

## The Degree of Administrators' Involvement in Change Management at Jordanian Universities over the COVID-19 Pandemic

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### *Abstract*

*This study aimed to identify the degree to which administrators of Jordanian universities are involved in change management (comprising planning, decision-making, organization, and guidance) over the COVID-19 pandemic and as a function of gender, qualification, years of experience, and specialization. To this end, the descriptive-analytical method was used, where a questionnaire consisting of 45 items distributed to 4 domains was developed. The study population included all administrators (college deans, heads of academic departments, and managers of administrative units) of the public and private Jordanian universities. The total number of participants was 1685 administrators, among whom 321 (19 percent) were selected as the sample group. The sample group worked in three public universities (Yarmouk University, University of Sciences and Technology, and Al Al-Bayt University), and three private universities (Jadara University, Irbid Private University, Jerash Private University) in the academic year 2020-2021. Results showed that there exist statistically no significant differences in the means of responses in relation to administrators' involvement in change management at Jordanian universities as a function of gender and in all domains, and as a function of specialization in the domains of change in planning and change in decision-making. However, there do exist statistically significant differences in the domains of change in planning and change in decision-making in favor of higher education studies. There are also significant differences in terms of years of experience in the domains of change in planning, change in decision-making, and change in organization in favor of those with many and average years of experience. Also*

*there are significant differences in terms of specialization in the domains of change in planning and change in guidance, with natural sciences showing higher degrees.*

*Keywords: Administrators; Change Management; Jordanian Universities; COVID-19.*

## **Introduction**

From late 2019 up to now, the whole world has been experiencing an exceptional state caused by COVID-19. This condition has stopped daily plans as well as public and private organizations from operating. In addition, in order to globally reduce the spread of this virus, people have been entirely hampered from performing their usual activities. Consequently, most sectors, especially the education sector, have been forced to perform their activities remotely through the Internet. Furthermore, many new administrative decisions have become necessary in order maintain the activity of organizations. Similarly, universities have been influenced by this virus, forcing the administrators to make administrative changes and imposing exceptional laws to continue working in this emergency case of the global crisis, and to continue achieving their objectives.

The Corona virus, which emerged in 2019, inflicts the respiratory system and infects through body contact. Corona viruses were discovered since 1960, among which is OC43. Many kinds of this virus have been detected such as SARS-CoV in 2003, NL63 in 2004, and HKU1 in 2005 (Geller et al., 2012).

The modern world has experienced cognitive explosion and rapid technological advancement. Moreover, 'change' has been a feature of the modern life, and 'adaptation to these rapid changes' has been a paramount challenge facing societies. For this reason, the conventional administrative approaches are no longer appropriate for dealing with the emergent changes, thus forcing organizations to change the administrative approaches (Al-Agha, 2009). Hence, 'making changes' in organizations has been a means for advancing them and adapting them to urgent circumstances (Al-Shamaa and Hamud, 2007). Al-Qaruti (2000) believes the modern global developments should address problems and encounter the urgent circumstances facing organizations through efforts and by investing in human and financial resources available inside and outside the organization. This should be done to achieve the objectives and purposes of organizations which keep up with the technological change and development, and with the cognitive explosion. This advanced administrative strategy aims to change the organizational structures and make them suitable for the new needs. Moreover, the organizations should through this strategy face the challenges imposed by the environmental, cultural, social and economic changes.

For organizations to make successful changes, an environment that welcomes change should be present. Also, the individual should be reinforced to participate in the changing process, and be called to partake in projects and developmental plans. Furthermore, an attempt has to be made to facilitate the communication between different administrative levels, in order to clearly and rapidly transfer data between them. The financial and spiritual benefits of the changing process should be explained to individuals, the organizational problems should be described in a scientific manner, and the factors hampering change should be detected and the ways of dealing with them should be discussed. Besides, administrators having multiple human, intellectual and technical skills should be present, whereby to apply the concept of 'change' and its rules. Administrators should receive support and approval in the changing process in order to achieve the organization's objectives and continuity. In an organization, human, financial and technical resources supporting change in the organization should be facilitated (Al-Dorrah, 1986; Al-Zahrani, 2009). All this allows for administrative change in the organization which helps develop, improve and adapt to the urgent changes (Leithwood, 2006). In addition, the existing condition of the organization should be replaced by a better one that takes into account the environmental variables and demands. The administrative thoughts of administrators, who are in charge of change and development, should be improved using the modern ways of organizational development. This attempt should aim to achieve the developmental plans, and to make the rapid developments of our era more understandable (Al-Hariri, 2011).

#### Research Problem and Questions:

Educational organizations in general and universities in particular need to activate change management as they are directly influenced by natural and emergent changes (Al-Sharqawi, 2002). Education systems in the Arab world are to welcome the philosophy of changing in order to encounter the challenges of the modern era. Many studies (e.g. Al-Wasmi, 2006) recommended improving administrators' on-time decision-making competencies, especially in relation to change management and engagement of individuals in the administrative decision-making process. Other studies (Imad Ad-Din, 2004; Al-Sobaiee, 2012; Al-Atiat, 2006) suggested the absence of effective administrators and the weakness of educational administrative competencies, two very important obstacles to the changing process. Meanwhile, the circumstances caused by the lethal COVID-19 made governments make changes that prohibit people from social closeness and from gathering in public places. Moreover, governments endeavored to reduce traffic and impose mandatory quarantine for days and months, and to close public and private organizations in an

attempt to reduce the spread of the virus. These organizations, particularly the educational ones, have to keep operating in order to achieve their goals. Derived from this notion, the present study came to answer the following questions:

1. To what extent are administrators at Jordanian universities involved in change management in the circumstances caused by COVID-19, as viewed by the office employees working in them?
2. Are there statistically significant differences ( $\alpha \leq .05$ ) between the change management levels of administrators of Jordanian universities attributed to the study variables (gender, qualification, years of experience, specialization)?

#### Research Objectives:

This study aimed to identify the extent to which administrators are involved in change management at Jordanian universities in light of the circumstances caused by COVID-19, as believed by the office employees working in them. An effort was also made to identify statistically the most important differences between the responses of the study sample regarding the degree to which office workers are involved in change management as a function of gender, qualification, years of experience, and specialization. This finding can help explain our results and reach operational solutions and recommendations which achieve the primary objective of the present study.

#### Research Significance:

What makes this study important is the importance of its topic. By this attempt, the relevant theoretical literature can be enriched and the decision makers can be helped to enhance their performance. Moreover, this research would help administrators and staff at Jordanian universities to enhance and improve their administrative tasks, and identify the extent to which they are engaged in change management in those circumstances.

#### Research Terms:

##### Administrator:

Theoretical definition: It refers to an advisor or educator who is able to influence others (Al-Adluni, 2002).

Operational definition: It refers to persons who influence in a group and who guide, supervise, and achieve the proposed objectives. They also create motivation in workers and enhance the social interaction of them.

##### Change management:

Theoretical definition: Change management refers to the scientific, proper adoption of the human, financial, technical, and technological resources available in the organization with intent to achieve the desired goals of change (Imad Al-Din, 2004). Afandi (2009), however,

defined this concept as a tool which enables the organization's management to encounter the new circumstances or reorganize things in such a way to benefit from positive changes and avoid or decrease the negative changes. Moreover, change management is about employing the most economical and effective ways to make a change that helps achieve the desired goals. Finally, Dawson (2003) defined this concept as new ways of organizing and working.

**Operational definition:** It refers to the unconventional management of Jordanian universities by the administrative staff working in them. It also concerns making changes to the working mechanism, laws, and ways of achieving goals at those universities, as well as allowing all persons to participate in the decision-makings, and to assume responsibility. This will make all feel responsible for achieving their proposed tasks cooperatively and innovatively.

**Pandemic:**

**Theoretical definition:** It refers to the spread of an epidemic among people in a large scale such as in a continent or the whole world; it is about far-reaching diseases (Oxford, 2020).

**Operational definition:** It is about the spread of Corona virus in all countries of the world, and attempting to control its spread through public closures of all workplaces of the country, and through reducing the number of death cases in it.

**Corona virus:**

**Theoretical definition:** It causes acute respiratory distress syndrome (ARDS) to humans, which may be lethal. Corona virus appeared in 2019 (HTML, 2019).

**Operational definition:** It is a harmful virus that inflicts humans and can cause death to them. This virus, which infects people through communication with the sick, caused death to many people.

**Research Limits:**

The limits of this research were as follows:

**Participants:** Participants included the administrators of public and private universities in the northern province.

**Place:** The study included only the public and private universities of the northern province.

**Time:** This study was performed during the spread of Corona virus, namely in the academic year 2020-2021.

**Previous Studies:**

Many studies centered around 'change management' in higher education institutions. The following are some findings of those studies:

The relationship between change management and culture of excellence among the public high school directors of the northern provinces of the Western Bank from the viewpoints of directors themselves (Salman, 2016):

This study aimed to investigate the relationship between change management and culture of excellence among the public high school directors of the northern provinces of the Western Bank from the viewpoints of the directors themselves. To this end, the descriptive-analytical method was adopted and a questionnaire was used to collect data. The study population included all directors of secondary public schools in the West Bank. Statistically no significant relationships were found in the different domains of change management as a function of types. However, there were statistically significant differences in the domains of change management as a function of specialization, with humanities showing the greatest scores.

The relationship between the engagement of directors of the educational districts of the Relief Agency for Change Management in Gaza province with work pressures, as viewed by their subordinates (Abu Slut, 2014):

This study aimed to identify the relationship between the involvement of directors of the educational districts of the Relief Agency for Change Management in Gaza province with their work pressures, as viewed by the directors' subordinates. The study also attempted to identify the statistical significance of the differences in the means of the study variables (i.e. gender, qualification, years of experience, educational district, job role). The descriptive-analytical method was employed and a questionnaire was used to collect data. The study population comprised all school directors as well as educational supervisors working for the Relief Agency of Gaza province for change management. Findings showed that participants were involved in change management to a high degree, and that there are statistically no significant differences as a function of type, years of experience, and educational district. Yet there are statistically significant differences attributed to the qualification, with a higher degree for the bachelor's degree. Different job roles also showed statistical significant differences, with school director showing the greatest score.

A proposal for engagement in educational change management by administrators of educational administrations (Abdul Ghaffar, 2010):

This study aimed to identify the degree to which administrators of the educational administrations of Cairo, Dakahlia, and Gharbia are involved in change management, and the obstacles facing them in relation to educational change management. The study also aimed to

offer a proposal for getting involved in change management in general and educational change management in particular, and to propose a strategy for applying this strategy in the Egyptian environment. The study population comprised directors of administrations, and heads and agents of departments. From this population, a random sample of 142 individuals were selected. To analyze the data collected from a questionnaire, the descriptive-analytical method was employed and SPSS was used to this end. Results showed that regulations are rigid and inflexible, that there is no intellectual congruence in relation to change management, and that some staff are resistant to change management.

Prerequisites of making organizational change in educational institutions (Mohamad, 2010):

This study aimed to offer examples of organizational changes in educational institutions, to identify all obstacles to resisting to organizational change, and to identify the prerequisites of making organizational change in the educational institution. To this end, the descriptive-analytical method was used. Findings revealed that the success of the changing process results from the success of administrators. This is because change entails the formation of a new system in which administrators' roles and tasks are to change. Change happens through internal and external forces, and resistance springs from individuals' misunderstanding about changing, their unfaithfulness in changing, or fear of the potential failure of changing.

Required leadership skills for organizational change management (Al-Jaberi, 2009):

This study aimed to investigate the leadership skills necessary to change management in an organization. The study population comprised police officers of Al-Madinah Al-Munawwarah, the descriptive-analytical method was employed, and a questionnaire was used for data collection. The most important results were as follows: Change management entails, among other skills, understanding the need for change, perception of strengths and abilities of subordinates, specification of the time to change, persuasion, dissemination of tasks between subordinates, development and construction of a team, and positive encouragement and communication. The most significant obstacles to the success of organizational change management are unskillfulness of those in charge of planning and applying the change, centrality in decision-making, non-participation of individuals in goal setting, and vagueness of those goals. In order to improve the leadership skills, intensive training on the prerequisites of change should be offered, non-centrality should be eliminated, and employees should be qualified. Moreover, the most important recommendations were as follows: Organizational change should happen consciously and scientifically, and across stages so as to achieve the desired goals with

high efficiency and effectiveness. The importance of training should also be perceived.

The relationship between administrators' educational tendencies towards organizational change and their organizational obligation in Saudi Arabia (Al-Enzi, 2008):

This study aimed to identify the tendencies of educational leaders towards organizational change and their obligation to this change. For this purpose, the descriptive method was adopted using a questionnaire. The study sample comprised all directors and deputies of the educational administrations. Results indicated the following: The tendencies of educational leaders towards organizational change were found to be very profound. No statistically significant differences were found in terms of job role, academic qualification, and years of experience.

Analysis of the previous studies and investigation of this study in relation to them:

Previous studies, like many others, elaborated on change management from different angles. Yet no study was found to throw light on the administrative changes in Corona virus pandemic, a point that distinguishes this study from the previous ones. In the theoretical literature, the previous studies were cited and a general idea was given about the topic of this study. Moreover, various environments in which change management was dealt with have been discussed. This study, however, is important in that it elaborated on a special topic in these circumstances which were existing up until this study was conducted. Therefore, this study provides real, accurate data from the sample group, which still is adjusting itself to these circumstances. We hope to deliver beneficial results to the respective decision-makers who participated in this study, in order for them to contribute to enhancing and improving their work. We also hope to offer recommendations that can improve the strengths and address the weaknesses so as to improve performance in Jordanian universities.

## **Method and Procedure:**

Method:

Considering the nature of the objectives and the topic of this study, the descriptive-analytical method was adopted in the following order:

- The final form of the questionnaire was developed;
- The sample group was chosen based on the stratified random sampling;
- Out of the 367 questionnaires distributed, 321 ones were returned;



- Data were calculated and processed in SPSS; and
- Results were yielded, analyzed, discussed, and compared with those of other studies, and appropriate recommendations were proposed.

Variables:

This study comprised the following variables:

Independent Variables:

Gender: Male, female

Qualification: Bachelor's or lower, higher education

Expertise: Less than 5 years, 5-10 years, more than 10 years

Specialization: Natural sciences, humanities

Dependent Variable: The degree to which administrators at Jordanian Universities are involved in change management in light of COVID-19. This degree was calculated from the responses given by the sample group on the items of change management questionnaire (planning, decision-making, organization, guidance).

Population and Sample:

The population comprised all the administrators of the universities of Jordan, including dean deputies, faculty heads, academic department heads, and administrative units managers (1685 persons) in the academic year 2020-2021. The sample group, however, comprised the administrative staff of public and private Jordanian universities in the northern region of Jordan: Three public universities (University of Yarmouk, Jordan University of Science and Technology, Al Al-Bayt University) and three private universities (Jadara University, Irbid Private University, Jerash Private University). Out of the sample group, 321 administrative staff, who form the main sample group of the study, returned their responses. Table 1 shows the demographic information of the study according to the independent variables:

**Table 1: The demographic distribution of the sample group based on its independent variables**

Variable	Category	Frequency	Percentage
Gender	Male	292	91%
	Female	29	9%
Total		321	100%
Qualification	Bachelor's or lower	23	7%
	Higher education	298	93%
Total		321	100%
Years of Experience	Less than 5 years	35	11%

	5-10 years	80	25%
	More than 10 years	206	64%
Total		321	100%
Specialization	Natural sciences	118	37%
	Humanities	203	63%
Total		321	100%

Instrument:

A questionnaire was used to measure the study variables. The questionnaire comprised 4 domains related to change management, totaling 45 items:

First domain: Change in planning (13 items)

Second domain: Change in decision-making (12 items)

Third domain: Change in organization (10 items)

Fourth domain: Change in guidance and monitoring (10 items)

Validity and Reliability of the Questionnaire:

The instrument was presented in its basic form to 3 experts in education and educational administration. We made use of their scientific guidance, and gained an understanding about the language phrasing of the items and the way the questionnaire should be used. The experts gave their opinions regarding the integrity of items of each domain. Accordingly, some items were corrected or eliminated and the questionnaire became in its final form. Moreover, in order to determine the reliability coefficients of the questionnaire, Cronbach's alpha coefficients were calculated. Table 2 shows the reliability coefficients of the domains of the study:

**Table 2: Reliability coefficients of the domains of the study**

No.		Domain	Item frequency	Reliability coefficients in Cronbach's alpha
1	Change management	Planning	6	.883
2	Decision-making		5	.704
3	Organization		4	.843
4	Guidance		4	.834
Total reliability of change management			20	.816

Table 2 shows that the reliability coefficients of the study domains were high, and that the overall reliability coefficient of the questionnaire was about 82% which is suitable for the purposes of a scientific research.

## Results and Discussion:

First: The results related to the first question:

To what extent are administrators involved in change management at Jordanian universities in light of the circumstances caused by Corona virus as viewed by the administrative staff of those universities?

To answer this question, means and standard deviations of each domain and the total mean were calculated as follows:

**Table 3: Means and standard deviations of the sample's responses on the domain of change in planning in a descending order**

No.	Rank	Item	Mean	SD	Degree
2	1	Rapid, unprecedented changes are imposed on workers.	4.63	0.68	High
3	2	The new administrative changes impose new job responsibilities on individuals.	4.32	0.82	High
13	3	New, rapid changes are made on plans based on the unprecedented internal or external events.	4.11	0.73	High
6	4	Special training courses are provided for individuals to adjust them to the new changes.	3.91	0.71	High
1	5	The objectives of change are explained to the employees of the organization.	3.63	0.57	Moderate
9	6	Flexibility is considered in the premeditated planning for change management	3.34	0.80	Moderate
10	7	Organizational units not existing before are developed.	3.23	0.82	Moderate
4	8	Individuals are already informed about any organizational change at work.	3.19	0.84	Moderate
5	9	Individuals' suggestions regarding change in their activities and work are received.	2.87	0.58	Moderate

12	10	Some unnecessary tasks or responsibilities are cancelled or combined.	2.66	0.77	Moderate
11	11	Positions are given to individuals based on their academic qualifications.	2.36	1.04	Moderate
8	12	The administrative unit is combined with other units.	2.11	0.64	Low
7	13	New policies are made to determine the positions, costs, and incentives based on the new changes.	1.43	0.69	Low
Total mean of the domain			3.21	0.75	Moderate

Table 3 shows the means, standard deviations, ranks and significance level of the 13 items of the first domain (change in planning). The arithmetic means of these items ranged between 1.43 and 4.63, and the standard deviations ranged between 0.57 and 1.04. In the first rank came item 2 (i.e. the new administrative changes impose new job responsibilities on individuals) with an arithmetic mean of 4.63 and a standard deviation of 0.68. Conversely, the final rank in this axis was for item 7 (i.e. new policies are made to determine the positions, costs, and incentives based on the new changes) with an arithmetic mean of 1.43 and a standard deviation of 0.69. The total mean of the domain, however, was 3.21 with a standard deviation of 0.75 and a moderate degree. This finding may be attributed to the nature of unprecedented, rapid and urgent circumstances and crises. These circumstances and crises are being dealt with by administrators having much experience and a deep approach. For this reason, rapid changes are imposed and there is no time for corrective incentives.

Second domain: Change in decision-makings

**Table 4: Means and standard deviations of responses on the decision-making domain in a descending order**

No.	Rank	Item	Mean	SD	Degree
5	1	External circumstances rapidly and directly influence the new decision-makings.	4.54	0.82	High
8	2	Sudden and urgent, and temporal and permanent, decisions are occasionally made.	4.31	1.07	High
6	3	Staff are invited to the decision-making process in order to ingrain the principles of changing in them.	4.27	0.71	High

10	4	Quantitative and qualitative information is gathered to help in proper decision-making.	4.18	0.80	High
12	5	Most of the new decisions concern the organizational construction of work.	4.11	0.91	High
4	6	The outcome of former decisions related to changing are employed for the current decision-makings.	4.09	0.69	High
1	7	Employees are surprised by the new decisions.	3.96	0.67	High
7	8	Decisions are made in a systematic manner.	3.83	1.07	High
3	9	New decisions are flexible and can be corrected based on the future urgent circumstances.	3.77	0.90	High
2	10	New decisions are performed gradually and through developmental changing plans.	3.35	0.75	Moderate
9	11	The time to make decisions is determined accurately.	2.93	0.84	Moderate
11	12	New decisions always manifest a gradual improvement in quality which is in line with the development of work.	2.86	1.04	Moderate
Total mean of the domain			3.85	0.86	High

Table 4 shows the means, standard deviations, ranks, and significance level of the 12 items of the first domain (change in decision-making). The arithmetic means of these items ranged between 2.68 and 4.54, and their standard deviations ranged between 0.67 and 1.07. The first rank was for item 5 (external circumstances rapidly and directly influence the new decision-makings) with an arithmetic mean of 4.54 and a standard deviation of 0.82. In the last position, on the other hand, came item 11 (new decisions always manifest a gradual improvement in quality which is in line with the development of work). The arithmetic mean of this item was 2.86 and the standard deviation was 1.04. The total arithmetic mean, however, was 3.85 and the standard deviation was 0.86, with a high degree. This finding can be attributed to the interactive nature of organization. The organization is not separable from the external environment, where both influence and are influenced by the natural, economic, health and other crises.

Third domain: Change in organization

**Table 5: Arithmetic means and standard deviations of responses to the domain of change in organization in a descending order**

No.	Rank	Item	Mean	SD	Sig.
3	1	Organizational units not existing before are developed.	4.77	0.77	High
1	2	Essential changes are made in the structure of organization.	4.69	0.69	High
8	3	The priorities of organization necessary to employ the available resources are determined painstakingly.	4.69	0.69	High
9	4	Qualifications are again given to individuals in such a way to suit the new changes.	4.62	0.84	High
6	5	Jobs and tasks are reconstructed sporadically and based on the performance assessment.	4.54	0.76	High
2	6	The administrative unit is combined with the other administrative units.	4.54	0.76	High
5	7	Some unnecessary privileges are eliminated.	3.62	1.07	Moderate
7	8	Some jobs and tasks change and shift to others as a result of urgent circumstances.	3.36	0.72	Moderate
4	9	Positions are assigned again according to the academic qualifications.	2.24	0.47	Weak
10	10	The manner of giving incentives changes so as to suit the new changes and responsibilities.	2.16	1.13	Weak
Total mean of the domain			3.94	0.79	High

Table 5 shows the means, standard deviations, ranks, and significance level of the 10 items of the first domain (change in organization). The arithmetic means of these items ranged between 2.16 and 4.77, and the standard deviations ranged between 0.47 and 1.13. The first rank in this axis was for item 3 (organizational units not existing before are developed) with an arithmetic mean of 4.77 and a standard deviation of 0.77. The last rank, however, was for item 10 (the manner of giving incentives changes so as to suit the new changes and responsibilities)

with an arithmetic mean of 2.16 and a standard deviation of 1.13. The arithmetic mean of the whole domain was 3.94 with a standard deviation of 0.79, and a high significance level. This finding has one implication; that is, crisis management units can be developed in time of an emergent crisis. These units are to manage work properly and are based on the new circumstances.

Fourth domain: Change in guidance

**Table 6: Arithmetic means and standard deviations of responses on the domain of change in guidance in a descending order**

No.	Rank	Item	Mean	SD	Sig.
3	1	Technological tools are used for communication inside the organization for guidance and monitoring.	4.91	0.88	High
7	2	As a consequence of the emergent circumstances, urgent and direct orders are given.	4.76	0.71	High
9	3	Periodical reports are prepared to discover the strengths and weaknesses of new administrative changes.	4.23	0.92	High
5	4	When false information about the new changes is leaked, interference and guidance occurs in order to suit the circumstances.	4.16	1.14	High
10	5	Errors are addressed through appropriate guidance.	3.84	0.93	High
4	6	Continuous assessment and enhancement are made to track the success of the new administrative changes.	3.84	0.96	High
2	7	Periodic meetings are held to keep up with the new updates.	2.87	0.93	Moderate
1	8	New responsibilities and tasks are explained in order to proceed with work without crises or problems.	2.64	1.02	Moderate
8	9	New, diverse monitoring approaches are followed such as field visits, problem solving, etc.	2.62	0.91	Moderate

6	10	Financial and spiritual support is given to individuals in order to accept the changes.	1.92	0.67	Weak
Total mean of the domain			3.57	0.88	High

Table 6 shows the means, standard deviations, ranks, and significance levels of the 10 items of the first domain (change in guidance). The arithmetic means of these items ranged between 1.92 and 4.91, and their standard deviations ranged between 0.67 and 1.02. In the first position of this axis came item 3 (technological tools are used for communication inside the organization for guidance and monitoring), with an arithmetic of 4.91 and a standard deviation of 0.88, and a high significance level. Conversely, in the last position of this axis came item 6 (financial and spiritual support is given to individuals in order to accept the changes), with an arithmetic mean of 1.92 and a standard deviation of 0.67 and a low significance level. The total arithmetic mean of the domain, however, was 3.57 and its standard deviation was 0.88 with a moderate level of significance. We could attribute this finding to the use of modern technological tools, including communication applications, messages, meetings, conferences, and remote data gathering and processing that aim to perform the work continuously and without lapses caused by crises. The following summarizes the degree to which administrators are involved in change management at Jordanian universities in light of the circumstances caused by the Corona virus, as viewed by the administrators themselves.

**Table 7: The degree to which administrators at Jordanian universities are involved in change management in light of the circumstances caused by COVID-19, as viewed by the administrative staff and across the study variables**

Domain	Mean	SD	Degree	Rank
Change in planning	3.21	0.75	Moderate	4
Change in decision-making	3.85	0.86	High	2
Change in organization	3.94	0.79	High	1
Change in guidance	3.57	0.88	Moderate	3
<b>Total degree mean</b>	3.64	0.82	Moderate	

As shown in Table 7, change management is involved by administrators to a moderate degree (M: 3.64; SD: 0.82). More



specifically, the “change in organization” domain came in the first rank (M: 3.94; SD: 0.79) with a high degree. Next was the “change in decision-making” domain (M: 3.85; SD: 0.86) also with a high degree. The third position, however, was taken up by the “change in guidance” domain (M: 3.57; SD: 0.88) with a moderate degree. Last, the “change in planning” domain came in the fourth position (M: 3.21; SD: 0.75) again with a moderate degree. Regarding the latter domain, it may be argued that change in planning is about a future process and can be discussed only at a theoretical level. Therefore, this domain can hardly improve the current reality, especially considering the changing circumstances of this pandemic. Moreover, often only high-rank councils, including dean councils and trustee board, are involved in the planning process of universities.

Results concerning the second question:

Are there statistically significant differences ( $\alpha \leq .05$ ) between the change management levels of administrators of Jordanian universities attributed to the study variables (gender, qualification, years of experience, specialization)?

To answer this question, the independent sample T-Test and one-way ANOVA were performed as follows:

First: Gender

The T-Value of the means of administrators’ responses regarding their involvement in change management as a function of this variable were calculated as follows:

**Table 8: T-Test results concerning the differences on the means of administrators’ responses regarding change management as a function of gender**

Domain	Gender	Frequency	Arithmetic Mean	Standard Deviation	Degree of Freedom (d.f.)	T-Value	Sig.*
Change in planning	Male	292	8.24	1.28	320	0.18	.061
	Female	29	8.18	1.04			
Change in decision-making	Male	292	9.04	1.35	320	0.24	.082
	Female	29	8.75	1.27			
Change in organization	Male	292	8.67	1.74	320	0.14	.143
	Female	29	8.26	1.53			
Change in guidance	Male	292	7.93	1.86	320	0.27	.161
	Female	29	7.86	1.77			

<b>Total degree mean</b>	Male	292	8.47	1.56	320	0.21	.112
	Female	29	8.26	1.40			

\*: significant at  $\alpha \leq .05$

As indicated in Table 8, there does not exist statistically significant differences in the means of responses on the degree of involvement in change management as a function of gender, and across all the domains and the total degree. This means change management is involved as required and applies to all, irrespective of their gender, where all adhere to similar circumstances.

Second: Academic qualification

The t-value of administrators' responses regarding their involvement in change management as a function of this variable were calculated. Findings are indicated in the following table:

**Table 9: Results of the t-test for the differences in the sample's responses regarding the administrators' involvement in change management as a function of academic qualification**

Domain	Academic Qualification	Frequency	Arithmetic Mean	Standard Deviation	Degree of Freedom (d.f.)	T-Value	Sig.*
<b>Change in planning</b>	Bachelor's or lower	23	7.87	1.29	320	0.33	.031
	Higher education	298	7.92	1.47			
<b>Change in decision-making</b>	Bachelor's or lower	23	8.03	0.88	320	0.29	.044
	Higher education	298	7.92	1.27			
<b>Change in organization</b>	Bachelor's or lower	23	8.23	1.33	320	0.76	.067
	Higher education	298	7.63	1.07			
<b>Change in guidance</b>	Bachelor's or lower	23	8.23	1.29	320	0.43	.081
	Higher education	298	7.78	1.44			
<b>Total degree mean</b>	Bachelor's or lower	23	8.09	1.20	320	0.445	.076

	Higher education	298	7.81	1.31			
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\*: significant at  $\alpha \leq 0.05$

As shown in Table 9, there are statistically no significant differences in the means of participants' responses regarding their involvement in change management at Jordanian universities as a function of academic qualification and in the domains of "change in organization" and "change in guidance" because the circumstances in which administrators are present are similar. However, there do exist statistically significant differences in the domains "change in planning" and "change in decision-makings" with higher education showing greater degrees. The reason behind this finding, as participants believe, is perhaps that planning and decision-making are done by the higher councils of Jordanian universities.

Third: Years of experience

One-way analysis of variance for the means of administrators' involvement in change management as a function of this variable was calculated. Table 10 indicates this information:

**Table 10: Results of one-way analysis of variance for the differences in the means of responses regarding administrators' involvement in change management as a function of years of experience (n = 321)**

Domain	Category	Sum of Square	Degree of Freedom	Mean of Squares	F-value	Sig.*
Change in planning	Between groups	56.68	2	28.34	8.33	.000
	Within groups	1351.5	318	4.25	8.33	
	Total	1408.18	320			
Change in decision-making	Between groups	6.34	2	3.17	3.77	.012
	Within groups	5809.86	318	3.17	3.77	
	Total	5816.2	320			
Change in organization	Between groups	10.68	2	5.34	9.16	.004
	Within groups	868.14	318	2.73		
	Total	878.82	320			
Change in guidance	Between groups	7.08	2	3.54	6.54	170
	Within groups	2594.88	318	8.16		
	Total	2601.91	320			

<b>Total mean degree</b>	Between groups	20.18	2	10.09	9.107	.0465
	Within groups	2623.5	318	8.25		
	Total	2643.68	320			

\*: significant at  $\alpha \leq 0.05$

As shown in Table 10, there are statistically no significant differences in the means of responses regarding the sample's involvement in change management at Jordanian universities as a function of years of experience in the domain of guidance. However, there do exist statistically significant differences in the means of responses regarding the degree of involvement in change management at Jordanian universities as a function of years of experience and in the domains of change in planning, change in decision-making, and change in organization.

In order to determine the differences between groups, dimensional Scheffe test for multiple comparisons was performed for the means, as also shown in the following table:

**Table 11: Scheffe test results regarding the differences in the sample's means on their involvement in change management as viewed by administrators of Jordanian universities and as a function of years of experience (n = 321)**

Domain	Years of Experience	Frequency	Arithmetic Mean	Less than 5 years	5-10 years	More than 10 years
<b>Change in planning</b>	Less than 5 years	35	5.63	-	*	*
	5-10 years	80	7.92	-	-	*
	More than 10 years	206	6.67	-	-	*
<b>Change in decision-making</b>	Less than 5 years	35	7.23	-	-	*
	5-10 years	80	9.03	-	*	-
	More than 10 years	206	7.64	-	-	-
<b>Change in organization</b>	Less than 5 years	35	7.62	-	-	*
	5-10 years	80	6.54	-	-	-
	More than 10 years	206	8.43	-	-	*

<b>Total degree mean</b>	Less than 5 years	35	6.47	-	-	-
	5-10 years	80	7.83	-	-	*
	More than 10 years	206	7.58	-	-	*

As indicated in Table 11, there are statistically significant differences in the means of responses regarding the administrators' involvement in change management at Jordanian universities as a function of years of experience and in favor of many and moderate years of experience. The reason behind this finding may be that those with more experience are more welcoming of the idea of change than their counterparts who have shorter experiences, since the former had many experiences over the pandemic. Moreover, they followed several methods in change management, despite the fact that those with less experience are more faithful in change and development.

#### Fourth: Specialization

The t-value of administrators' means regarding their involvement in change management as a function of this variable have been shown in the following table:

**Table 12: T-test results regarding the differences in administrators' responses on change management as a function of specialization**

Domain	Specialization	Frequency	Arithmetic Mean	Standard Deviation	Degree of Freedom	T-value	Sig.*
<b>Change in planning</b>	Natural sciences	118	8.14	1.14	320	2.52	.000
	Humanities	203	7.67	0.88			
<b>Change in decision-making</b>	Natural sciences	118	8.04	1.04	320	1.65	.011
	Humanities	203	7.79	1.17			
<b>Change in organization</b>	Natural sciences	118	7.63	1.22	320	2.31	.063
	Humanities	203	8.24	0.73			
<b>Change in guidance</b>	Natural sciences	118	7.54	1.78	320	2.16	.231
	Humanities	203	7.93	1.86			
<b>Total mean degree</b>	Natural sciences	118	7.72	1.30	320	2.16	0.101
	Humanities	203	8.06	1.16			

\*: significant at  $\alpha \leq 0.05$

As shown in Table 12, there are statistically no significant differences in the means of responses regarding the involvement in change management at Jordanian universities as a function of specialization and in the domains of change in planning and change in decision-

making. There, however, do exist statistically significant differences in the means of responses regarding the involvement in change management at Jordanian universities as a function of specialization in the domains of change in organization and change in guidance, and in favor of natural sciences. The reason for this finding, as participants believe, is that all administrators of Jordanian universities adhere to one party in the planning and decision-making, namely the higher councils whose decisions and general policies are made in accordance with the Jordanian Ministry of Higher Education and Scientific Research. This is particularly true during the Corona virus pandemic, and applies to all specializations. In relation to organization and guidance, however, natural sciences specializations are more concerned with the scientific research methods and the study of the relations between things, thus are more welcoming of the idea of change.

### **Recommendations:**

Having performed this study, we can offer the following recommendations:

1. Administrators should enjoy flexibility and avoid the conventional ways in administration in order to mitigate the gap between the administration and individuals. Moreover, appropriate administrative plans should be set out to confront the spread of contagious viruses in the current and future public health crises;
2. Individuals should be helped to accept the culture of change by understanding the importance of change in the organization, and by disseminating, accepting and supporting the culture of change. Moreover, administrators' knowledge about how to properly confront contagious viral crises should be raised;
3. Administrators and individuals at different levels should be engaged in the new decision-makings of the organization. Moreover, administrators should take a look at the real administrative models related to the contagious viral crises; and
4. The organization should work on providing a convenient environment in which individuals can always welcome new changes by being rewarded by financial and spiritual incentives, or by considering suppressing penalties for those who do not adhere to the public health laws.

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