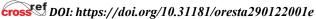
Operational Research in Engineering Sciences: Theory and Applications

Vol. 5, Issue 1, 2022, pp. 1-19

ISSN: 2620-1607 eISSN: 2620-1747





DEMOGRAPHIC AND INSTITUTIONAL DETERMINANTS AFFECTING MANPOWER'S DEVELOPMENT AT THE GOVERNMENT SECTOR (A COMPARATIVE STUDY)

Mohamed A. Elkhouli 1,2

¹ Sadat Academy for Management Science, Department of Mathematics and Statistic, Cairo, Egypt

² American University in Emirates, College of Business Administration, Dubai, UAE

Received: 07 October 2021 Accepted: 24 December 2021 First online: 29 January 2022

Research paper

Abstract: This study aimed to apply the measurement of the impact of determinants of the change management process (CMP) on the competitive performance (CP) of the employees at the government sector in a practical environment by comparison between the employees' expectation at the Government of Ras Al-Khaimah compared to the expectation of employees at Ajman Government. Thus, the Emirate of Ajman within the UAE was selected to apply the same scale of measuring which has same conditions of the work of the government sector and similar geographical aspects like the Emirate of RAK. The results have shown a significant impact of the role of direct determinants which were assumed by the current study in the influence of improving the competitiveness of the employees during the implementation to any change management process planned at the level of government sectors. There were five key determinants respectively in terms of impact strength, and those determinants were creation and innovation, institutional values, quality and excellence systems, administrative and legal aspects and finally, the role of leadership.

Key words: Demographic, government sector, Competitive Performance, CMP.

1. Introduction

The determinants of change management have a significant role in developing the competitive performance of the manpower within the organizations. Both of management commitment and quantitative evaluation are considered important factors to resist potential change to reinforce employees' performance (Rees et al., 2007). There is a positive relationship between leadership style, human resource practices, and involvement in cultural traits of organization in the achievement of change management. Application of the change process may improve decision areas such as benchmarking, executing best practices, adopting quality practices, and human resource policies (Oon & Ahmad, 2014). The Association of Change

^{*} Corresponding author. mohkholy5@hotmail.com

Management Professionals (ACMP) defines change management as the practice of applying a structured approach to transition an organization from a current state to a future state to achieve expected benefits. Change management is considered a process used for managing the transition of the organizational culture of change to the employees' side in any organization based on critical factors like the incentives and motivation systems in order to guarantee that each change within the organization produces the planned outcomes (Shah, 2016).

Generally, the report of Global Competitiveness in 2018 has ranked the governments according to 12 pillars that were weighted equally. These pillars including the following: institutions, infrastructure, information, and communication technology (ICT) adoption, macroeconomic stability, health, skills, product market, labor market, financial system, market size, business dynamism, and innovation capability. Although the vital impact of the change process on the competitive performance inside the institutions has targeted by some literature, its competitive environment facing new challenges unfolds over time and requires more to examine (Finger et al., 2014). Concerning the concept of competitiveness is defined as the ability to provide any organization more effectively and efficiently than the relevant counterparts or competitors in the same field and at the industry level. The competitiveness was defined as the ability of the organizations to achieve sustained success compared to its competitors (Enright et al., 1996). The competitive performance means the best performance that an organization pursues in order to be more productive than its rivals or competitors. In order to earn and maintain its leading advantage among other organizations, it must be able to remark a higher comparative or differential value than its counterparts in the same field of the comparison at the national or international level. The concept of competitiveness is a distinctive position of the organization where its competition will be at its greatest possible level compared to the other organizations (Schwab, 2017).

It was noted a seldom found of academic endeavors that be related to any paper or research clearly can shed the light on examining the possible drivers of change management affecting the performance of the government sector in the Arabic countries and UAE specially. It also did not address which one of these drivers has the most impact on the performance of government sector employees. Yet, it is noted that the link between direct and indirect drivers of change management doesn't sufficiently examine to determine it affecting the perceptions and convictions of the employees inside this sector, so the impact of these drivers was assessed from the perspective of the employees as they are considered the focus of any meaningful change of institutional development. Thus, this study pursued seriously to create more meaningful value to decision makers and programs planners regarding the role of these determinates of change management in the government sector in order to reinforce the possibilities and enablers for optimizing the competitive performance of the employees in an optimal manner.

The employees are considered as one of the stakeholder's categories inside each organization that they have needs and contribute to the effectiveness and the efficiency of the organization's performance to be more valuable at the highest level of the competitiveness desired by the decision-makers. Indeed, any organization needs a new level of competitive performance, and thus it will require a change process within the workplace to improve the performance of employees until they reach the desired competitive performance that led to increased competition and

demands on institutions to continuously, in particular, this insight is still suffering from lack of interest in the MENA region in both of private and public sectors alike. Consequently, this paper aimed at applying the measurement of the impact of determinants of the change management process (CMP) on the competitive performance (CP) of the employees at the government sector in a practical environment by comparison between the employees' expectation at the Government of Ras Al-Khaimah compared to the expectation of employees at Ajman Government. Thus, the Emirate of Ajman within the UAE was selected to apply the same scale of measuring which has same conditions of the work of the government sector and similar geographical aspects like the Emirate of RAK.

The main objective of this study to reach a confirmation or disprove about the most decisive determinants targeted in the statistical analysis of this study. And the extent of the effectiveness the experimental group of the employees at the government sector of the Ras Al Khaimah.

Briefly, this study will consist of eight sections in terms of Section 1 explains introduction about the importance of examining the change management determinants within the organizations to increase the competitive performance of the employees, then section 2 presents an overview about the case study groups including the key characteristics and features, then section 3 will touch a base regarding some literature review shed the light on the importance of addressing this topic by the current study, while section 4 has focused on showing how using case study for practical implication at the government sector to realize the target determinants of change management affecting on the competitive performance of employees, then section 5 shares the main results and findings which has reached by this comparative study based on both control and experimental groups, then section 6 provides in-depth managerial implications regarding this study, then section 7 discovers the most important conclusions and limitations facing the researcher, then finally section 8 discloses the figures and tables are relevance to main results.

2. Case study groups overview

This study will pursue to test if there are close results about the perspectives of the employees at the government sector about the impact of direct determinants of the CMP on their performance for both of the control group, which representing the Ajman Government employees of and the experimental group, which representing the RAK Government employees.

The future scope of using the finding and conclusions of this study about the potential key beneficiaries could be summarized by listing the prospective recipients for the research, as follows:

- Decision-makers at the government sectors in the UAE and Arab countries
- Institutional Excellence programs adopted by the governments
- Government sector employees
- Professional development programs within government entities.
- Private sector institutions have productive partnerships.
- Civil society organizations for competitiveness and global leadership.
- International organizations interested in human, sustainable development.
- Committees of innovation and creativity.

- Community, partners, and clients for the government sector.
- Experts and planners interested in the development of the public sector.
- Professional organizations accredited to international standards

3. Literature Review

The literature review does not ensure coherent recommendations for adopting determinants or drivers regarding CM; obviously, the most specific area of CM in the United Arab Emirates (UAE) that has an impact on the employees' performance has not been studied yet. As well as, less specific literature was addressed by the CM in Arab countries in general. Consequently, few articles and studies were discussed the consequences and drivers of change management that may be effective to affect such as the following: One of studies has been demonstrated that using both of the management commitment and quantitative evaluation methods are important factors to resist possible change by employees (Rees et al., 2007). A study investigated the relationship between some factors in the change management process such as leadership, human resource and organization's culture from one side and the operational excellence of the organization from the other side (Fok-Yew & Ahmad, 2014).

Another study has shown a challenge regarding the lack of research previous studies about the change management inside the UAE and examining the implications for government and business, and decision makers (Baddah, 2016). There is another study that it has also referred that process re-engineering programs in the business have an impact on corporate change strategy, and the organizational change process has not received adequate attention inside many business institutions (Sikdar, 2014). There is one of the studies that urges the role of CMP to adopt the organizational strategy developed where this kind of strategy has supported many organizations to become successful example as in the UAE, and contribute in creating the positive impact on overall organizational performance as well (Al-Khouri, 2012). On top of that, one study has revealed that change is a vital issue in all types of organizations, and improving the performance of business is the focus of change. It has emphasized on the need to examine the similarities and differences among the determinants of CM (Bashir and Soomro, 2012). Leadership is considered the main champion in causing change and the top of key determinants to each organization, as the leader is willing to take the risk and establish an environment conducive to the change in a competitive world. Leadership is an important driver of the change that can take place and build the momentum required to improve the performance of the employees (Ragaa, 2005). Leaders need to be trained and educated to limit the resistance to change within the organizations (Bateh et al., 2013).

Effective work environment provides the basis for CMP that includes the development of the knowledge sharing culture among the employees as well as the development of their performance and skills that needed to enable effective knowledge management for the ideal competitiveness (Damodaran and Olphert, 2000). The use of a continuous improvement system in the development of institutions, the government organizations in particular, directly depends on applying the Quality and Excellence Systems (QES) as one of the success factors to support CM culture towards the planned outcomes (Trkman, 2010). The Innovation

and Creation (IC) can put a different climate of competitiveness among the employees that could be contributed to enhance the performance (Al adwani, 2001).

Change is necessary for organizations that are seeking to raise low performance by improving their Motivations and Incentives (MI) systems over all units and employees. Thus, the organizations will be able to stay competitive and gain more market share but are usually faced with obstacles and problems that apply these systems unfairly or inequitable (Al Hawi, 2014). Teamwork have been widely acknowledged as a critical success factor (CSF) in CMP for each organization adopted the change for the development of institutional performance (Apostolou et al., 2011). It has noted that CMP should be reactive through responding to the new changes by reinforcing the Institutional Values (IV) imposed on the employees to accept and support the culture of the organization. Thus, the officials should be proactive to deal with all challenges including the resistance of employees in order to achieve the target objectives (Sacheva, 2009). This era has new institutions adopted the change processes through continuous trials to reinforce their internal operations, including Administrative and Legal Aspects (ALA) that has a critical effect on the performance of individuals or institutions for the competition according to industry criteria (Stamatis, 2015).

One of the studies have shown that over 33% of employees have failed to meet their stated objectives were considered poorly performing due insufficient resources or not Availability of Resources to achieve the desired change appropriately (Sayers and Al-Hajj, 2014). One of the studies has shown that Training and Organizational Learning should be so important for ensuring the effectiveness of CMP within modern enterprises, and to quantify the importance of this factor for the improvement the performance of employees and for the institutional development as well (Stamatis, 2015). Not only is CMP a popular culture within the institutional performance methodology, but also it has not yet been properly theoretically or practically grounded over the government institutions in developing countries according to established standards and bases to support the institutional development systems optimally (Trkman, 2010). As it has noted the effects of change management on the performance of firms where there is a relationship between management change and organizational effectiveness. Management of change connects to people's encounter and the organizational process, and it has been referred that the change is inevitable and managers all over the world are adapting to changing market conditions and at the same time facing the need for creating a proactive rather than a reactive managerial system (Daniel, 2020).

In addition, another recent study has noted that leadership plays an important role in accepting changes and challenges so that company can attain predetermined goals or objectives in a more effective manner, especially in unpredicted global pandemics situations. It has highlighted the importance of effective leadership and people management in the transformation of an organization and the workforce as the source of competitive advantages and as a contributor to achieving a high level of performance and purposes even in the worst pandemic situations. this study has concluded that leadership is an important resource of the business organization, in the implementation of changes forces by the external environment. To meet the aspirations of the organization, resilient leadership (Junnaid et al., 2011).

4. Case study for practical implication

The case study was applied on the Finance Department as a one of the government entities in the Emirate of Ajman. The selection process to this entity was based on a set of certain factors in favor of the application at this department in Ajman. Firstly, it has the same nature of work and the conditions of regulations that the entities are witnessing at the government sector of RAK. This entity is a listed in the government of Aiman, which the classification of all entities of Aiman are based on that have effective partnership relationship with the RAK Government. As well as the research sample of employees was considered in order to match the criteria of the randomly selection by the survey to ensure the effective comparison between both two groups of study whether experimental or control alike. Thereby, this institution meets all the basic and formal requirements requested by the current study conditions. The statistical analysis based on the survey has been done without the participation of this entity at the scope of this analysis. Thus, the same questionnaire of survey was conducted only at Finance Department of Ajman to determine if this selected entity is convenient for the case study. The survey aimed to apply on all level management at this entity where employees were selected randomly to involve in this questionnaire. The random sample was 30 employees for control group (Ajman Government employees) while the random sample was 100 employees for experimental group (RAK Government employees) whose were selected randomly to involve in this questionnaire during a specific time and a certain period, which began from mid of November to the end of December 2020. As this questionnaire was distributed and collected to covers the sample size required for the purpose of statistically acceptable analysis so that it was not allowed to be less than 30 units for the purpose of statistical analysis to both control and experimental groups in separately, especially the normality distribution condition. Table 1 shows the overview of all background characteristics of the target group for case study employees involved in evaluating of the decisive factors or determinants affecting the performance of employees at the government sector.

Table 1. The background characteristics for the respondents' sample of case study employees "Control group targeted to compare with the Experimental group"

employees "Control group targeted to compare with the Experimental group"					
Basic Variables		Freq.	%		
Gender					
	Males	21	70%		
	Females	9	30%		
Age					
_	From 18-	9	70%		
	From 31-45	21	30%		
Nationality					
	National	11	37%		
	Expatriate	19	63%		
Education					
	Bachelor Level	17	57%		
	Higher Studies Level	13	43%		
No. of Experience					
	From 5-10 years	10	33%		
	More than 10 years	20	67%		
Level of Expertise					
	Local Expertise	14	47%		
	Regional Expertise	16	53%		
Monthly Income					
	More than 15000 AED	18	60%		
	From 15000-8000 AED	12	40%		

Source: SPSS outputs.

The results of table 1 revealed the main features of the control group in the case study that the percentage of male employees was the highest by 70%, while female employees by %. And the percentage of expatriate employees was the highest (63%) and nationals (37%). In general, the results try to reflect the demographic characteristics of the survey sample in the case study targeted.

To acquire more confidence regarding sustainability to the reliability of the questionnaire tool used in the case study which is the same used in the main survey. The reliability of this tool was again calculated based on the size of the target group in the survey of case study. The value of the reliability of questionnaire has amounted for (0.985) using the $\alpha\text{-Cronbach}$ method and the results of this analysis can discover in the Appendix no.7 at the end of the current study. This value of this coefficient has asserted on the power of stability of this tool to measure what the purpose of this study in which there was more reliable about the potential results from this survey.

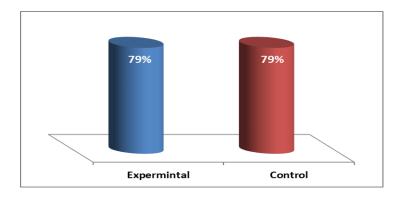


Figure 1. the total percentage to the impact of direct determinants of CMP affecting the competitive performance CP for both of control and experimental groups

The figure 1 shows that there was not huge difference between the evaluations of employees to the impact of direct determinants of CMP in both of two groups whether experimental or control in which the delta of means derived by the assessments of both groups at only zero value clearly. There is only one way to compare the averages of evaluations for both control and empirical groups on the expected impact of direct determinants of change management process on the competitive performance of employees at the government sector by examining if there is a significant difference between those averages for each one of direct determinants separately.

The figure 2 shows the evaluations about impact of the target direct determinants of CMP have large similarities in connection with the point of views to both of two groups based on the percentages of impact for each factor separately. This could lead to the conclusion the case study is typical direction to confirm on the results of main sample or survey. Accordingly, the next figure shows the comparison of the percentages of the evaluations of the employees for the impact of the direct determinants (10 drivers of CMP) on their expected performance.

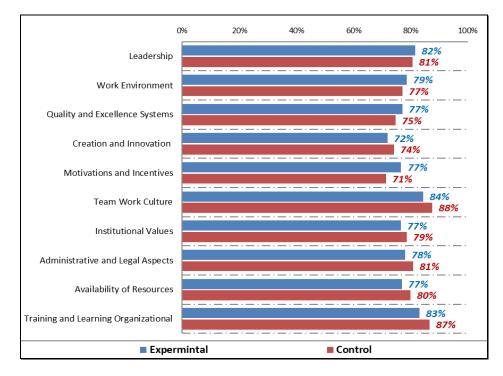


Figure 2. the relative importance of direct determinants of CMP affecting the competitive performance CP according to the comparison between control and experimental groups

The figure 2 shows that the percentages of employees' evaluations for the impact of direct determinants of CMP reflect somewhat how the extent of congruence in these evaluations between two samples whether experimental or control. From the previous figure, these percentages have shown that the highest percentage for the expected impact of direct determinants of CMP affecting the performance of employees was for training, learning organizational, teamwork culture, and leadership, respectively, in terms of the power of impact to improve the competitive performance of employees within the government sector, according to the perspectives to both of the control group represented for the case study and the experimental group which is relevant to the main survey application alike.

The table 2 shows the % of change rate in the means values of evaluations for the impact of these direct determinants through the evaluations of the experimental group sample and then after re-applied process again based on the control sample evaluations. Both samples have homogeneous evaluation of answers about the impact of those direct determinants in terms of there were three determinants had highest ranked and two had lowest ranked are identic over the assessment scale, and there is no noticeable change rate in the averages of evaluations regarding the total score of the impact over the change from group to other.

Table 2. Comparison the change % of Experimental group to Control Group in decisive factors

Decisive factors	Experimental Group	Control Group	% of Change Rate	Evaluation Change
Leadership	12.2	12.1	1%	A
Work Environment	11.8	11.6	2%	
Quality and Excellence Systems	11.6	11.2	3%	
Creation and Innovation	10.8	11.1	-3%	V
Motivations and Incentives	11.5	10.7	7%	
Teamwork Culture	12.7	13.1	-3%	V
Institutional Values	11.5	11.8	-3%	V
Administrative and Legal Aspects	11.7	12.1	-4%	V
Availability of Resources	11.6	12.0	-3%	V
Training and Learning Organizational	12.5	13.0	-4%	lacksquare
Total Score	117.8	117.8	0%	\leftrightarrow

In general, the results in above confirms the same conclusion of the experimental group applied to the CMP including the direct determinants targeted by the main survey, compared to the control group results to which this system was not applied. Thus, this indicates at the same time to the importance of those determinants in particular when adopting any change process aimed at developing of staff performance within the government sector of the United Arab Emirates, especially as the scope of application of the survey tool was different in the application of the control group which is representative of the case study compared to the experimental group, which represents the main scope of the current study, and both groups approximately reached for close averages in the assessment scores according to the use of the same tool in order to determine the impact of those factors or determinants of change.

4.1 Case study explanation

One of the main motivations that led the researcher to re-examine the determinants of the change management process based on the case study approach is to check to which extent of the positive impact of both direct and indirect determinants of change management in a new scope away from the main scope of this study. As well as to eliminate the bias factor resulting from the interest of implementation the change management systems within the government of Ras Al Khaimah, and to ensure the ability of those determinants of the study target to bring about the desired change which aimed at developing the competitive performance of government employees optimally.

Further, the application to case study will consider the potential influence of the researcher caused to the initiative to select RAK as a practical field to test the hypotheses of study compared to another location. As the same time, the case study has to consider both of the time for implementation and reducing the volume of complexity during the analysis derived that leads to efficient findings to be easy to interpret in comparison with the main survey.

This section supports the basics of upcoming parts that contribute to study the differences between the averages' evaluation of case study group as a control group to study the impact of planned factors or determinants which were considered at the beginning of the study by determining how those averages differ statistically with the averages' evaluation of main sample of survey as an experimental group.

Besides the criteria for selection the organization to apply this survey as a case study were determined without the researcher could influence the activities planned to implement this approach. This initiative has a set of key points that make it useful to select any organization for the implementation purpose to this tool as control group involved in the case study effectively as follows:

- The minimum size acceptable of control group to study the impact of direct determinants of change affecting a group of employees should be employees in only one institution.
- The researcher should be able to apply this method using the tool of scale based on his professional expertise in the research and development field as a project manager to ensure the controlling and implementation of the required activities and tasks in line with the measurement process planned.
- Consider the general direction and the flexibility of the organization selected for the case study before the implementation to prevent any external impact impeding the achievement of the goal of the application or effect on the employees participated to accept a unified specific orientation.
- The need to increase the employees' awareness before the application of case study approach about the importance and purpose of this survey and what are the expected benefits at the short and long term for their performance alike.
- The researcher should thereby change his approach in light of the differences resulting from any feedback of case study to identify and note the requirement specifications to develop the hypotheses of the study in favor of the competitive performance desired of the employees at the government sector.
- The organization during selection should pursue to save more support and transparency for the researcher without any visible monetary return or any expected resistance at the implementation of case study according to the target scope by the survey.
- Develop the tool of measurement was generated by the objective of case study in order to increase accuracy and calculability of timeline allowed to achieve along with administrative conditions of the alternative location to apply the case study.

The organization selected as a case study have to adhere in the application of transparency during the selection for staff involved in the survey in order to ensure effective channels to adjust and prioritize tasks for the continuous improvement purpose.

To recognize the scope of the change management process towards developing the competitiveness of employees based on the direct determinants at each organization that has the ability to apply this system, there is a need to illustrate listing of factors incurred through the implementation of this system within the government sectors. Therefore, the organization targeted in the case study should take over these factors that:

- Measure the impact for change management process needs the sufficient allocation of required resources such as a lot of time/efforts/ staff.
- Ensure the direct determinants of CMP should be measured and quantified according to the same tool used before in the main survey.
- Ensure that there is no any direction affecting on the answers of employees regarding each question.
- Determine a specific time to distribute and collect the sample size required so that it was not allowed to be less than units for the purpose of statistical analysis, especially the normality distribution condition.
- Conduct the comparisons between both of the experimental and control group that are suitable to test the statistically differences in appropriate manner to check validity of the positive impact for the direct determinants of CMP.

4.2 Methodology of case study

The forthright objective from the use of case study survey was determining the extent of effectivity of the direct determinants in the change management process as decisive drivers affecting on the competitive performance on the employees at the government sector in a different location far way about the main scope of the current study. The survey of case study was done using the same questionnaire distributed to the participants in the main survey.

As such, two surveys were used by this study, to examine and test the importance of the direct determinants of CMP, the first survey at the beginning to apply on the target employees as an experimental group, while the second survey at the late phase of this study through the case study as a control group. Therefore, the comparison was conducted between both of these groups to determine statistically differences of the averages' evaluation of the employees about the impact of the direct determinants, thus the valued importance of these drivers could be determined in affecting on the performance of employees.

On this way, throughout the effective implementation of case study based on the comparison with the results of main survey at the same time, the officials and planners at the government sector can notice the importance of the most important determinants of change management process which will be able to develop the performance of employees. Thus, this could enable them to generate more appropriate plans, activities, and policies supporting the directions regarding these factors optimally.

To ensure the effective participation of the target employees during the survey as a case study, and to avoid ambiguities could be raised when filling out the questionnaire used, the objective of this survey was provided to all employees

randomly by e-mail to interact and to increase their awareness before the time determined to conduct the survey in an adequate period of actual implementation. All questions formulated in the first survey based on a 5-point Likert scale were the same questions in the second questionnaire used for the case study without any change in the formulation or measurement.

Thus, it was expected that this will generate significant differences in the responses of the employees between the first and second round of using the same survey twice in two different geographic areas so that government sector entities were targeted. So, there is no any difference of scales that could break inconsistency of the measurement tool used, in addition to the content of the questionnaire for both groups are completely similar while the size of both samples was differ according to the type of each group. The survey of this case study was conducted by a research fellow to avoid the factor of biased and affecting the employees participated or their directions as well. Whereas the researcher was just a supervisor on the data collection process in order to ensure the right procedures in place to facilitate the data entry phase. Then SPSS Program was used to code and analyze the data collected by the sample of case study and then was combined with the data of main survey considering the unique code which was allocated to each sample for the purpose of statistical methods that will be used.

4.3 Data analysis of a case study

The data analysis in this phase has focused on the processing of data derived from the employees electronically in line with the nature of statistical tests targeted to be applied to test the differences statistically between the two groups whether experimental and control in connection with the impact of direct determinants of CMP. As a result, all questions were coded to analyze the data which were ranged from negative evaluation of the impact of factor (= 1 or "strongly disagree") to totally important impact of factor (= 5 or "strongly agree"). All analyses were related to the calculation of the frequencies of responses and the averages of values to each factor or determinant targeted by the scale.

T-test for independent samples was used to examine the significant differences between the two groups which were drawn from two different populations or locations, and this will be by determining the differences in the averages of employees' evaluations in both groups with regard to each direct determinant.

Furthermore, multiple regression analysis was used only according to the survey data of the case study in order to identify the most important determinants within the change management process affecting on improving the performance of employees. Then the results derived from this analysis should be compared with the results of the main survey which are subject to the researcher's experience, to strongly emphasize on the role of those determinants derived from Regression analysis based on the same results of both groups, and the importance of targeting them urgently in any system of change management at the level of government institutions to serve decision-making within this sector specifically.

5. Results and Findings

In this part, the study pursues seriously to compare the impact of direct determinants on the experimental group that could be exposed to the interest by the change management culture with another group that did not receive this interest to prove definitely the importance of these determinants in influencing on the competitive performance of employees within the government sector.

Hence, T-test of independent samples was precisely used to examine the existence of statistically significant differences in determining the values of arithmetic averages or not and that may reflect the positive impact of direct determinants of change management process between both of control and experimental groups. The result of this testing will be fruitful ideally in favor of the decision- making at the government sector of RAK in particular.

So, the hypothesis testing of t-test of independent samples was formulated to investigate the source of difference in the evaluation process by the target employees either by case study or by main survey according to the kind of group, as follows:

There are no significant differences in the evaluation process for the impact of direct determinant of CMP according to the type of group of employees (Control / Experimental).

Consequently, two sub-hypotheses were derived from the main hypothesis testing in- above for the data analysis purpose, and then were also formulated as follows:

Null Hypothesis H0: (μ 1 the mean of Control group = μ 2 the mean of Experimental group)

Alternative Hypothesis Ha: (μ 1 the mean of Control group = μ 2 the mean of Experimental group)

The use of this test resulted in the data analysis outputs as in table3.

The results of Table 3 have shown that there was no any statistically significant difference at a level less than 0.05 between the averages evaluations of two groups of employees according to the type of group (control/ experimental) about measuring the expected impact of each one of the direct determinants of the change management process affecting the overall performance of employees at the government sector. Further there was no statistically significant difference in the total scores of scales as a whole between both of groups as well.

This result clearly indicates the convergence of the point of views between the employees in both groups about the percentage of the impact of each one of the direct determinants separately within any change process targeted on enhancing their performance and leading them to the desired competitiveness over the level of government organizations. At the same time, it has emphasized the importance of the findings concluded of this study using the experimental group in the main survey. This will greatly enhance the confidence in the results of this research by the decision makers, officials, planners and those interested in issues of excellence and institutional development and human resources development both within the government sector in Ras Al Khaimah in particular or at the level of the United Arab Emirates in general.

Table 3. T-test of independent samples to examine relative differences in the impact level of the direct determinants of CMP on the competitiveness performance according

to case study group

Determinants	Case Study Group	N	Mean	SD	t. test	Sig.
Leadership	Control	30	12.1	2.9	-0.259	0.796
Leadership	Experimental	100	12.2	2.2	-0.239	
Work Environment	Control	30	11.6	2.7	-0.451	0.653
	Experimental	100	11.8	2.3	-0.431	0.033
Quality and Excellence	Control	30	11.2	2.8	-0.706	0.481
Systems	Experimental	100	11.6	2.4	-0.706	
Creation and Innovation	Control	30	11.1	2.8	0.635	0.527
	Experimental	100	10.8	2.5	0.055	0.527
Motivations and Incentives	Control	30	10.7	2.0	-1.512	0.133
	Experimental	100	11.5	2.7		
Teamwork Culture	Control	30	13.1	2.3	1.165	0.246
	Experimental	100	12.7	1.8		
Institutional Values	Control	30	11.8	2.9	0.653	0.515
	Experimental	100	11.5	2.2	0.055	0.515
Administrative and Legal	Control	30	12.1	2.8	0.882	0.379
Aspects	Experimental	100	11.7	2.2	0.002	0.577
Availability of Resources	Control	30	12.0	3.1	0.900	0.370
	Experimental	100	11.6	2.1		
Training and Learning	Control	30	13.0	2.5	1.175	0.242
Organizational	Experimental	100	12.5	2.1	1.1/3	
Total Score	Control	30	118.8	24.4	0.267	0.790
	Experimental	100	117.8	15.9	0.207	0.7 70

^(*) Significant at the level less than 0.05.

For further in-depth analysis, the most important determinants of change management will be identified from the viewpoints of the sample of control group which represents the case study, in which these determinants have a significant role in predicting the level of improvement of the employees' performance. So, this will be clearly compared with the results of the experimental group involved in the main survey. Therefore, Multi Regression analysis was used by the "Stepwise" method to determine which the most important determinants of the change management process have the highest significant role in predicting the expect performance of the government employees for developing the competitiveness level.

Besides, this method will derive a multi regression model that includes a set of independent variables which have the highest impact in predicting the value of the dependent variable (overall performance level of the employees), while some independent variables will be removed from this proposed model which have either multicollinearity or less impact on the dependent variable targeted by this model. As the findings of this analysis will show in Table 4.

⁻ Source: Outputs of SPSS Program.

Table 4. The Coefficients of regression model equation using stepwise method for examining the impact of the most important determinants in predicting the level of competitiveness performance of the case study employees

Variables	В	Std. Error	Beta	Т	Sig.
The fit of proposed model $R^2 = 0.988$, $F = 791.951^*$					
(Constant)	13.501	.140	-	96.101	.000*
Institutional Values	3.719	.072	.447	51.4	.000*
Administrative and Legal Aspects	2.655	.020	.299	132.139	.000*
Creation and Innovation	4.371	.037	.495	116.638	.000*
Quality and Excellence Systems	2.9	.038	.337	78.0	.000*
Leadership	1.101	.080	.132	13.790	.000*

^(*) Significant at the level less than 0.05.

The results of multi-regression method in table 4 indicate that the value of R2 amounted for 98% and was statistically significant at a level less than 0.05. This value of R2 means that this proposed model has the ability to interpret about 98% of the total variance in the expected performance of employees and predict it very well for the next years. Moreover, the results show the significantly of regression model using the ANOVA variance test where the value of F 791.951 is statistically significant at a level less than 0.05, which indicates the significance of the proposed model of regression to study the relationship of the explanatory variables and the response variable in order to predict the expect performance of employees. Thence, the equation of multi regression model can be formulated as follows:

The expected performance of employees:

Regression analysis showed that there was a consensus among the employees in both control and experimental groups about only five key direct determinants without the rest variables or determinants that have the ability to influence and predict the level of competitive performance of employees within the government sector institutions. Those five key determinants were creation and innovation, institutional values, quality and excellence systems, administrative and legal aspects and leadership respectively, in terms of their power of impact in predicting the value of the dependent variable.

This conclusion will strongly confirm to the decision makers on the role that these determinants in particular can play in any process of change at the level of government institutions aimed at working to develop the performance of employees and their capacity building in order to push them to the competitiveness required to be achieved at the level of the state. Especially in light of the UAE leads in advanced ranks at the international level in the reports of Global competitiveness in all fields, chiefly the key indicators supporting the development of human capital.

6. Managerial Implications

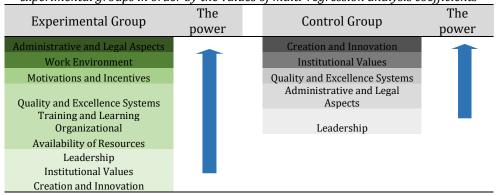
In a nutshell, the main findings of the case study can be summarized in the following key points:

⁻ Source: Outputs of SPSS Program.

- There were no statistically significant differences in the averages of the evaluations of employees about the impact of direct determinants of the change management process on their performance according to the type of group that was belonged them, whether control group of the case study or experimental group of the main survey.
- There was a very noticeable convergence of the perspectives of employees at both of control and experimental groups in identifying the most important direct determinants of the change management process, which has the ability to predict the value of competitive performance of government employees in terms of both groups have agreed on the importance of only five direct determinants in influencing and predicting the expected performance of the government employees.
- There was a difference between the control and experimental groups about the expected impact of each one of the direct determinants targeted by the study that should be included in any desired change process, based on the calculations of regression coefficients in the two multi-regression models within the study, the first model reflects the expectations of the experimental group or the main survey while the second survey reflecting the expectations of employees in the control group or case study.

There were slightly differences between control and experimental groups about the employees' expectations with regard to the value of impact of each one of the direct determinants within the change management process in predicting the expected competitive performance of employees. As a result, the following table will show the impact of those direct determinants in order by the values of regression analysis coefficients based on the data extracted to each group either a case study or main survey.

Table 5. Power of impact of the direct determinants of CMP for both control and experimental groups in order by the values of multi-regression analysis coefficients



Source: the researcher

The table 5 shows the power of influence in predicting the expected performance of employees according to both case study approach and main survey. The determinant of creation and innovation has the highest value of impact in predicting by the dependent variable from the perspective of control group while the administrative and legal aspects was the highest impact value from the perspective of experimental group. Both of groups share in the same determinants which were only five as key drivers affecting the predicted improving in the performance of

employees, but the experimental group has exceeded the control group in monitoring the effect of 4 additional determinants has significant role on the performance of the government sector employees.

7. Limitations and Conclusions

The case study has a certain set of limitations that could be affected to generalize its applicability on at a wider level away from the primary objective behind its use for the comparison purpose with the results of the basic survey. The sample size of this case study should be greater than units or employee to considerate the condition of normality distribution of the data as a key assumption to use specific statistical tests without other that will be suitable for the analysis purpose and comparisons. The researcher was aware of the minimum limit acceptable to collect data from participants and randomly selection process should include all the employees at the whole organization during the selection based on the records of employees at the target entity of case study in order to represent a systematic random sample that be appropriate to test the interventions and assumptions of this study. The case study only dealt with the culture of change management process; then its role based on some determinants whether demographic or institutional which only determined in the literature review and how it aimed to bringing out the radical change in the performance of employees towards the competitiveness desired. Thus, the findings could be limited to examine these determinants on the competitive performance of employees at the organizational structures within the government sector only.

Thus, monitoring the gap between experimental and control group shows which one of these determinants will have high importance and more priority in developing the performance of government employees. This in turn, it was limited to show a distinct area of improvement within only the organizations of the government sector regarding the optimal using of human resources management by the officials and planners to achieve the global objectives planned. Concerning to the statistical evaluation, the approach based on testing the impact of the same considered determinants to both two groups either experimental group of the RAK Government employees or control group of the Ajman Government employees.

Further to aforementioned previously, the factors affecting change management culture needs many future studies to make a stronger case and help decrease the failure rates of the organizations during managing change processes targeted. In short, there is a significant impact of the role of direct determinants which were assumed by the current study in the influence of improving the competitiveness of the employees during the implementation to any change management process planned at the level of government sector. This, in turn, reinforces the idea of adopting specific standards of change management culture at the beginning of any new project for human resources development within the government sector for supporting the competitive performance continuously as well.

References:

Al Adwani, Adel M., (2001). Change management strategies for successful ERP implementation. Business Process Management Journal, Vol. (7), Issue (3), Department of QM and IS, College of Administrative Sciences, Kuwait University, Edailiyah, Kuwait. https://doi.org/10.1108/14637150110392764

Al Hawi, Nada, (2014). Trust and Change: A case study of a University in the UAE Higher Education Sector. Dissertation submitted in partial fulfillment of MSc Project Management, The British University in Dubai, UAE. http://bspace.buid.ac.ae/handle/1234/662

Al-Hajj, A., & Sayers, A. (2014). Project management performance in the UAE construction industry. In Computing in Civil and Building Engineering 1530-1537.

Al-Khouri, A. M. (2012). Corporate Government Strategy Development: A Case Study. Business Management Dynamics, 2(1), 5.

Apostolou, D., Mentzas, G., Stojanovic, L., Thoenssen, B., & Lobo, T. P. (2011). A collaborative decision framework for managing changes in e-Government services. Government Information Quarterly, 28(1), 101-116. https://doi.org/10.1016/j.giq.2010.03.007

Baddah, Abdulla. (2016). The Direction of Change Management in United Arab Emirates. International Journal of Business and Management; 11(9), Canadian Center of Science and Education, College of Business Administration, Abu Dhabi University, UAE, https://doi.org/10.5539/ijbm.v11n9p126

Bashir, A., & Soomro, R., (2012). Comparative Study on Change Management. International Journal of Computer Applications, 39(1). 32-36

Bateh, J., Castaneda, M. E., & Farah, J. E. (2013). Employee resistance to organizational change. International Journal of Management & Information Systems (IJMIS), 17(2), 113-116. https://doi.org/10.19030/ijmis.v17i2.7715

Damodaran, L., & Olphert, W. (2000). Barriers and facilitators to the use of knowledge management systems. Behaviour & Information Technology, 19(6), 405-413. https://doi.org/10.1080/014492900750052660

Daniel, C. O. (2019). Effects of Change Management on the Performance of Firms in Nigeria. International Journal of Advances in Scientific Research and Engineering, 5(1), 59-64. http://doi.org/10.31695/IJASRE.2019.33065

Enright, M.J, Frances, A., and Scott-Saavedra. E., (1996). The Challenge of Competitiveness in the Modern World Economy. Chapter 3, Venezuela: The Challenge of Competitiveness, St. Martin's Press.

Finger, A. B., Flynn, B. B., & Paiva, E. L. (2014). Anticipation of new technologies: supply chain antecedents and competitive performance. International Journal of Operations & Production Management. 34(6), 807-828. https://doi.org/10.1108/IIOPM-09-2012-0386

Junnaid, M. H., Miralam, M. S., & Jeet, V. (2020). Leadership and Organizational Change Management in Unpredictable Situations in Responding to Covid-19 Pandemic. Leadership, 11, 16. <u>DOI:10.14456/ITJEMAST.2020.322</u>

Oon, F. Y., & Ahmad, H. (2014). The effect of change management on operational excellence moderated by commitment to change: Evidence from Malaysia. International Journal of Innovation and Applied Studies, 9(2), 615-631.

Ragaa, M., (2005). Innovations in Public Administration: The case of Dubai of Dubai government- United Arab Emirates. Meeting on Sharing Best Practices in Governance and Public Administration Innovation the Mediterranean Region, UNDP Programme for Governance in the Region of Arab States, Tunis.

Rees, C. J., Mamman, A., & Braik, A. B. (2007). Emiratization as a strategic HRM change initiative: case study evidence from a UAE petroleum company. The International Journal of Human Resource Management, 18(1), 33-53. https://doi.org/10.1080/09585190601068268

Sacheva, S. (2009). Change Management for e-Governance. I-Ways Journal of E-Government Policy and Regulation IOS Press, 32. 109-117.

Schwab, Klaus, (2017). The Global Competitiveness Report 2017–2018. World Economic Forum, Geneva.

Shah, Viren, (2016). Comparison of stakeholder management and change management factors in managing successful versus unsuccessful it projects. Master thesis, Purdue University, Graduate School Form, West Lafayette, Indiana.

Sikdar, A., & Payyazhi, J. (2014). A process model of managing organizational change during business process redesign. Business Process Management Journal 20(6), 971 – 998. https://doi.org/10.1108/BPMJ-02-2013-0020

Stamatis, K., (2015). Effective Change Management in Modern Enterprises. Degree Project, Linnaeus University, Faculty of Technology, Department of Informatics, Sweden.

Trkman, P. (2010). The critical success factors of business process management. International journal of information management, 30(2), 125-134. https://doi.org/10.1016/j.ijinfomgt.2009.07.003

© 2022 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (http://creativecommons.org/licenses/by/4.0/).