teaching and learning process, transform instructors' best practices, and improve effectiveness and efficiency of education. As a medium of teaching, ICT is recognized as an appropriate option to implement the emerging pedagogy of constructivism. Constructivism is a "*paradigm of learning that assumes learning as a process individual ''construct'' meaning or new knowledge based on their prior knowledge and experience*" (Mikre, 2011). Moreover, e-learning tools include specific features for collaborative pedagogy that can simply involve interactivity, collaboration, peer evaluation, and modular learning. The instructional technology and e-learning are the focus points of teaching, learning and pedagogy and is concerned solely with the transfer of information (Odunaike et al., 2013). Particular training on e-learning pedagogy should be conducted to ensure the success and effectiveness of e-learning. The training may relate to technology, pedagogy, and content to demonstrate the methods of teaching and learning.

- **LMS Training**

One of the main layers in the e-learning infrastructure architecture that provides tools and services for the management of users and courses is the Learning Management System (LMS). A learning management system (LMS) software application helps to create, implement, document, track, report and deliver the e-learning materials. LMS is counted from one of the important e-learning tools that can be used to fully utilize the use of modern technologies and have effectiveness in the system (Oboko & Omwenga, 2018). The proper use of LMS and to increase learners' satisfaction with the e-learning system, improved LMS usage skills and abilities are required. The adequate training programs for students and instructors in LMS can play a principal role and should be routinely conducted for successful e-learning implementation (Odunaike et al., 2013).

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- **Computer Skills and Competence**

Computer skills are required to provide the necessary capacity to engage, manage and access information, and communicate and present it in a new, motivating, and interesting way. Similarly, computer skills contribute to active learning and provide support to self-directing learning environments. Computer skills help to use computers for stand-alone learning purposes, using specific software, and needed to link a network (Volery & Lord, 2000). Thus, to increase the awareness, familiarity and the knowledge about computer hardware and software are important for e-learning success in an organization. Computer Skills and competence in relevant to higher education systems can be comprised of a set of skills that might include: hardware and software skills, using graphics, access to LAN services, serving Internet and web, communication, information literacy, practicing simulation software's, and to learn how to use new applications or features (Ezziane, 2007).

- **Use and Access to MOOCs**

Massive Open Online Courses (MOOCs) is a new learning form driven by technology. It has become an important learning environment where massive numbers of users from around the world can access online courses, published by world-class institutions. MOOCs offer chances to learners for free of charge to improve their education. It is essential for instructors to introduce MOOCs for students in taking learning advantages from these online available learning sites (Hakami et al., 2017).

Dimension 2 Technology

The effective implementation of e-learning is bound to technology. Technology is the top most component for the realization of e-learning infrastructure. The e-learning strategy without adequate technology may fail. The IT infrastructure, access to the internet, speed of connectivity, learning management system (LMS), and learning websites to be used must be considered. The reliability, richness, consistency, and effectiveness are the important indicators for a quality technology in e-learning (Selim, 2007a). The technology dimension of e-learning is classified into three main sub-factors. The access to the Internet, technical support and e-learning tools are the sub-factors.

- **Technical Support**

The technical support as a sub-factor of technology is significant in the implementation of e-learning. The technical support is defined as assisting the users of hardware and software products. The Information Technology (IT) department or a structured support unit should provide technical support and make sure that the users have the skills to use e-learning or supportive technologies. When the help is needed in any new system initiatives, technical support should be given and solve the problem. The availability of enough technical support is important for the successful e-learning implementation (Alkharang & Papazafeiropoulou, 2010).

- **Access to Internet**

Access to the Internet is the main vehicle for supporting and delivering e-learning services. Quality Internet services and access guarantees the chance of a successful e-learning and seems promising. The HEIs need to adopt the Internet as a teaching tool in instructors' lesson plans. The

network infrastructures and access to the Internet should be compatible to the size of existing demands. Instructor's skills should match the use of the Internet with innovative pedagogies that benefit students' learning. There should be regular attempts to use the Internet significantly and users have quality access (Mikre, 2011).

- **e-learning tools**

The proper use and operation of e-learning tools is the important sub-factor for the implementation of e-learning. The software tools (word processing, spreadsheet, etc.), managing computer files and launching programs, Internet tools (Web browsing, e-mail), online communication tools, Learning Management Systems (LMS), and student self-pacing pattern can be named as e-learning tools. These tools help to create, collect, store, and use the information (Selim, 2007b) & (Lynch, 2013).

The efficient and effective delivery of a course material is more important to the success of e-learning. The university IT infrastructure should support providing the courses with the necessary tools for a smooth delivery process. The necessary tools include "*network bandwidth, network security, network accessibility, audio and video plug-ins, courseware authoring applications, internet availability, instructional multimedia services, videoconferencing, course management systems and user interface."* (Selim, 2007a).

Dimension 3 Governance

The governance in the development of e-learning programs is crucial to the success and demand to remain competitive. The top policy of HEIs today is to transfer knowledge and skills in a productive and cost-effective way. The transfer of knowledge and skills in an innovative way needs clear guidelines and governance essentials to improve learning programs. E-learning governance is defined as the responsibilities and practices implemented to appoint strategic direction, ensure the achievements of objectives, and risk management. The successful e-learning implementation requires a clear defined governance structure in regards to organizational structure, technical platforms, and pedagogical contexts. The roles and responsibilities, organization structure, chief learning/Information officers, and steering committee(s) are important points required for a successful e-learning implementation (Chang & Uden, 2008). The organization commitment, planning, and a formal organization structure are the important factors in the governance dimension.

- **Planning**

The important factor in the governance dimension for quality e-learning programs is adequate planning. In e-learning, planning is a process involving a holistic and dynamic view for managing all aspects relating to the implementation of e-learning. The planning process has a positive impact and contributes to proper change in teaching practices and services. These include sufficient technical infrastructure, institutional support, course development, teaching and learning, instructors and students support, evaluation and assessment (Surry, 2002). There should be an appropriate planning process to identify strategic direction for the proper implementation of e-learning.

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- **Formal governance structure**

The formal governance structure is one of the necessary components to assure the effective implementation of e-learning by improving and establishing laws. The formal governance structure is a responsible body and authority to formally structure strategies, actions, policies and procedures to make binding decisions within the organization goals. The formal governance structure can contribute in assigning responsibilities, define priorities, allocate budget and resources, initiate authorized decision-making, and enable transformation (Sadikin & SK, 2018) and (Chang & Uden, 2008). The political support, e-learning laws and policies, sufficient staff, sufficient budget, the existence of formal governance structure, and regular evaluation are the statements that support this factor. It means a department or center with defined rules and responsibilities, organization structure, and steering committee as a formal governance structure is essential for the proper planning and implementation of e-learning.

- **Collaboration and partnership**

The other important aspect in the e-learning governance is the collaboration and partnership that is resulting in a range of important outcomes for the implementation of e-learning. Collaboration helps in exchanging knowledge among organizations and facilitates innovative ideas and solutions. Collaboration has a great influence positioning relations to other organizations. Collaboration provides the opportunity to pool their resources for joint benefits of the organizations. Collaboration through successful partnerships can support sharing of best practices, provision of more research opportunities, knowledge, experiences, and technology (Odunaike et al., 2013). The development of successful partnerships with a great deal of time promotes the mutual trust between national HEI-to-HEI, and regional and international partnerships with public and private higher education organizations (Andersson, 2007).

- **Organization commitment**

The proper implementation of e-learning requires commitment of an organization to build a supportive e-learning environment and to ensure the continuity and sustainability of the e-learning program. The organization commitment defines the user's psychology and the efforts and seriousness of the organization on the way to improve and develop e-learning initiatives. The organization needs to create distinct motivation and strategies for the implantation of e-learning programs (Alkharang & Papazafeiropoulou, 2010). The commitment of the leadership/management helps predict users' satisfaction, engagement, and dedication to assigned tasks. The lake of organization commitment towards e-learning programs may fail the implementation process (Alhomod & Shafi, 2013).

Dimension 4 Attitude towards e-learning

Mässing, (2017) found that the attitudes of instructors and students towards the use of e-learning is the most significant dimension for adopting e-learning. The attitudes towards e-learning affect the intentions of users. To better implement e-learning programs, instructors need to embrace it and the leadership and management need to support it. This is argued that any new system when established, changes may face a challenge like resistance to change. The reason for the resistance to change may be distrustfulness, suspicion, and threat of losing the job, loss of power, authority, and skills. The positive attitudes towards the use of e-learning can provide useful insight about the

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use and integration of e-learning into teaching and learning processes (Masoumi, 2006). Learning environment, pedagogy and teaching style, and localization are the important factors in this dimension.

- **Control of teaching and content**

The control of teaching and contents is important in the dimension of attitudes towards e-learning. The use of digital technologies and methods of teaching using computing technologies, Internet and web have grown exponentially in the last years. The educational institutions use different strategies to support teaching and learning. However, it is still very important to select the appropriate teaching method and evaluate the access of delivery. The content quality is also an issue of focus, well designed contents and learning materials facilitate meaningful learning practices that are necessary for the implementation of e-learning. The DeLone and McLean Model cited in (Raspopovic et al., 2014), represents three dimensions of assessment in the context of e-learning: System quality, Information quality, and Service quality. Theoretically, it is very important to understand how to control and improve e-learning effectiveness.

Parsazadeh et al. (2013) identified the aspects that affect the success in the use of e-learning such as: ease of access, Interface design, level of interaction, system quality, service quality, and Internet quality. Thus it is recommended to focus more on the quality of contents and pedagogy of e-learning to ensure more successful implementation of e-learning.

- **Learning environment**

Online learning environment is the location that includes instruction and university support, access to online resources, use systems and communication, obtain online assistance, and being assessed. The best learning environment provides supportive, comfortable, and casual learning settings (Weiss & Hunsinger, 2006). The learning environment for the proper e-learning adoption may compose of the following supportive tools and implementations: Learning Management System (LMS), Technical Infrastructure, Interactive learning, and Access and Navigation (Cheawjindakarn et al., 2012).

- **Pedagogy and Teaching style**

The pedagogy and teaching style is the other important factor that may influence the attitudes of users towards e-learning. Pedagogy is the practice of systematic instructions and methods of teaching that encompasses teaching styles, theories, and assessment. The delivery of curriculum content depends on teaching preferences and experiences. It means that instructors need to improve their use of technology to support instruction and explore pedagogical issues in order to apply e-learning tools and substitutes to enhance instructions (Odunaike et al., 2013). It is significant that instructors understand the pedagogical principles relevant to the use of technology into teaching and learning. The instructors should select proper instruction technologies to make the acquisition of knowledge and skill more interesting, efficient, and effective. The educational technology might include "*media, models, projected and non-projected visual, as well as audio, video and digital media*." (Govindasamy, 2002).

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- **Localization**

Andersson, (2007) explores, localization of content is the adoption of course materials in a local context as language, culture, and religious beliefs. The services, technology, and software to be adapted in local languages and culture might have a positive impact on the use and successful implementation of e-learning. There could be worthy outcomes from the delivery of online contents on a local language. Localization in e-learning means the insert of cultural and religious values into the design of the technology and software in the creation of digital contents.

Dimension 5 E-content development

The use of electronic (e) content is becoming popular for its flexibility of time, place, and pace of learning. E-content can be delivered through various electronic media supporting various subjects and almost all disciplines. E-contents can be shared and used by learners with diverse needs, backgrounds, experience and skills. It is very important to provide access to students and instructors on campus, home, and other resource centers. The well-design, developed and validated e-content delivery and access to high quality contents has a significant impact on the successful implementation of e-learning (Hamdi & Hamtini, 2016).

This dimension discusses the sub-factors that are important for the e-content delivery, design, and development. These factors will benefit the proper development of e-content for comprehensive learning.

- **Design and Development**

The use of e-content in the process of teaching and learning produces positive results as of its flexibility of time, place, and pace of learning. The purpose of e-content development is to create, receive, share and utilize information electronically (EREMIAS & SUBASH, 2013). Very well designed, developed and validated e-content will provide access to high quality meaningful digital contents and serve as an effective virtual instructor. There are several aspects to follow the appropriate instructional design methodology in order to achieve learning objectives and expected outcomes. According to Wikipedia ‘instructional design is the practice of creating instructional experiences which make the acquisition of knowledge and skill more efficient, effective and appealing. The focused aspects are the cognitive perspective, emotional perspective, behavioral perspective, and contextual perspective (K.Nachimuthu, 2012).

- **Support Unit**

The instructional design and technology needs a specialized supporting unit to support the delivery of online contents and academic programs electronically. The unit that changes the plans into reality and coordinates the strategies for the development of digital contents and e-learning success (Omwenga et al., 2005). The set-up purpose of a supporting unit might be the delivery of digital skills and content development on a defined policy and guidelines. This unit may provide technical support by appointing technical staff such as Instructional designers, web specialists, and graphic and visual artists (Hussain, 2004).

The existence of a supporting unit and a dedicated center for the creation of online or e-content development will help to establish a clear policy and introduce clear guidelines for the creation and development of e-content. The unit provides technical support, motivates and facilitates instructors through regular training and workshops, and more accurately manages the

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instructors to develop e-content on a specific time scheduled manner. The unit services will be more effective in teaching and learning, and in general will support the successful implementation of e-learning.

E-learning implementation success framework

The result of this research is proposing a framework that aims to promote the successful implementation and development of e-learning. The framework considers the different insight of e-learning success and incorporates the factors derived in this study based on the current situation in Afghanistan. The framework is showing five main dimensions: Technology, Governance, Awareness, and Attitude towards e-learning, and e-content development with 17 sub-factors. It helps in the development of e-learning projects and can be a guideline for the implementation of e-learning programs as shown in Figure 7.1.

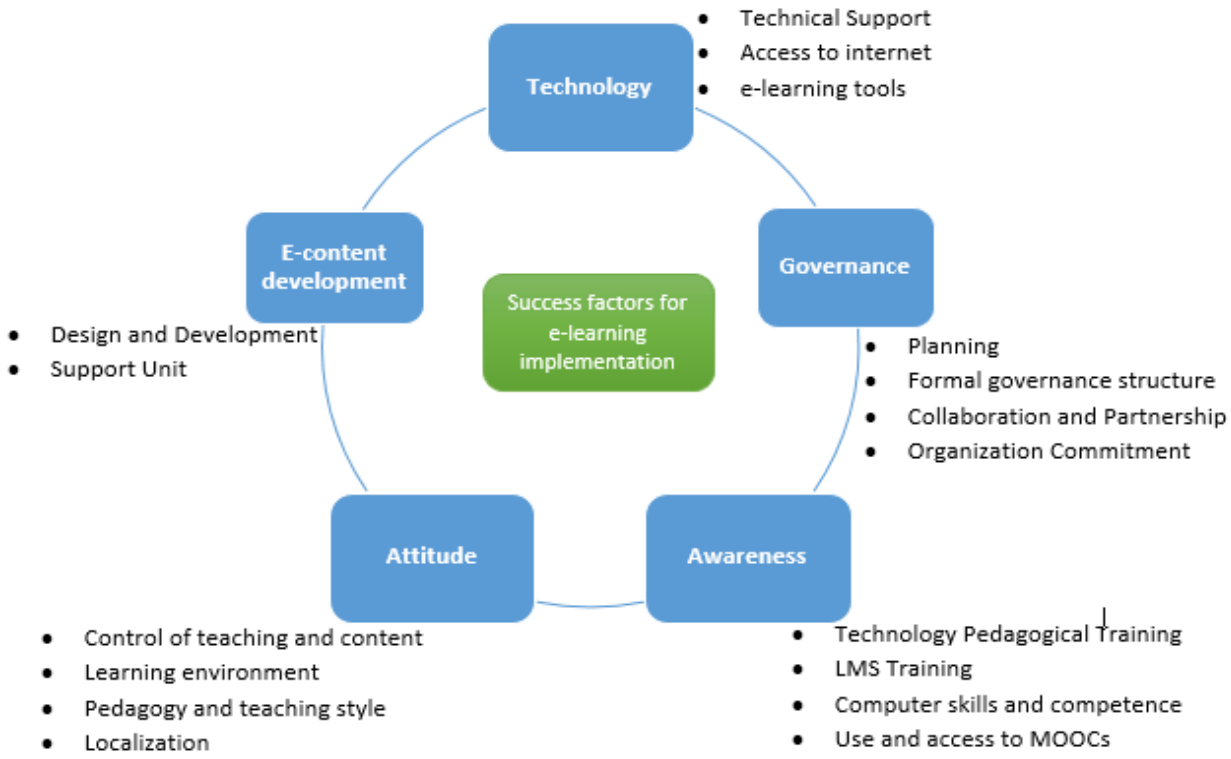

Figure 7.1 E-learning Implementation Proposed Success Framework

7 Conclusion

The study contributes to our understanding of how e-learning is developing in Afghan higher institutions significantly and has optimistic impacts on the success of e-learning. This will help policy makers in such a way to provide first-hand information about the areas to be focused for the successful e-learning implementation in the Afghanistan higher education sector. It enables to design, develop, and implement e-learning programs in a better way and to have efficient investments in e-learning. These factors will not only save resources in terms of efforts, money, and time but also enhance the image of higher education institutions in the country or worldwide.

Therefore, it is suggested to emphasize these factors before designing e-learning initiatives or while improving the existing e-learning system.

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