The Impact of Culture Diversification on Project Processes. Evidence from Dubai -UAE

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Abstract: This research focuses on this relationship between national culture and project management and particularly project monitoring and control practices in the context of the multicultural society of United Arab Emirates. A detailed structured survey was conducted, the data acquired were tested through several descriptive and inferential statistical analysis and as a result there was empirical evidence to the proposed relationship.
The results of this research show that project-based organizations should give more attention to the effect of culture on the way projects being managed, and should conduct cultural training as well as implementing processes and policies that targets this effect.

Keywords: National Culture Variables, Project Mentoring and Control, Project Management Body of Knowledge, Project Success

1.1 Introduction
1.1.1   Background
The society and economy of UAE have been developed rapidly since the discovery of oil in the 1950s, and it was a big revolution in the history of this country and the other Arab Gulf countries in general. Such a huge development in the country has attracted expatriates from all around the world. Depending on the trend of Internationalisation of business which demand operating in a country other than the original company founded, and this operation in the new country can be temporary or permanent, which will lead to a significant requirement to have a managers that can handle multicultural work environments (Bashir, 2012), the country have variety of nationalities specially South-East Asians as well as Arabs from Middle East & North Africa (MENA region) (UAE - Department of External Information, 2013), In addition there are a population of expatriates from Western Countries.
Along with this variety of cultures in UAE, there were also variety of project management based industries developed in the country such as Oil & Gas, Construction, Transportation Infrastructure, Information Technology and others.

1.2 Research Problem

Increasing number of projects executed by multicultural teams in UAE leads to make it essential to have good knowledge about national culture differences. And as (Hofstede, 1983) stated that "If project management is used in more collectivist cultures, it is likely that people will feel that they do not know where they belong and who they are: they lose their work identity and become alienated". Hofstede came to this result based on the assumption that project management standards where basically set in western society (certainly USA).

It is also a fact that many of the projects in UAE are delayed or fail to achieve their targets in terms of quality, cost or time. Some researches in UAE have stated that about 50% of the projects related to construction have suffered from delay in completion and did not meet its scheduled timeframe (Faridi and El-Sayegh, 2006)

In order to try to understand the reasons of the projects failures or delays in such a society, there were many reasons stated by previous researches and the relationship between national culture and project management was addressed significantly and it was suggested to add the national culture factor somehow to the Project Management Body of Knowledge (PMBOK) to enhance the deployment of project management in such societies and to reduce the project failures and delays generally, however, many studies have looked over the project planning practices only, this was done usually by measuring it using the PMPQ model implemented by (Globerson and Zwikael, 2002) neglecting the fact that planning phase may have lower cultural interactions and variations than the other phases such as monitoring & control phase. This also was suggested by (Chin Mei Yen, Amy Pulatov, 2007) as he stated that "the research can be extended to encompass not only project planning but also project execution and control".

So we can find that there is a lack of understanding of the direct relationship between national culture and project monitoring & control practices.

1.3 Purpose of The Study

This research paper aims to come up with solutions and recommendations to improve the project success rates in UAE by taking into consideration the cultural differences between the project teams members, and identifying the main cultural dimensions affecting the project monitoring and control practices.

The main purposes or objectives for this research is the following;

- To study the theoretical perspective of National Culture and the differences between the different approaches for the major studies of national culture dimensions.
- To study the suggested models for the relationship between national culture dimensions and project management practices.
- To identify the most significant national culture variables that affects the project monitoring and control practices.
- To develop a measurement tools for the suggested dependent and the independent variables.
- To analyze the data and to identify the actual contribution of the national culture dimensions to project monitoring and control practices.

1.4 Research Questions

As we have such a multicultural workforce in UAE, there is an essential need to address those cultural differences and related to the project management practices in-depth and not generally to project management success or failure, such a study may find some significant links between sets

of variables that will result recommendations that will help to improve the performance of project management teams in UAE, following main research question will direct our study;

Do project team national cultures affect the project control & monitoring activities deployment in UAE?

This research question can lead us to sub-questions which is narrower questions;

- RQ1: What is the national culture dimensions that is expected to affect the project monitoring and control practices.
- RQ2: What is the most appropriate model to measure National Culture and project monitoring and control practices deployment?
- RQ3: How can the knowledge of this relationship be helpful to the project management community in UAE?

1.5 Significant of The Study

As per (Hofstede, 1983) the project management teams will be facing an essential challenge in managing a project consisting from individuals coming from different backgrounds and national cultures, so this research is designed to address the generic relationship between national culture and project management stated by previous studies especially the ones studying national culture with project success or failure directly, and to have a more in depth approach, our research is going to investigate the relationship of some national culture aspects which is more likely to be related to project management as per previous researches with the actual practices of project management in a vital and dynamic phase like monitoring and control phase.

Such research will contribute to the general knowledge of project management, and will show the real need to consider cultural differences in the study of project management generally and to give diversity more attention in the Project Management Body of Knowledge (PMBOK), as it is really important to re-evaluate the applicability of the practices of project management in such diverse societies like UAE (Baumann, 2013).

1.6 Literature Review
1.6.1   National Culture Dimensions

Based on the book of (Hofstede, 1980) culture's consequences, there are 4 cultural dimensions; Power of Distance (PD), Uncertainty Avoidance (UAI), Individualism(IND) and Masculinity(MAS). But in his recent edition of the same book (Hofstede, 2001) he added on more cultural dimension; Long Term Orientation (LTO).

Another major study in this field is the GLOBE study (House et al., 2004) which is done in 62 societies and it states the following dimensions for national culture; Performance Orientation, Future Orientation, Gender Egalitarianism, Assertiveness, Individualism, Power of Distance, Human Orientation and Uncertainty Avoidance. most of these dimensions are nearly similar to Hofstede dimensions.

1.6.2   National Cultures in UAE

As per UAE yearbook 2013 the population of UAE have reached to 8.3 million, less than one million of them are UAE citizens (947,947) and balance about 7.3 million are non-national expatriates (UAE - Department of External Information, 2013), as per the same book most of the expatriates are mostly from South Asia and MENA region and expatriates represent about 96% of UAE workforce (UAE - Department of External Information, 2013) also the population and influence of westerns like Australians and North Americans were increasing in the country

(AlMazrouei et al., 2016), Also there is a population of expatriates working in UAE from Europe, for example there are around 240,000 British expatriates living in UAE (Al-Qassemi, 2010). In addition, other nationalities living in UAE such as Iranians, Pakistanis, Indians, Chinese and Africans (Butler, 2009). Following
Table 1 showing Hofstede cultural dimensions for some of the nationalities working in UAE (Hofstede, 2015);

Table 1 Overview of Hofstede cultural dimensions' scores for some of the nationalities of the expatriates in UAE (Hofstede, 2015)

Nationality	PD	IDV	MAS	UAI	LTO
Arab countries	80	38	53	68	23
Great Britain	35	89	66	35	51
Australia	38	90	61	51	38
India	77	48	56	40	51
Iran	58	41	43	59	14
Pakistan	55	14	50	70	50
USA	40	91	62	46	26
Philippines	94	32	64	44	94
Bangladesh	80	20	55	60	47
China	80	20	66	30	87

1.6.3 Project Management & National Culture Research

Hofstede cultural dimensions (Hofstede, 1980) have opened the door for cross-culture researches in many fields and one of this fields was the international management (Wu, 2006) after the first edition of his book culture's consequences, Hofstede have published a paper proposing that this cultural dimensions affects project management and project managers (Hofstede, 1983) another paper discussing the lessons learned from a training program called "Management of Multicultural Projects" done for European companies working in international projects by (Vonsild, 1996) who stated that culture affects project management mainly in seven areas, which is Authority, Time, Conflict, Risk, Communication, Organization and Contracts.

Some recent studies have focused on the project teams and how they can be affected by the cultural differences, one of the studies for (Ochieng and Price, 2010) have discussed the effect of cultural differences on multicultural construction project teams, the interviewed about 20 project managers from UK and Kenya, and they come up with recommendations to enhance the communication in such projects, another study by (Ullah Khan and Sandhu, 2016) based in UAE have focused mainly on the working labors in construction projects and by personal interviews and observation of the researcher he found that the differences in national culture proposed by (Hofstede, 1980) are very clear between the labors reflecting on their objectives, values and mainly decent work practices and this will definitely affect the projects.

These differences are not only affecting the working force or labor lever, but also affects the project managers and project management team generally, evidence for that was verified by (Wang, Jiang and Pretorius, 2016) who studied the differences between the conflict resolving behaviors of project managers from China and South Africa and found out significant differences between them in their ways of conflict resolving, communication and negotiations. Supporting this finding another research conducted by (Nauom, Alyousif and Atkinson, 2015) in UAE by investigating

the relationship between the national culture and management of projects, and they find out that UAE had a unique management style for the construction project which is a result of western and eastern management methods and procedures.

As previous studies focused on the cultural differences within the project teams whether working force or project management team, other recent studies qualitative studies have investigated the role of culture in stating the shape of the project stakeholders engagement such as (Nahyan et al., 2014), (Lückmann and Laumann, 2016), (Butt, Naaranoja and Savolainen, 2016) and (Lückmann and Färber, 2016); in all of these the findings was supporting the effect of culture on project from the way stakeholders or customers do engage to the projects.

However, such studies discuss project management as a generic expression, but some recent researches discussed this relationship according to the modern understanding of project management and project success. According to (Bredillet, Yatim and Ruiz, 2010a) the national cultural dimensions stated by (Hofstede, 1980) have a significant effect on project management deployment index (PMDI) in 74 selected countries, and this index was determined based on their previous study (Bredillet, Ruiz and Yatim, 2009) which is stating the relationship between the number of certified project managers (PMP, IMPA) to the population of that particular country. Other studies in this field have taken a direct approach connecting between culture and project results directly, project results indicate both project success and failure, according to (Al Qubaisi et al., 2015) there is a direct and indirect relationship between 3 variables; communication, leadership and culture (as a general definition) with the project success as a dependent variable, and the findings support the relationship between culture and project success and the effect of culture on the team communication as a mediating factor in the relationship of culture and project success.

Another research by (Koops et al., 2015) studied the relationship between culture and project success by breaking the both expressions to more detailed entities, so he used (Hofstede, 2001) five cultural dimensions of some Europe countries and investigated the relationship of them with 19 project success criteria of (Van Loenhout, 2013), other studies reviewed have also verified the relationship between national culture and project management in different contexts such as (Ullah Khan, 2014) and (Unger, Rank and Gemünden, 2015).

The last prospective of studying the relationship between national culture and project management is to check the direct relationship between national culture and project management processes and activities, rather than studying the relationship of national culture directly with the project success, this method of studying this relationship, such prospective found in the recent studies in the last couple of years. We find only two studies (Chin Mei Yen, Amy Pulatov, 2007) (Rees-Caldwell and Pinnington, 2013a) focusing on planning phase processes and both results that there is a direct influence of national culture on the deployment of the project planning processes, as they have stated the processes or activities of project planning and investigating their relationship with the national culture dimensions.

But we find a significant gap in studying this relationship with other project management phases, it was also recommended by (Rees-Caldwell and Pinnington, 2013a) to study the relationship between national culture and other project management phases or methodologies.

1.6.4   Cultural Dimensions Relative to Project Management

In the following we are going to discuss the most relevant cultural dimensions to the context of project management as per the literature review;

Power of Distance: this dimension reflects how the society agree and support the differences in power and the privileges of the individuals based on their status or position (House et al., 2004), (Ozmen, 2019). In the context of project management power of distance is related to leadership which is very important to get the project started and going, also it's very important in the final stages of the project where you have to control the outputs of the execution phase and finalize the project (Zhang et al., 2015), also power of distance is highly affecting the quality of the project communication activities (Zhang et al., 2015), (Rees-Caldwell and Pinnington, 2013a) and (Baumann, 2013).

In addition, power of distance are more likely to affect project quality and risk management (Baumann, 2013), and according to (PMI, 2008) when project manager have higher authority in his organization, then he can have more control over project budget and resources, and this authority can be enhanced through leadership and power of distance. This supported by (Koops et al., 2015) as he suggested a possible connection between power of distance and effective use of resources as one of the measures for the project success.

Uncertainty Avoidance: this dimension indicates how the society value an ambiguous situation as a threat and to which extent they can tolerate the idea of uncertainty (House et al., 2004). Generally, project can be defined as "a temporary endeavor undertaken to create a unique product, service or result" (PMI, 2008) and from this definition we can conclude that every project are unique, and in result to this there will be uncertainty ahead in the project (Zhang et al., 2015) while doing a project, the need for uncertainty avoidance is progressive while we are advancing in the stages of the project, so it have low consideration during the first stages of a project, and it becomes important while moving from execution phase towards closing phase (Turner, 2009).Uncertainty avoidance is related mainly to safety and risk factors of project (Zhang et al., 2015), (Koops et al., 2015) and (Baumann, 2013).

Moreover, this cultural dimension affects the project the application of the reserve analysis in terms of activity duration and cost estimation by using contingency reserves, and this contingency analysis should be identified in schedule/budget documentation and should be controlled and amended as more accurate information about the project been available (PMI, 2008) and according to (Bredillet, Yatim and Ruiz, 2010b) the uncertainty avoidance index is having an inverse relationship with project management deployment, as they suggest that high uncertainty avoidance leads to high attention to contingency reserves in schedule and budget which will affect the deployment of project management processes negatively. Generally, the level of uncertainty avoidance will affect the attention given to the activities related to cost and time of the project, this point was supported by (Chin Mei Yen, Amy Pulatov, 2007) and (Koops et al., 2015).

Long Term Orientation: this dimension shows the extent of the society focusing on the future and willing to delay a short-term gain or feeling of success in order to get something better in the future, this dimension also related to the extent people are holding their traditions (Hofstede, 2001). This cultural dimension is expected to affect the scheduling and quality of the projects, using some related thoughts about this dimension like God Willing, Marathon Race (Milosevic, 1999) this assumption was also supported by the findings of (Rees-Caldwell and Pinnington, 2013a) and (Baumann, 2013).

In addition, long term orientation can also affect the attention given to cost activities in the project (Chin Mei Yen, Amy Pulatov, 2007) which was also supported by the assumption of (Koops et al., 2015) that the long term orientation index affects the project success from the aspect of closing the project within budget, which is for sure related to the budget/cost activities during the project.

During the literature review, other dimensions of (Hofstede, 2001) national culture such as individualism and masculinity were found that they are not very relevant to the context of project management deployment, this was also been approved by the results of (Bredillet, Yatim and Ruiz, 2010b), also (Hofstede, 1983) himself confirmed that the masculinity is not having a clear impact on the way that project management works.

1.6.5   Monitoring & Controlling Phase

This is one of the main phases in project management and it's the only phase that happens in the background of all the other phases as they happen almost in sequence one after the other (Baumann, 2013). This phase can be defined as it is the "processes required to track, review and regulate the progress and performance of the project" (PMI, 2008).

During our literature review we found out a significant gap in studying this important phase implementation in the context of national culture, as most of the studies of national culture and project management focused on general project success or project management deployment, or gone more in detail to the project management activities but focusing only on one phase which is the project planning, such as the researches of (Zwikael, Shimizu and Globerson, 2005), (Chin Mei Yen, Amy Pulatov, 2007), (Rees-Caldwell and Pinnington, 2013b).

1.7 Research Methodology
1.7.1   Research Approach

Research approach is used to express the reasoning of the research and logic used to build the research methodology, it also determines the way that the conceptual framework is formed based on the body of knowledge collected during the literature review (Sutrisna, 2009). There are two main approaches used by the researches; deductive and inductive approaches. In this research we are going to us a deductive approach which means that we will develop the conceptual framework before testing it (Losee, 2001), and this generation of the conceptual framework will be based on empirical observation during the literature review not based on tested and confirmed results.
Based on the objectives of this study determined before, we will depend on the existing literature to build up our conceptual framework and hypothesis about the relationship between national culture and project monitoring and controlling practices deployment, so the deductive approach will be the most useful approach for this study.

1.7.2   Research Strategy

In this research we are going to use the survey strategy which we found out that it is widely used in the research concerned about the national culture and project management in general, and as per (Bordens and Abbott, 2002) in survey strategy we can ask questions to the sample selected about their behaviors, beliefs and attitudes, and then from the data collected we can come up with results about the studied variables which is considered a suitable strategy for our study and especially to measure the national culture variables, and also this strategy is widely used with deductive approach (Saunders, Lewis and Thornhill, 2007).

1.7.3   Conceptual Framework

Based on the literature review about the relationship between national culture variables and project monitoring and control knowledge areas, following propositions and hypothesis were concluded;

Proposition 1: As per (Bredillet, Yatim and Ruiz, 2010a) The value of the power distance will have a negative impact on the deployment of project management in general, high value of power of distance leads to negative attitude towards changes (Baumann, 2013) this will lead to negative impact on the project scope and risk control activities. In addition, it can also have a negative impact on project communication control activities as it constructs a gap between project team and their superiors, results to avoid discussing or reporting some project problems to the managers (Zhang et al., 2015) having a relationship between power of distance and project communication activities was also supported by (Rees-Caldwell and Pinnington, 2013b) and (Baumann, 2013).

- H1: Power of Distance have a negative impact on project Communication monitoring and control processes deployment.
- H2: Power of Distance have a negative impact on project Risk monitoring and control processes deployment.
- H3: Power of Distance have a negative impact on project Scope monitoring and control processes deployment.

Proposition 2: The value of the uncertainty avoidance is expected to affect positively both of time & cost elements of project monitoring and control (Koops et al., 2015). And as per (Bredillet, Yatim and Ruiz, 2010b) higher values of uncertainty avoidance can be interpreted in the context of project management deployment by allocating extra budget and time to general contingency response. this positive relationship between project cost related activities and uncertainty avoidance was also supported by (Chin Mei Yen, Amy Pulatov, 2007).

- H4: Uncertainty Avoidance have a positive impact on project Time monitoring and control processes deployment.
- H5: Uncertainty Avoidance have a positive impact on project Cost monitoring and control processes deployment.

Proposition 3: As per the literature, the dimension of long-term orientation is expected to have a wider impact on project management monitoring and control activities. Positive relationship is expected to exist along with both project time and quality monitoring and control activities (Milosevic, 1999), (Rees-Caldwell and Pinnington, 2013b) and (Baumann, 2013). In addition, long term orientation will affect the good working relationship (Koops et al., 2015) which is expected to affect the communication control activities. And as per (Milosevic, 1999) long term orientation is related to some concepts like God willing and "if it ain't broke, don't fix it" which means relaying on corrective actions, also time orientation for some cultures may influence the individuals' orientation towards repeating past experiences. From all of these concepts and others related to time orientation we can conclude that long time orientation also expected to have a positive relationship with risk activities of project monitoring and control. Finally, low values of long term orientation lead to the concept of "Milestones are flexible" (Baumann, 2013), this expected to affect the project scope management generally and specifically, project scope control, as if milestones are flexible, the project scope control activities importance will be low valued, and this will lead to poor deployment of project scope control activities, so we can conclude that there is an expected positive relationship between long term orientation and scope monitoring and control activities.

- H6: Long-Term Orientation have a positive impact on project Time monitoring and control processes deployment.
- H7: Long-Term Orientation have a positive impact on project Quality monitoring and control processes deployment.

- H8: Long-Term Orientation have a positive impact on project Communication monitoring and control processes deployment.
- H9: Long-Term Orientation have a positive impact on project Risk monitoring and control processes deployment.
- H10: Long-Term Orientation have a positive impact on project Scope monitoring and control processes deployment.

1.7.4   Study Instrument

In order to study the aforementioned research hypotheses a questionnaire was designed and developed mainly from literature review, in way to get the required data necessary to test required variables, in order to come up with a conclusion about the characteristics of the relationship between national culture and monitoring and controlling processes.

The questionnaire consists of 3 main parts, each one of them designed to measure a particular set of data about the participants, following the details of each part;

Part 1 - Demographic Questions: This set of questions are designed to determine the characteristics of the participants, this will help gain better understanding for the source of the following core data, especially that this research is involved in national culture, so the general demographic questions will be necessary to gain better understanding for the cultural environment of the participants. This part consists of seven questions about (1) gender, (2) age, (3) nationality, (4) period of living in UAE, (5) project management qualification, (6) Education Level and (7) the type of projects involved.

- Questions 1.1,1.2,1.3 & 1.6; were mentioned in GLOBE survey (House et al., 2004) which used for the questions of part two, and it is also giving general indication about the demographics of the sample.
- Questions 1.5 & 1.6; aims to check the qualifications and academic background of the participants about project management.
- Question 1.7: set to determine the type of projects that the participants involved in, which is significant to the way they manage the projects, these main categories of projects where taken from (Youker, 2017)

Part 2 – National Culture: This set of questions was implemented to measure the values of cultural dimensions stated in the hypotheses which is expected to be relevant to project monitoring and control practices, we have used exact questions mentioned in GLOBE-Phase 2-Beta (House et al., 2004).

- Questions 2.2 & 2.4: These two questions will measure the Power of Distance dimension value.
- Questions 2.3 & 2.5: These two questions will measure the Uncertainty Avoidance dimension value.
- Questions 2.1 & 2.6: These two questions will measure the Long Term Orientation dimension value.

Part 3 – Project Management Practices: This set of questions is targeting the measurement of the quality of project monitoring and control practices and how the individuals value the importance of those practices based on the frequency of using them in the projects, those questions were designed based on the work of (Zwikael and Globerson, 2004) and (Papke-Shields, Beise and Quan, 2010). Lots of previous researches have measured the quality of project planning based on the project management planning quality model (PMPQ) developed by (Zwikael and Globerson, 2004) this model was implemented basically from the knowledge areas of PMBOK

(PMI, 2008) related to planning phase and from each knowledge area there were a set of processes also set by PMBOK (PMI, 2008) and then from each process they suggested a significant output leading to a significant planning product, following
Table 2 explains these items;

Table 2 Sixteen planning products included in the PMPQ and their knowledge areas (Zwikael 2004)

Knowledge area	Planning process	Planning product
Integration	project plan development	project plan
Scope	scope planning	project deliverables
	scope definition	work breakdown structure chart
Time	activity definition	project activities
	activity sequencing	Pert or Gantt chart
	activity duration estimating	activity duration estimates
	schedule development	activity start and end dates
Cost	resource planning	activity required resources
	cost estimating	resource cost
	cost budgeting	time-phased budget
Quality	quality planning	quality management plan
Human resources	organizational planning	role and responsibility assignments
	staff acquisition	project staff assignments
Communications	communications planning	communications management plan
Risk	risk management planning	risk management plan
Procurement	procurement planning	procurement management plan

To make this model useful to measure the quality of project planning, the above products considered to be the variables that we need to evaluate and in order to convert those variables into an indicator for quality, each item have to weighted and given a relative importance assuming that all the items have the same impact on the quality of project planning (Zwikael and Globerson, 2004).

- This model has been tested given high validity and reliability to be used in project management research (Zwikael and Globerson, 2004).
- This model have been used and tested in other researches like (Zwikael, Shimizu and Globerson, 2005), (Zwikael and Globerson, 2006), (Rees-Caldwell and Pinnington, 2013b) and (Chin Mei Yen, Amy Pulatov, 2007).

In order to use such a model in the context of project monitoring and control phase, we need to replace the process and products of the project planning phase with the related items in project monitoring and control phase. Those processes where used in (Papke-Shields, Beise and Quan, 2010), who have implemented a similar comprehensive model that tests the usage of the project management processes and the effect of this usage to projects success in certain criteria. In addition, (Papke-Shields, Beise and Quan, 2010) have given similar relative importance and weight to the one used by (Zwikael and Globerson, 2004), so this justifies creating a new model only for project and monitoring processes which will be used in this research as per the following Table 3.;

Table 3 Monitoring & Controlling Practices measured in the questionnaire.

Knowledge Area	M&C Practices	Question No.
Scope	Scope change proposal	3.1
	WBS update	3.2
	Scope statement update	3.3
Time	Schedule update	3.4
	Activity list update	3.5
Cost	Cost estimate updates	3.6
	Cost performance reports	3.7
	Cost baseline updates	3.8
Quality	Quality change proposals	3.9
Communication	Communication change request	3.10
Risk	Risk register updates	3.11
	Status review meetings	3.12

Similarly, to the PMPQ model, we can call this model Project Management Control Quality (abbreviated as PMCQ). The questionnaire was implemented on Survey-Monkey website and in order to reduce the survey fatigue every part of the questionnaire was set in a separate page instead of setting all the questions in front of the participant at the same time. We have also used several types of multiple-choice questions, so the participant doesn't have to write anything while answering and with set of clicks he can complete the whole questionnaire. We have used the following questions types; Likert scale, Matrix Questions and Dropdown Questions. Finally, it may be highlighted that the questions of the core two parts were designed in similar format to reduce the effort by the participant to understand the mechanism of answering each type of questions. Following
Table 4 Showing the connections between the questionnaire questions and the hypotheses variables related to the references of the questions.

Table 4 Hypothesis Variables Vs. Questionnaire Items

Hypo. No.	Hypothesis Variables	Related Questions	References
H1	PD vs. Communication	2.2, 2.4, 3.10	
H2	PD vs. Risk	2.2, 2.4, 3.11, 3.12	
H3	PD vs. Scope	2.2, 2.4, 3.1, 3.2, 3.3	
H4	UA vs. Time	2.3, 2.5, 3.4, 3.5	(House *et al.*, 2004;
H5	UA vs. Cost	2.3, 2.5, 3.6, 3.7, 3.8	Zwikael and Globerson,
H6	LTO vs. Time	2.1, 2.6, 3.4, 3.5	2004; Papke-Shields,
H7	LTO vs. Quality	2.1, 2.6, 3.9	Beise and Quan, 2010)
H8	LTO vs. Communication	2.1, 2.6, 3.10	
H9	LTO vs. Risk	2.1, 2.6, 3.11, 3.12	
H10	LTO vs. Scope	2.1, 2.6, 3.1, 3.2, 3.3	

1.7.5 Research Sampling

In this research, we used the Convenience Sampling technique which means that the researcher will choose randomly the easiest cases to be the research sample (Saunders, Lewis and Thornhill, 2008). The sample was filtered as per the following criteria, then they were invited to participate in this research;

- Target participant's positions: Projects Director, Project Manager, Senior Project Manager, Site Manager, Project Planner, Project Engineer and Project Coordinator …etc.
- Involved in projects management in United Arab Emirates.
- Focusing on projects from the following categories: Administrative, Construction, Computer Software Development, Design of Plans, Equipment or System Installation, Event or Relocation, Maintenance of Process Industries, New Product Development and Research.
- The target size of sample was 100 participants.

1.8 Results and Analysis
1.8.1   Descriptive Statistics

As discussed in the research design, this study targeted project management teams in UAE in different industries, the participants of this questionnaire were 126 individuals and 86 of them answered all the main questions of this study which is related to the research hypothesis.

1.8.2   Demographic (Gender Distribution)

The distribution of Gender in our sample indicates that out 119 valid responses, 107 were males (90%) and 12 were females (10%).

1.8.3   Demographics (Age Distribution)

Approximately half of the sample were in the age group between 26-35 years (54%).

1.8.4   Demographic (Nationality Distribution)

Nationalities of the participants were requested using an optional drop list question in monkey survey, after that the nationalities were allocated to 10 main national culture groups stated by GLOBE (House et al., 2004) as the instrument of measuring national culture dimensions of our study were taken from GLOBE project as well. Those groups were Eastern Europe, Latin America, Latin Europe, Confucian Asia, Nordic Europe, Anglo, Sub-Saharan Africa, Southern Asia, Germanic Europe and Middle East.

The nationality distribution of this study supports the aforementioned description of UAE national cultures in our literature review, three main culture groups were identified Middle East (42%), Southern Asia (41%) and Anglo (10%).

1.8.5   Years of Living in UAE

Details collected about the years that each participant has lived in UAE in order to insure that the sample were under the same cultural environment of UAE which was explained in the literature review.

1.8.6   Project Management Qualification

Around 65% of the participants were holding a project management qualification, the main reason of getting this data is to ensure the distribution of the sample on both categories.
Education Level
Around 64% of the participants were holding bachelor's degree and 38% holding master's degree, which clearly indicates that we have a highly educated sample.

1.8.7   Type of Projects

40% of the participants were working in construction projects, while 21% were working projects related to the category of Equipment/System Installation and 12% in computer software projects.

1.8.8   Cultural Dimensions Ratings

Following

Table 5 is showing the ratings of the cultural dimensions studied in our research; Long Term Orientation Index (LTOI), Power of Distance Index (PDI) and Uncertainty Avoidance Index (UAI), which is calculated for each nationality group.

However, those results will not be highly reliable for the small samples, and calculated here to highlight the three major cultural groups in our sample which is Middle East, Southern Asia and Anglo.

In addition, these values for the cultural dimensions were calculated for a sample staying in a multicultural society like UAE and not in the original countries of those cultural groups.

The total ratings of the 3 cultural dimensions LTOI (5.3), PDI (3.6) and UAI (5.1) are different than the total ratings of middle eastern countries in general, which is published in GLOBE website (House et al., 2018); LTOI (3.58), PDI (5.23) and UAI (3.91). This difference can relate to many reason some of them are statistical but also can support the effect of the multicultural society of UAE on the cultural values of the individuals living and working in the country.

Table 5 Cultural Dimensions Ratings per Nationality Group

Nationality		LTOI	PDI	UAI
Eastern Europe	Mean	5.0000	1.5000	2.0000
	N	1	1	1
Latin Europe	Mean	6.3333	3.6667	4.6667
	N	3	3	3
Anglo	Mean	5.4000	2.9000	5.1000
	N	10	10	10
Southern Asia	Mean	5.2838	3.8378	5.1892
	N	37	37	37
Germanic Europe	Mean	6.5000	2.5000	2.0000
	N	1	1	1
Middle East	Mean	5.2250	3.7125	5.1125
	N	40	40	40
Total	Mean	5.3152	3.6359	5.0598
	N	92	92	92

1.8.9   PMCQ vs. PM Qualification

In order to check of the role of the PM Qualification factor, Chi-Square test was implemented between PMCQ variables and PM Qualification, and it resulted that all Pearson Chi-Square proportions were non-significant ($p > 0.05$) or violated the Chi-Square test assumptions.

So we can conclude that the PM qualification doesn't have a significant effect on our sample ratings for the project management monitoring and control activities.

1.9 Inferential Statistics
1.9.1   Normality Test

As a preliminary test, normality of the data received from each item of the questionnaire were inspected using Kolmogorov-Smirnov test of normality, Shapiro-Wilk test of normality, Histograms and Q-Q plots.

The results of those tests show clearly that the data acquired for this study were not normally distributed and ($p < 0.05$ for all the items).

However, this doesn't indicate that the data are not valid or there is a problem with it, as this phenomenon is usually observed in social science studies, this also was supported by (Pallant,

2007) as she stated that measures and scales related to social sciences results skewed data, and this only reflects the nature of the variable that is being measured.

Based on the results of the normality tests, non-parametric tests will be used in further analysis, which is recommended by (Pallant, 2007).

1.9.2 Reliability Test

Reliability tests were conducted to both dependent and independent sets of variables. First, all items of project management control quality model (PMCQ) were inspected and the Cronbach's alpha value was 0.911 (

Table 6), which indicates high reliability value for this model.

Table 6 PMCQ Reliability Test

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
.911	.910	12

As our model of project management monitoring and control was basically implemented using (Zwikael and Globerson, 2004) PMPQ model, this result is very similar to the results of PMPQ model in many studies like (Zwikael and Globerson, 2004, 2006; Zwikael and Gonen, 2007; Rees-Caldwell and Pinnington, 2013a) which all resulted in an alpha value near to 0.90.

Next step was to inspect the reliability of the data acquired by cultural dimensions' items, and it results in an alpha value of 0.441 which bellow the acceptable level of 0.7 (Pallant, 2007), this value could be increased by deleting item 2.6 (LTO2R) as per
Table 7.

Table 7 Culture Cronbach's Alpha if Item Deleted

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
LTO1R	22.28	27.853	.157	.426
LTO2R	23.27	28.618	-.019	.542
PD1R	25.24	25.547	.145	.442
PD2R	23.73	21.695	.381	.287
UA1R	23.68	24.196	.298	.349
UA2R	22.39	23.054	.417	.286

So the new value of the Cronbach's Alpha is 0.542 which is very similar to the results of GLOBE (House et al., 2004), as these 6 items where basically taken from GLOBE questionnaire for organizational cultural values (Should Be) and alpha value was 0.55 in GLOBE study (Hanges and Dickson, 2004). It is noticeable also that the only item removed to reach the alpha value of 0.542 was item 2.6 which was the only non-inversed item out of all 6 items of culture, which may relate to response bias of the participants. However, the value of alpha can be also increased to 0.627 by deleting another item (2.1 LTO1R), and as per (Peterson, 1994) an alpha above 0.6 is considered acceptable in social science research.

In addition, the reliability test was conducted on the independent variables level for each of the cultural dimensions, each variable consists of two items from the survey. The results indicated an alpha value of 0.50 for Uncertainty Avoidance (UA), 0.54 for Long Term Orientation (LTO) and a small alpha value of approximately 0.4 for Power of Distance (PD).

Reliability test generally is used to inspect the stability and consistency of the items used in the study (questionnaire) according to the data measured by these items (Bertsch, 2012). However, (Hofstede, 2001) mentioned clearly that if we have an instrument with proven validity, then the reliability can be assumed, as he stated that unreliable test cannot yield valid results. Validity of such instruments used by (Hofstede, 2001; House et al., 2004) have been already proven by the significant correlations of the data acquired through these instruments with other variables in different fields which ware proven in several researches by theory or logic, so depending on the validity of this instrument reliability can be assumed indirectly (Hofstede, 2001). Also it was stated by (Bertsch, 2012) that low values of Cronbach Alpha are not new in the field of cross-cultural studies.

1.9.3 Correlation Analysis of Variables

As per (Cohen, 1988) correlation coefficients in psychological studies can be classified to Low Correlation (0.10 to 0.29), Medium Correlation (0.30 to 0.49) and High Correlation (0.50 to 1.00). This scale will be considered in interpreting the following correlation tests.

Project Monitoring and Control Variables Correlations

Correlations between the PMCQ model variables have been checked using the non-parametric spearman's rho correlation test, and the results shown in

Table 8 indicate a high/moderate, positive and statistically significant correlation between all the variables in this model ($p < 0.01$).

Table 8 Spearman's rho Correlations for Project Control Variables

	SCOPE	TIME	COST	Quality	COMM	RISK
SCOPE	1.000					
TIME	.592**	1.000				
COST	.612**	.651**	1.000			
Quality	.555**	.607**	.604**	1.000		
COMM	.381**	.270**	.284**	.336**	1.000	
RISK	.509**	.662**	.529**	.588**	.457**	1.000

**. Correlation is significant at the 0.01 level (1-tailed).

1.9.4 Culture Variables vs. Monitoring and Control Variables

In this section is the correlations between the main independent and dependent variables were tested using non-parametric spearman's rho test.

Power of distance variable (PDI) correlated negatively with all of the project control variables. However, this correlation was statistically significant only with Scope and Risk variables.

A medium and significant correlation of -0.380 was found between PDI and Scope variables ($p < 0.01$). In addition, a low and significant correlation of -0.193 was found between PDI and Risk variables ($p < 0.05$).

On the other hand, the test of Long term orientation (LTOI) with project control variables resulted positive correlation with all dependent variables, this correlation was statistically significant with all the variables except Cost variable.

Correlation with Communication and Risk was medium correlation of 0.321 and 0.375 respectively ($p < 0.01$ for both correlations). And low correlation with Scope (0.247), Time (0.196) and Quality (0.236).

Data collected for Uncertainty avoidance (UAI) correlated negatively with all project control variables. However, this correlation was not statistically significant with any variable.

Table 9 shows all the results of spearman's rho correlation test for our dependent and independent variables.

Table 9 PMCQ Vs. Culture Correlations - Spearman's rho

	LTOI	PDI	UAI
SCOPE	.247*	-.380**	-.100
TIME	.196*	-.165	.040
COST	.166	-.136	-.050
Quality	.236*	-.099	-.023
COMM	.321**	-.116	-.147
RISK	.375**	-.193*	-.065

**. Correlation is significant at the 0.01 level (1-tailed).
*. Correlation is significant at the 0.05 level (1-tailed).

1.9.5 Standard Multiple Regression Analysis

Standard multiple regression is basically a parametric test, but as per (Pallant, 2007) we can use the parametric tests for such data resulted from social science research and some statistics writers state that minor violation of assumptions can be tolerated if a good size of sample were used. Required sample size of multiple regression analysis as (Tabachnick and Fidell, 2007) can be calculated by the following equation; $N > 50 + 8m$ (m = number of independent variables, so as we have 3 independent variables in this study N value should be more than 74 record.

A total of six models were tested depending on the hypothesized relationships of this study between dependent and dependent variables, and the standard multiple regression analysis resulted three models with acceptable F values, which are Scope (F = 7.526), Communication (F = 4.359) and Risk (F=4.444).

Based on the value of adjusted R square, we can conclude that the variables of LTOI and PDI explains about 13% of the variation in Scope variable, 7.3% of the variance in communication variable and 7.5% of the variance of the risk variable.

The contribution of PDI and LTOI variables to the variance of the dependent variables can be also interpreted using Beta value, as PDI have a good contribution to Scope variable ($\beta = -0.352$), and LTOI contribute strongly to communication ($\beta = 0.301$) and Risk ($\beta = 0.276$).

Table 10 Results of Standard Multiple Regression

Hypo.	Dep. Var.	Ind. Var.	R	R Square	Adj. R Square	F Change	Sig. F Change	t	sig. - t	β (Std.)
H1, H6	Scope	LTOI	.392a	0.154	0.133	7.526	0.001	1.223	0.225	0.125
		PDI						-3.444	0.001	-0.352
H5, H7	Time	LTOI	.106a	0.011	-0.013	0.472	0.626	0.954	0.343	0.104
		UAI						0.195	0.846	0.021
H4	Cost	UAI	.072a	0.005	-0.007	0.439	0.509	-0.663	0.509	-0.072

H8	Quality	LTOI	.174ᵃ	0.030	0.019	2.638	0.108	1.624	0.108	0.174
H3, H9	Comm.	LTOI	.308ᵃ	0.095	0.073	4.359	0.016	2.850	0.006	0.301
		PDI						-0.313	0.755	-0.033
H2, H10	Risk	LTOI	.311ᵃ	0.097	0.075	4.444	0.015	2.615	0.011	0.276
		PDI						-1.002	0.319	-0.106

1.10 Discussion - The Survey Results

The main purpose of this research is to study the relationship between national culture and project monitoring and control practices, those relationships were hypothesized based on the literature review, and following details of the results of the survey based on the statistical analysis done in the in section 1.8.

Based on the standard multiple regression analysis, there is a statistically significant relationship between some of the national culture variables as independent variables and some of the project monitoring and control variables.

Power of Distance & Long Term Orientation model explains 13% of the variance in Scope variable, and this model indicates a good negative β value between Power of Distance and Scope ((β = - 0.352), this result supports the hypothesis H3 and H10.

Similarly, 7.3% of the variance in Communication variable is explained by the model of both Power of Distance and Long Term Orientation, with good positive contribution of Long Term Orientation to the communication ((β = 0.301), which supports both H1 and H8 of our research hypothesis. In addition, the Risk variable also has a relationship with both Power of Distance and Long Term Orientation model, which explain about 7.5% of the variance in it, with a good positive contribution of Long Term Orientation (β = 0.276). This relationship leads to support H2 and H9 hypothesis. As there are many other variables affect the deployment of the project monitoring and control activities, the contribution of these national culture variables model in explaining the variance in project monitoring and control variable can be considered logical and enough to support the hypothesized relationship.

On the other hand, the individual relationships between national culture variables and project control variables were tested using spearman's rho correlation analysis, and the results of these tests indicate the following;

- Scope variable has a medium correlation with Power of Distance (-0.380) which supports H3 that indicates a negative relationship between Scope and Power of Distance. Also scope correlate positively with Long Term Orientation (0.247) and this relationship relate to H10 of the research hypothesis.
- Time variable found to have a statistically significant and positive correlation with Long Term Orientation (0.196) supporting the hypothesized relationship as per (H6), but doesn't have a statistically significant correlation with Uncertainty Avoidance (H4).
- Cost variable didn't correlate significantly with any of the national culture variables, and especially with Uncertainty Avoidance as per the hypothesized relationship (H5).
- Quality variable based on this test correlates significantly with Long Term Orientation as per (H7) with a low correlation of (0.236).
- Communication variable didn't correlate with Power of Distance statistically significant (H1). Nevertheless, as per hypothesis (H8) it had a medium positive correlation with Long Term Orientation of (0.321).

- Risk variable has a statistically significant correlation with both Power of Distance and Long Term Orientation variables. However, as per hypothesis (H9) this correlation was medium and positive with Long Term Orientation (0.375), and low and negative with Power of Distance (-0193) which supports hypothesis (H2).

Following Table 11 summarize the results of the survey data analysis for each hypothesis developed.

Table 11 Study Hypothesis and Research Results

Hypo. No.	Hypothesis Description	Result
H1	Power of Distance have a negative impact on project Communication monitoring and control processes deployment.	Confirmed
H2	Power of Distance have a negative impact on project Risk monitoring and control processes deployment.	Confirmed
H3	Power of Distance have a negative impact on project Scope monitoring and control processes deployment.	Not Confirmed
H4	Uncertainty Avoidance have a positive impact on project Time monitoring and control processes deployment.	Not Confirmed
H5	Uncertainty Avoidance have a positive impact on project Cost monitoring and control processes deployment.	Not Confirmed
H6	Long-Term Orientation have a positive impact on project Time monitoring and control processes deployment.	Confirmed
H7	Long-Term Orientation have a positive impact on project Quality monitoring and control processes deployment.	Confirmed
H8	Long-Term Orientation have a positive impact on project Communication monitoring and control processes deployment.	Confirmed
H9	Long-Term Orientation have a positive impact on project Risk monitoring and control processes deployment.	Confirmed
H10	Long-Term Orientation have a positive impact on project Scope monitoring and control processes deployment.	Confirmed

1.9.6 Data Limitation

The limitations of the data acquired for this study are the following;

•   The data of this study dependent and independent variables were skewed and not normally distributed, and this type of data usually acquired from social science research (Pallant, 2007). Based on that, non-parametric correlation tests where used which considered weaker than the parametric tests (Pallant, 2007). Nevertheless, standard multiple regression tests were implemented as the sample size was sufficient as per (Tabachnick and Fidell, 2007) but the findings of the research were basically relying on the non-parametric spearman's rho correlation test.

- Reliability of the national culture variables was under the acceptable level 0.7 (Pallant, 2007), and the reliability value can be increased to 0.627 by deleting some items which is enough for social science research which supposed to be more than 0.6 (Peterson, 1994). All these items of national culture were taken from GLOBE questionnaire for organizational cultural values (Should Be) (House et al., 2004) and the reliability of this model was 0.55 (Hanges and Dickson, 2004) so based on the advice of (Hofstede, 2001) reliability of the model can be assumed indirectly based on its validity in many other researches and its proven relations with many other variables in those researches based on literature and logic.

- Self-bias response was also considered a limitation of this research which is a famous phenomenon in cross-cultural research. However, in this research the data was tested without any statistical standardization correction which was implemented in GLOBE study (House et al., 2004), and this may the reason behind not supporting some of the research hypothesis especially those related to Uncertainty Avoidance dimension, although the hypotheses were based on several citations from the literature review.
- The questionnaire was written in English language only, and this also can be considered as a limitation for this study, as (Brislin, 1986) stated that in cross-cultural studies if the participants responded to a survey that is not written in their native language, this may cause a systematic bias to the data acquired.

1.11   Research Findings in Comparison with Existing Literature

This research was implemented to address the main research question stated in section 1.4 , "Do project team national cultures affect the project control & monitoring activities deployment in UAE?" and in order to address this question, the research started by literature review for the previous research in the field of national culture and the field of project management, then the most significant national culture dimensions were considered further in the research based on their expected relationships with the project monitoring and control activities.

During the literature review, it was highlighted that some researchers recommended to include culture knowledge to the knowledge areas of the PMBOK such as (Baumann, 2013), and based on the results of this study this view is supported and it's recommended to detail the possible effect of culture on the deployment of activities related to each knowledge area of project management and especially project monitoring and control activities. In order to study this relationship, a study instrument (a questionnaire) was implemented basically from the research of (House et al., 2004; Zwikael and Globerson, 2004; Papke-Shields, Beise and Quan, 2010). This study instrument was used to address the research hypothesis set by the literature review between national culture and project control variables.

After acquiring the necessary data, a several descriptive and inferential statistical analysis we applied to the data in order to come up with an empirical evidence on the proposed relationships acquired from the literature review. Following the sub research questions stated in the beginning of this research and a brief of how they were addressed in this study.

- RQ1: What is the national culture dimensions that is expected to affect the project monitoring and control practices.

During the literature review, it was found that both research of (Hofstede, 2001; House et al., 2004) are providing the best model of national cultural dimensions, and their models validation was proved by several cross-cultural studies in different fields. Then the cultural dimensions were filtered based on previous researches recommendations and findings in the field of culture and project management or culture studies related to the knowledge areas of project monitoring and control, the result of this review came up with three culture dimensions which are Power of Distance, Uncertainty Avoidance and Long Term Orientation.

- RQ2: What is the most appropriate model to measure National Culture and project monitoring and control practices deployment?

This study was based on a quantitative analysis based on developed questionnaire from related literature review. Two models were used to measure the variables of this study, one for the national culture and the items were taken from questionnaire of GLOBE project (House et al., 2004), and the other model measures the deployment of project monitoring and control practices and it were developed based on the PMPQ model of (Zwikael and Globerson, 2004) and practices stated by (Papke-Shields, Beise and Quan, 2010).

- RQ3: How can the knowledge of this relationship be helpful to the project management community in UAE?

United Arab Emirates was proven as a qualified country for such cross-culture studies, as the study results indicated that various nationalities and cultural backgrounds participated in the survey, these participants were working in project based organizations and involved in project management activities in UAE. Based on that, the results of this study can be considered significant to the project management community in UAE or any multicultural society, as the relationships indicated in this research between cultural dimensions and project control activities provide an evidence on the importance of the attention to cultural differences in project management teams especially during controlling of the project execution, and that individuals supposed to understand their own cultural norms as well as other team members, so they can control those cultural interaction and their effects on the deployment of certain project control activities, which is expected to have positive impact on project management generally which will enhance projects success.

1.12   Practical and Theoretical Recommendations

This study provides an empirical evidence of the interaction between culture and project management practices in general and it explains in more detail the nature of this relationship by investigating the correlation between certain cultural dimensions and project monitoring and control activities. The main recommendation of this research is that project-based organizations and project management teams should give more attention to the cultural differences during the project monitoring and control phase and to develop a certain criteria or processes that insure the implementation of the project control activities properly neglecting the negative effect of cultural biases and supporting the positive cultural impact.

During project monitoring and control phase, there are more interaction between individuals than other phases like planning, so during the process of controlling the project the project teams may give more attention to a certain activities and give less attention to others based on their own cultural background, and in order to control the effect of the culture, individuals supposed to understand their own culture norms as well as other team members. This knowledge expected to improve the deployment of the activities of project control.

In addition, it is recommended to consider the cultural differences while allocating the resources for project control, and to provide a cultural training to the project control team to enhance their knowledge about cultural differences and to have more control on their own cultural biases as well as other individuals and stakeholders of the project. Theoretically the PMP process for project monitoring and control can be enhanced by considering cultural indexes as part of input processes that are related to the monitoring and control phases as shown in Figure 1.
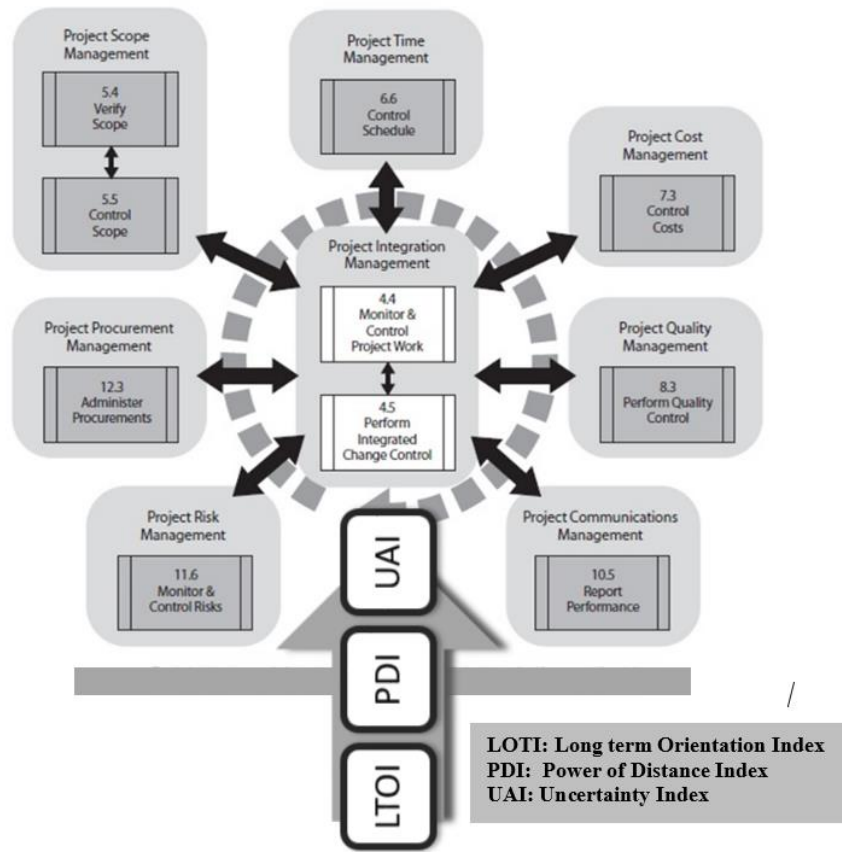
Figure 1. Enhanced Monitoring & Controlling Process Group set by PMP

1.13   Future Research

It is recommended that future research focus on the methods and processes that should be applied to project management in order to address the cultural effect on the deployment of project management activities, and how can project management teams control the cultural effect and take advantage of it to enhance projects success.

In addition, similar research may study different societies or have different approaches or philosophies of research, and also similar qualitative research based on personal interviews could support the findings of this research.

Future research in this field should give more attention to self-bias of respondents and it may get data from other project stakeholders about how they value the project control or any other project-related activities

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