Turkish Online Journal of Qualitative Inquiry (TOJQI)
Volume 12, Issue 6, June 2021: 1025- 1032

Grading of Factors Affecting PMO Implementation in UAE Construction Industry

Maitha Taher Saleh Almansoori[a], Ismail Abdul Rahman[b], Aftab Hameed Memon[c]

[a]Faculty of Technology Management and Business, UniversitiTun Hussein Onn Malaysia,86400Parit Raja, Batu Pahat, Johor, MALAYSIA,
[b]Faculty of Civil Engineering and Built Environment, UniversitiTun Hussein Onn Malaysia,86400Parit Raja, Batu Pahat, Johor, MALAYSIA, ismailar@uthm.edu.my
[c]Department of Civil Engineering, Quaid-e-Awam University of Engineering, Science and Technology, Nawabshah, Pakistan, aftabm78@hotmail.com

[b] ismailar@uthm.edu.my

Abstract

This paper presents a study on the grading of factors affecting Project Management Office (PMO) implementation in UAE construction organisation. The data was collected through a questionnaire survey amongst selected respondents who are experienced in PMO of the construction industry. Respondents were required to rate 28 factors affecting PMO implementation using 5-points Likert's scale. The survey response rate was 85.5%, and the collected data was analysed using the mean score and standard deviation to determine the ranking of these factors. It was found that the five most affecting PMO implementation performance namely inaccurate information reporting, poor communication strategy, additional administrative workload, environmental challenges and selection of PMO manager. This finding will benefit the construction industry stakeholders in applying PMO in their organisations, especially in the UAE construction industry.

Keywords: PMO, affect factor, construction industry

1. Introduction

United Arab Emirates (UAE) is considered the most prosperous country in exploiting its resources such as oil and gas. However, UAE is shifting its focus towards prioritizing the construction industry as a major driver of its economy due to a slump in the oil & gas industry leading to substantial pressure to find other means of revenue generation [1]. Currently, the construction industry in the UAE is ranked in third position after the oil & gas, with most of the companies are situated in Abu Dhabi. UAE construction industry majorly consists of two players of the project developer and the contractor [2]. Despite such tough competition, there is room for consultancy and collaboration for developers and contractors. It will help develop outstanding construction projects in both the private and the public sectors. Experienced developers and contractors from foreign nations are currently venturing into the UAE construction industry.

In the UAE, specifically in Dubai, the government is committed to making significant progress in the construction industry in terms of infrastructure by organizing Expo2020. This world event aimed not only to attract tourists to the UAE; also to create jobs as the demand for new infrastructure is projected to reach an all-time high [1]. Furthermore, the UAE construction industry appears to receive a significant boost even construction projects previously interrupted due to lack of funds have now resumed construction.

Given the attractiveness of the UAE construction market to investors, the market is inevitable of challenges. One of the significant challenges is the competitive nature of the market. This is because many suppliers of

different products and services from other parts of the world have moved to exploit the opportunities in UAE in the last decade. There are well-established companies in the industry mainly due to mergers by developers leaving small to medium-sized companies with little bargaining power. Another challenge is the labour force is given strict regulations for foreign companies that wish to bring a skilled and experienced labour force. These companies are therefore forced to work with a local labour force that is less skilled and qualified. The lower oil prices are also proving to be a challenge for the construction industry in the UAE and the whole of Gulf Cooperation Council (GCC). Lowered oil prices eventually lead to reduced income for all stakeholders in the construction industry. This has made it challenging to accomplish the Project Management Office (PMO) task to administer the construction projects. Hence, this study reveals the factors which affect PMO in construction projects of UAE.

2. Factors affecting Project Management Office

The project Management Office (PMO) is a department in organisation that establishes standards and practices to be used by the organisation during the project's operation. PMO can be defined as a tool used for coordination to bring a close relationship between the strategy objective of the organisation and the practical workings to create a reality from an idea through project management. Over the years, PMO has been branded a couple of related names depending on the different projects involved, such as Central Project Office, Project Office, Project Management Oversight, Project Support Office, Strategy Management Office, etc. These terminologies are used depending on their maturity and the role they play in an organisation. For instance, Project Office is used to refer to a PMO of low-level maturity. Project Management Office is used to identify standard PMO whereas Portfolio Management Office is used for PMO considered to be at a high-level maturity [3].

PMO can perform at different levels of projects, portfolios, and programs [4]. Project managers require PMO in their operations as it seeks to help in strategic plan execution and improve performance in terms of quality and resource allocation [5]. PMO is a force that acts as a facilitator for organisations to attain project goals through a well laid out a strategic plan [6][7]. PMO is established as an oversight system to ensure that concurrent processes of a project are well implemented as it demonstrates the organisation's strategies [8]. The literature revealed that there several factors which affect PMO. These factors are classified into three major groups as resource management, project management, and organisational culture.

Resource management ensures optimized resource allocation and monitoring activities to achieve project results in the required timeline [9]. Allocation of the resource confirms the availability of the required resources [10]. Thus, balancing the demand and utilization of the right resources in time plays an important role [11]. The project office management also needs to understand multi-program management of resources to avoid resource conflicts between various projects and optimise the limited resource availability [12] as effective management of the resources plays a vital role in the project success [13]. Project management is responsible for accomplishing the project related activities within a certain period and with limited budget availability [14]. It describes the implementation of planning, organisation, and resources to achieve specific project objectives [15]. Project management has focus on addressing innovative administrative difficulties. Besides this, where the regulatory system is complicated or vague, the project manager has to develop a regulatory system to overcome the problems. Four major project management problems faced in projects are unspecified objectives, scope changes, unsuitable risk management and unlikely deadlines [16].

One of the important aspects of creating the company's competitive advantage for the business community is the organizational culture. Organizational culture reflects the fundamental assumptions shared by group members that define the group's views; its environment, and ways in which everyday activities are carried out [17]. Cameron and Quinn [18] report four types of organizational culture: clan, Adhocracy, hierarchy, and Market culture. Clan culture, which concentrates on sharing values among individuals, emphasises teamwork and empowerment and builds a human-relation environment. Culture of adhocracy in organisations emphasises, to be adaptive, flexible and innovative. The culture of the hierarchy focuses on its operations and seeks to achieve a high level of integration. Market culture is a profitability and productivity-oriented organisation. Organizational culture is important because it directs management's decisions and behaviour and employees. The main strategic tool, the strongest organisational control system, determines the organisation's image and integrates the diverse organisational subsystems [19].

3. Methodology

This study utilizes a mix mode approach i.e. quantitative and qualitative research approach to collect the required data on factors affecting PMO implementation performance in construction organisation. Initially, a literature work of research articles was conducted to identify the common factors affecting PMO implementation performance and 30 common factors affecting PMO implementation were identified which

were validated by interviewing 18 PMO experts. As result, 28 factors were found relevant to construction industry in UAE which were used to establish questionnaire survey. Then, the perception of PMO practitioners on factors affecting PMO implementation in UAE construction industry were collected using structured survey questions. This type of survey takes a short time to complete and easy for data management due to the consistency of answers. Perception of the practitioners was collected based on 5-point Likert scale. The 5-points Likert scale to assess level or degree of agreement of the items in the principal part of questionnaire are *1- strongly disagree, 2- disagree, 3- neither agree nor disagree, 4- agree*, and *5- strongly agree*. The collected data was analysed using mean score and standard deviation through SPSS software for ranking purpose. The mean scores are ranked with the highest mean score would be assigned the first rank while the lowest mean score would be assigned the last rank. The standard deviation was used to resolve the tied rank of multiple questionnaire items due to similar result of mean score value. The smaller stanard deviation value shows the closer statistical data set to mean score value [20].

4. Data Collection

Data collection was conducted through the distribution of 200 questionnaires to the targeted respondents randomly. After exhausted all possibilities to get the 200 respondents, this study managed to secure 182 responses. The survey responses were first analyzed to check the validity. It was found that some of the questionnaires contained missing data that were considered invalid for the analysis. The invalid questionnaire sets were omitted and only 171 responses were deemed to be valid for further data analysis. This indicates a response rate of 85.5% which is deemed to be satisfactory [21] [22]. The collected data was analysed using mean score and standard deviation for each of the factor using SPSS software to determine the ranking of the 28 factors involved in the survey.

4.1 Respondents' profile

Respondent's demography is assessed in two categories of profiles which are the academic qualification and working experience. Figure 1 shows the summary of academic qualification of the respondents participating in the data collection.

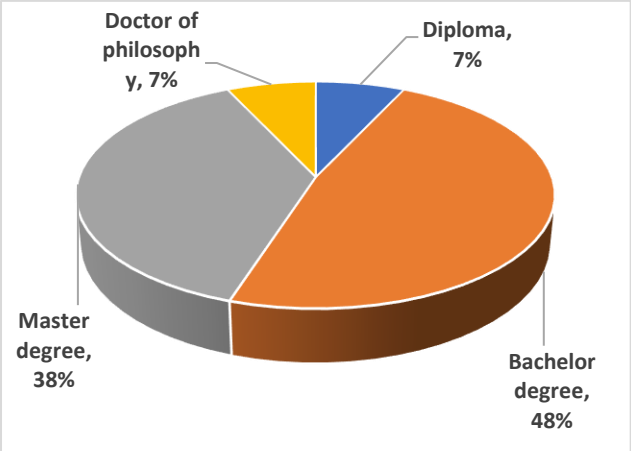

Figure 1: Respondents' academic qualification

Figure 1 depicts that most of the respondents are have obtained bachelor degree (48%) followed by master degree (38%). Among the remaining, 7% of the respondents have completed the diploma and doctor of philosophy education respectively. This indicated that all respondents have a good level of understanding in giving reliable answers to the survey questionnaire. The respondents participating in this data collection process are working with private organization for several years. The summary of the experience of the respondents is presented in figure 2.

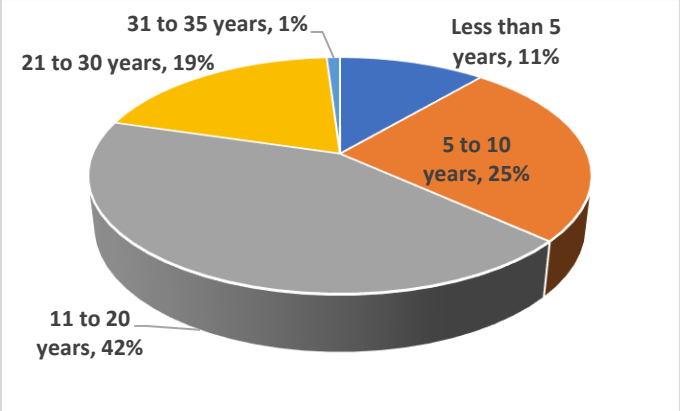

Figure 2: Respondents' working experiences

Figure 2 shows that the majority of the respondents i.e. 42% of the respondents have 11 to 20 years experience of working with construction organizations, 25% of respondents have experience of 5 to 10 years, 19% of respondents are working in construction industry for more than 20 years and less than 30 years, 11% of respondents have experience of less than 5 years which 2% of respondents have experience of working for more than 35 years, and 1% of respondents with 31 to 35 years of construction's experience. This indicated that the respondents have a good working experience for better decision in giving reliable response to the survey questionnaire

4.2 Data reliability test

The reliability of the questionnaire is measured by calculating Cronbach's alpha reliability coefficient generally ranges between 0 and 1 [23]. The Cronbach's alpha criterion by George & Mallery [24] in Table 1 is adopted to interpret the generated alpha value from SPSS.

Table 1: Cronbach's alpha criterion

Cronbach's alpha	Internal consistency
$0.9 \leq \alpha$	Excellent
$0.8 \leq \alpha < 0.9$	Good
$0.7 \leq \alpha < 0.8$	Acceptable
$0.6 \leq \alpha < 0.7$	Questionable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

Table 1 demonstrates six criterions of Cronbach's alpha in explaining the internal consistency of reliability test for questionnaire items. If the alpha value is less than 0.5 means that the questionnaire is unacceptable and need a major revise on the items that might be irrelevant. In contrast, if alpha value more than and equal to 0.9 show excellent consistency of questionnaire items. However, the alpha value of more than 0.7 means that the questionnaire items are acceptable for the actual survey with minimal improvement.

Table 2: Reliability test

Factors affecting PMO implementation	Number of item	Cronbach's alpha	Remark
Resource management	11	0.881	Good
Project management	9	0.874	Good
Organisational culture	8	0.795	Acceptable
Reliability for total item	28	0.935	Excellent

Table 2 of the reliability test shows the Cronbach's alpha value for overall 28 items of affect factors of PMO implementation is 0.935 which indicates excellent with a high level of internal consistency. Thus, 171 sets of actual survey questionnaire are reliable for further analysis.

5. Ranking of factors

This study investigated 28 factors affecting the PMO performance in construction industry through the questionnaire survey. These factors are clustered in three groups namely resources management, project management and organisational culture. Each of the factors in the questionnaire is accompanied with 5-points Likert scale based on the degree of significant toward the PMO performance. The collected data was analysed using mean score and standard deviation to determine the rankof each factor's rank of each factor compared to others within its group as in Table 3.

Table3: Ranking of factors within its group

Group	Factors affecting PMO implementation	Mean	Standard deviation	Rank	Adjusted rank
Resource management	Inconsistency of PMO resource	3.79	1.122	4	4
	Inexperience PMO leadership	3.78	0.970	5	5
	Unskilled project management personnel	3.78	1.050	5	6
	Inability to identify soft skills for PMO personnel	3.58	1.075	9	10
	Poor strategies	3.50	1.142	10	11
	Lack of training	3.72	1.164	7	8
	Inability to encourage and gain motivation	3.67	1.155	8	9
	Lack of PMO functional tools	3.81	1.070	3	3
	Lack of funds	3.77	1.109	6	7
	Selection of PMO manager	3.94	1.099	1	1
	Lack of professional staff	3.87	1.203	2	2
Project management	Conflict over project management ownership	3.83	1.064	7	9
	Lack of top management support	4.01	1.168	4	6
	Additional administrative workload	4.05	1.058	3	3
	Poor communication strategy	4.18	1.019	2	2
	High bureaucracy	3.86	1.073	5	7
	Poor integration of organisational function	3.85	1.209	6	8
	New procedures and process challenge	4.01	1.030	4	5
	Selection of PMO system	4.05	1.077	3	4
	Inaccurate information reporting	4.24	0.986	1	1
Organisational culture	Resistance to change	3.36	1.275	8	8
	Lack of a working organisation culture	3.68	1.100	5	5
	Inefficient change plans	3.79	1.149	2	2
	Unproductive/ inappropriate changes	3.72	1.147	4	4
	Lack of trust	3.65	1.192	7	7
	Clarity on degree of control/ influence of PMO	3.67	1.198	6	6
	Political challenges	3.75	1.192	3	3
	Environmental challenges	4.04	1.127	1	1

Table 3 show the ranking of factors affecting PMO implementation for each predetermined group. These groups are resource management consists of 11 items, project management has 9 items, and organisational culture with 8 items. In resources management group the highest-ranked factor is *selection of PMO manager* with mean score of 3.94. For project management group, the highest ranking factor is *inaccurate information reporting* with a mean score value of 4.24. Finally, for organisational culture group the highest ranked factor is *environmental challenges* with a mean score of 4.04. Table 4 show the ranking of three most significant factors in each of the group.

Table 4: Ranking of three most significant factors for each group

Group	Factors affecting PMO implementation	Mean	Standard deviation	Rank	Overall rank
Resource management	Selection of PMO manager	3.94	1.099	1	5
	Lack of professional staff	3.87	1.203	2	6
	Lack of PMO functional tools	3.81	1.070	3	7
Project	Inaccurate information reporting	4.24	0.986	1	1

	Poor communication strategy	4.18	1.019	2	2
	Additional administrative workload	4.05	1.058	3	3
Organisational culture	Environmental challenges	4.04	1.127	1	4
	Inefficient change plans	3.79	1.149	2	8
	Political challenges	3.75	1.192	3	9

Table 4 presents the overall ranking of three most significant factors affecting PMO implementation perceived by respondents for each predetermined group. Among the nine factors, the five highest-ranking factors affecting PMO implementation is *inaccurate information reporting* (project management group), followed by *poor communication strategy* (project management group), *additional administrative workload* (project management group), *environmental challenges* (organisational culture group) and *selection of PMO manager* (resource management group). These five highest score factors are further discussed as follow;

(i) Inaccurate information reporting

The construction industry can be described as resource-driven and fragmented in nature. Since PMO is the coordinating body in handling construction projects, it is important to manage information that is mainly involved in sharing the information. This information is crucial in decision making. Inaccurate reports can have severe repercussions for people involved in the reported events and readers and viewers who base their future decisions on information [25]. Hence, inaccurate reporting or sharing information will affect subsequent tasks [26] and indirectly affect the PMO performance.

(ii) Poor communication strategy

The main functions of communication are to connect, inform and engage. As a coordinating body, PMO needs to strategise the communication at all level. The communication in vertical and horizontal has to be integrated to ensure smooth delivery of commands. The communication strategy is employ to build and maintains a greater competitive advantage in organisation [27]. Thus, if communication is poorly strategized, many parties are affected and this can cause failure to the construction project [28].

(iii) Additional administrative workload

Workload and performance are interlinked, but their relationship is very complex [29]. Some construction practitioners assumed that having PMO created an additional administrative workload because the role of PMO is not well defined and executed by professional staff. If not professionally handled by PMO, additional workload will create redundancy and inefficient staff performance [30].

(iv) Environmental challenges

The project environment has features of continuous changes, schedule pressure and teams of specialized expertise [31]. Hence, the setting up of PMO within the construction organisation should be accepted by all staff, especially top management. Vaidyanathan [32] revealed that the project environment brings diverse groups of people together for a short period and a working team is created quickly. Almanae [33] found that environmental factors may influence the performance of the staff, which are technological, social, cultural, legal, policy, economic and international. If the organisation's environment is not willing to work with PMO, then PMO performance will be affected.

(v) Selection of PMO manager

In the success of PMO, the manager has to play a vital role. Selection of the right staff to lead PMO has great recuperations to the performance of the PMO, especially the manager to steer the PMO. If the wrong candidate was selected to lead the PMO then the roles of PMO is overshadowed with conventional management of the construction project. In such a situation, the manager cannot apply his opinions and personal creativities [34]. Even organizations with qualified managers look at the PMO in a very basic way and rarely differentiate the traditional projects department from a PMO [35]. Thus, the selection of the manager has a direct impact on the performance of the PMO.

6. Conclusion

This paper presented the grading of factors affecting Project Management Office (PMO) implementation performance in the construction organisation. The data was collected through a survey using structured questionnaire that consisted of 28 factors affecting PMO implementation performance. The respondents rated each factor with 5-points Likert scale, and the survey managed to secure 85.5% response rate. The ranking analysis was conducted based on the mean score and standard deviation of each factor. It was found that the five most affecting PMO implementation performance namely *inaccurate information reporting*, *poor*

communication strategy, *additional administrative workload*, *environmental challenges* and *selection of PMO manager*. The findings also showed that most affect factors in project management group becoming the main obstacles to the successful implementation of PMO. This finding will benefit the construction industry stakeholders in applying PMO in their organisations, especially in the UAE construction industry.

References

[1] Driessche, L.V. (2016). The UAE Construction Sector Overview and Outlook. Flanders Investment & Trade Market Survey, 12(2), 4-16.

[2] Al Ahbabi, M.S.M. (2014). Process protocol for the implementation of integrated project delivery in the UAE: A client perspective (Doctoral dissertation, University of Salford).

[3] Magnusdottir, B. (2012). Project Management Office in International Organizations. A case study with main focus on how to successfully implement PMO and maintain it as a long term entity (Master's thesis).

[4] Taylor, P. (2011). Leading Successful PMOs: How to Build the Best Project Management Office for your Business. UK: Gower Publishing Limited.

[5] Purohit, K.G. (2012). Influence of Project Management Office: What is the influence of Project Management Office in Regard to Client Expectation in IT Industry. Ireland: Liverpool John Moore's University

[6] Duggal, J. (2006). Next generation PMO: the secret of a successful PMO. In PMI® Global Congress.

[7] Ling, F.Y., Dulaimi, M.F., & Ho, P.J. (2012, June). Strategies to overcome challenges faced in managing construction projects in the United Arab Emirates. In World Construction Conference (pp. 229-236).

[8] Aubry, M., Hobbs, B., & Thuillier, D. (2008). Organisational project management: An historical approach to the study of PMOs. International Journal of Project Management, 26(1), pp. 38-43.

[9] Carrillo, J.V., Abad, M.E., Cabrera, A.S., & Jaramillo, D.H. (2010). Success factors for creating a PMO aligned with the objectives and organizational strategy. 2010 IEEE Andean Council International Conference (ANDESCON), (pp. 1-6), IEEE.

[10] Zin, A.M., Memon, A.H., and Zin, R.M. (2006). Comparative Study of Resource Scheduling with Primavera Project Planner and Microsoft Project. Proceeding of National Seminar on Civil Engineering Research, SEPKA 2006, University Technology Malaysia Skudai, Malaysia, held on 19 - 20 December 2006, ISBN 983-42613-3-0

[11] Li, X.B., Nie, M., Yang, G.H., & Wang, X. (2017). The study of multi-project resource management method suitable for research institutes from application perspective. Procedia engineering, 174, 155-160.

[12] Li, S., & Tang, L.B. (2010). Application of multi-project management in scientific research projects. Journal of Anhui Vocational College of Electronics & Information Technology, 9, 26-27.

[13] Memon, A.H., Rahman, I.A., Azis, A.A.A., Rasiah, K.V., and Hanas, N.I.M. (2011). Identifying Construction Resource Factors Affecting Construction Cost: Case of Johor, Malaysian Technical Universities International Conference on Engineering & Technology (MUiCET2011), held on 14-15 November 2011, Batu Pahat, Johor, Malaysia

[14] Webber, S.S., &Torti, M.T. (2004). Project managers doubling as client account executives. Academy of Management Perspectives, 18(1), 60-71.

[15] Barzelis, A., Mejere, O., & Karveliene, R. (2010). The Challenges of Assessment of Project Managers'competences. Jaunųjųmokslininkųdarbai= Journal of young scientists. Siauliai: Siaulių universite toleidykla, 2010, Nr. 1 (26), priedas [elektroninisisteklius].

[16] Patil, G. (2016). Project management challenges. Journal of Multidisciplinary Engineering Science and Technology (JMEST), 3.

[17] Schein E. Organizational Culture and Leadership. San Francisco: Jossey-Bass Publishers; 1992. 418 p. ISBN: 1-55542-487-2

[18] Cameron K.S. and Quinn R.E., (1999). Diagnosing and Changing Organizational Culture, Addison-Wesley Publishing, New York.

[19] Tedla, T.B. (2016). The Impact of Organizational Culture on Corporate Performance (Doctoral dissertation, Walden University).

[20] Nasaruddin, N.A.N. (2019). Model of leadership characteristics in addressing construction challenges (Doctoral dissertation, Universiti Tun Hussein Onn Malaysia).

[21] Saldivar, M.G. (2012). A primer on survey response rate. Florida State University: Learning Systems Institute.

[22] Pazzaglia, A.M., Stafford, E.T., & Rodriguez, S.M. (2016). Survey Methods for Educators: Analysis and Reporting of Survey Data (Part 3 of 3). REL 2016-164. Regional Educational Laboratory Northeast & Islands.
[23] Koonce, G.L., & Kelly, M.D. (2014).Analysis of the Reliability and Validity of a Mentor's Assessment for Principal Internships. Education Leadership Review, 15(2), 33-48
[24] George, D., &Mallery, P. (2003). SPSS for Windows step by step: A simple guide and reference. 11.0 update (4thed.). Boston: Allyn& Bacon.
[25] Vergeer, M. (2018). Incorrect, fake, and false. Journalists' perceived online source credibility and verification behavior. Observatorio (OBS*), 12(1), 37-52.
[26] Rapp, D.N. (2016). The consequences of reading inaccurate information. Current Directions in Psychological Science, 25(4), 281-285.
[27] Nwabueze, U., &Mileski, J. (2018). Achieving competitive advantage through effective communication in a global environment. Journal of International Studies, 11(1).
[28] Rahman, I.A., &Gamil, Y. (2019, August). Assessment of Cause and Effect Factors of Poor Communication in Construction Industry. In IOP Conference Series: Materials Science and Engineering (Vol. 601, No. 1, p. 012014). IOP Publishing.
[29] Shah, S.S.H., Jaffari, A.R., Aziz, J., Ejaz, W., Ul-Haq, I., & Raza, S.N. (2011). Workload and performance of employees. Interdisciplinary Journal of Contemporary Research in Business, 3(5), 256-267.
[30] Singh, R., Keil, M., & Kasi, V. (2009). Identifying and overcoming the challenges of implementing a project management office. European journal of information systems, 18(5), 409-427.
[31] Alatalo, U. (2012). Communication strategy in projects: High technology sector viewpoint. University of Applied Sciences: Master's thesis.
[32] Vaidyanathan, G. (2016). A Framework of Project Culture in Organizations. Issues in Information Systems, 17(2).
[33] Almanae, M. (2014). Organizational environment and its effects on performance–Applied study in Insurance Companies in Libya. Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis, 55(3), 9-22.
[34] Vahedi, R., &Asadi, A. (2014). Relationship between management styles and performance of the managers and staff of tax administration office of Tehran. European Online Journal of Natural and Social Sciences: Proceedings, 2(3 (s)), pp-2975.
[35] Alsadeq, I., Akel, M., & Hamamo, N. (2011). Establishing a project management office (PMO) using the agile approach. PMI Global Congress Proceedings – Dublin, Ireland.