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CRISIS MANAGEMENT STRATEGIES DURING THE COVID-19 PANDEMIC AND ITS IMPACT ON PERFORMANCE DEVELOPING OF JORDANIAN UNIVERSITIES: THE MEDIATING ROLE OF STRATEGIC AMBIDEXTERITY

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ABSTRACT

This study aimed to discover the impact of the CMS on PD during the COVID-19 pandemic crisis in Jordanian universities. In addition to identifying the mediating role of SA in the relationship between CMS and the PD of Jordanian universities. The sample consisting of (5) private universities in the northern region in Jordan, while the sampling unit consisted of leaders in these universities, 200 questionnaires were distributed to the respondents, and 187 questionnaires were retrieved, of which 176 were completed and valid for analysis. The results of testing the study hypotheses indicated that there was no effect of PCS & CRCS on PD of Jordanian universities during the COVID-19 pandemic. While MCS & LCS had an impact on PD of Jordanian universities. With regard to SA, it has been shown that it partly mediates the relationship between both MCS & LCS and PD, and did not have a mediating role in the relationship between PCS & CRCS and PD of Jordanian universities during the COVID-19 pandemic crisis. The study recommends the necessity of applying all CMS because of their effective and influential role in the PD.

STUDY BACKGROUND

Introduction

In light of the outbreak of the COVID-19 pandemic, it has become difficult to ignore the crises that it has witnessed in various aspects of life, as the pandemic affected the social, educational and professional lives of individuals. As this crisis added significant challenges to individuals, institutions and decision-makers, so adopting effective strategies to confront this crisis is necessary to avoid dangerous and unexpected threats that may affect the ability of institutions to achieve their goals (Al Eid & Arnout, 2020). Evidence points to the recurrence of crises over the ages in the lives of nations and peoples. Civilizations have historically faced many crises, and history is full of many crises that civilizations and peoples have experienced. Crisis management (CM) relies on the ingenuity of decision makers, leaders, and actors during these crises. The COVID-19 pandemic is one of the crises that people and institutions are experiencing worldwide today. It has affected various sectors, including the education sector, and caused many negative effects, which necessitated the need to develop plans and strategies to confront this crisis in all sectors (Arnout et al., 2020). Due to the spread of the COVID-19 pandemic, all institutions had to intensify their efforts to confront this epidemic, and develop strategies to confront and manage the repercussions of this crisis and limit its impact (Al-Dabbagh, 2020). The COVID-19 pandemic has produced many crises that affect the performance of institutions, which require them to provide information on the basis of an integrated database to plan for effective CM and deal with them, and to provide all ways and means to confront them and reduce their negative effects, given that the COVID-19 pandemic is a sudden event. Reduces the chances of institutions advancing and achieving outstanding performance. The proper management of the crisis faced by institutions of all kinds and activities is essential to confronting and controlling the crisis. Crisis management strategies (CMS) are the methods and procedures that are applied to reduce the contingencies accompanying the crisis, and the mechanism for dealing with them when they occur in order to reduce its negative and destructive effects (Bryan et al., 2017). Consequently, it is imperative for these organizations to use a set of scientific and practical tools and methods during the various stages of the crisis, based on a special strategic plan that is prepared in advance to address such circumstances, and try to control them to avoid their negative effects and benefit from their positives.

Given the importance of the performance of institutions, many contemporary administrative approaches have focused their efforts to define the concepts of organizational performance (OP) and excellence. The scientific management approach defined the concept of competency as a basis for excellence in OP, and the human relations approach focused on the social needs of workers and added to the OP dictionary terms such as group work, teams, organizational climate, and organizational culture (Alharafsheh et al., 2021). Administrative efforts continued, including contemporary administrative approaches that defined the concept of effectiveness of OP, which focuses on achieving the

overall objectives of the organization in light of the continuous environmental changes and events (Mondal et al., 2020). Perhaps observers of the administrative and organizational affairs in our current days will find that most institutions, whether economic or service, face many challenges imposed by the changes and developments in the external environment, which require more research and development from these organizations, and to find serious administrative and organizational methods and tools, in order to face these challenges, and finding appropriate solutions to them according to a thoughtful scientific approach, will ultimately reflect positively on the OP in general, and perhaps one of the most prominent of these means is CM.

On the other hand, the absence of working skillfully leads to the inefficiency of the OP and their inability to cope with crises, which leads them to not maintain their competitive position in the market and gradually exit the market (Bustinza et al., 2020). The success of organizations in the presence of a competitive environment requires that they have the ability to exploit the competencies and resources available to them and to explore new opportunities and potentials brilliantly (Zraqat, 2020). This is called strategic ambidexterity (SA), and to achieve SA, organizations, including universities, need leadership that enables them to balance between maintaining their continuity and seeking to performance developing (PD) and achieve distinction and development in an environment punctuated by difficulties and challenges such as the COVID-19 pandemic crisis, to ensure its success in the present and future.

Inferring from the above, this study sought to identify the impact of CMS in PD of Jordanian universities during the COVID-19 pandemic through the mediating role of SA, as these universities have a pivotal and main role in the development of the Jordanian economic community, seeking to come up with the appropriate results and recommendations that universities administrations serve on this topic to help them develop their performance.

Study Problem

The interest in SA has increased and the modern administrations of global organizations have become interested in it by establishing units dedicated to exploitation activities and other units for exploration activities (Zhang et al., 2020). Numerous studies have indicated that the COVID-19 pandemic has revealed the weakness of institutions in CM across all countries of the world. The most important challenge for organizations is the ability to respond to unexpected situations effectively (Dobrowolski, 2020a). This indicates the lack of Ambidexterity of the leaders of these institutions in managing crises. Given the current conditions that have emerged in light of the outbreak of the COVID-19 pandemic, the likelihood that all institutions, including Jordanian universities will be exposed to threats and crises that may affect their performance, has increased. The inability of universities and their administrations to make critical decisions at these times, and the lack of skills, is a source of concern may lead to poor performance at all levels, calls for a study to help decision-makers in CM. In light of the above, the study problem is represented by the following main question:

What is the impact of CMS on PD through the mediating role of SA in Jordanian universities?

The following sub-questions stem from this question:

1. What is the reality of applying CSM in Jordanian universities?
2. What is the level of SA in Jordanian universities?
3. Is there an effect of CMS on PD in Jordanian universities?
4. Is there an effect of CMS on the SA in Jordanian universities?
5. Is there an effect of SA on the PD in Jordanian universities?
6. Does SA explain the impact of CMS on PD in Jordanian universities?

Study Objectives

The primary objective of this study is to explore how Jordanian universities are dealing with the COVID-19 pandemic crisis. Specifically, we are interested in understanding the impact of the CMS applied by Jordanian universities on its PD, in addition to the role of SA in this. How do Jordanian universities prepare to deal with the crisis over a long period, and whether they have a formal CMS? More specifically, the present study seeks to achieve the following objectives:

1. Identify the reality of applying CSM in Jordanian universities.
2. Identify is the level of SA in Jordanian universities.
3. Identify the effect of CMS on PD in Jordanian universities.
4. Identify the effect of CMS on the SA in Jordanian universities.
5. Identify the effect of SA on the PD in Jordanian universities
6. Identify the effect of CMS on PD in Jordanian universities, in the presence of SA as a mediating variable.

Originality/value

A review of the literature indicates that research on CM has often focused on large companies rather than universities. Given the unique characteristics of universities and their vulnerability to the outbreak of the COVID-19 pandemic, and its long period of spread, it is likely that there is a wide range of CMSs that can be applied that may contribute to the PD of university. Our study contributes to the literature on CM in educational institutions and in particular in universities. This study contributes to the knowledge of contingency planning for CM across periods of crisis in Jordanian universities. It also explains the importance of use and performance analyzes for researchers to conduct further studies in CM in educational institutions. Finally, to provide recommendations to various stakeholders in universities to deal with this crisis.

LITERATURE REVIEW

Crisis Management Strategies (CMS)

A crisis is defined as a sudden event that reduces the chances of progress of the organization and achieving outstanding performance, and may lead to the collapse and demise of the entire organization (Fener & Cevik, 2015). It is a

situation or event that is bound to lead to a sudden and sharp change in the results and objectives previously planned, it is an exceptional situation in which events are chased and causes are mixed with results. With crises, officials and decision-makers in the organization lose their ability to control it or its future directions (Alves et al., 2020). Al Dabbagh (2020) defined the crisis as: "a turning point in a sudden situation that leads to unstable situations and undesirable outcomes that threaten the interests and infrastructure of the organization, and all of this happens in a short time that requires the need to take a unified and appropriate decision to confront it". The crisis is characterized as a set of interconnected and interrelated events with each other, the multiplicity of their causes, factors and elements associated with them, and whose interconnectedness results in new circumstances, unexpected results, as they represent turning points that are difficult for the organization to endure for a long period of time (Aljuhmani & Emeagwali, 2017). Thus, it could destabilize it in a way that may lead to its end and demise if it lasts for a long time. Also, what distinguishes the crisis and is one of its most prominent characteristics is that conditions of uncertainty prevail, the scarcity of information, suspicion, ambiguity and lack of clarity of vision, in addition to the presence of a high degree of suspicion in the options and alternatives available for a solution, and therefore facing the crisis requires taking important, fast and decisive decisions in a short period of time (Wishah, 2016).

The proper CM that organizations of different activities and types are exposed to is essential to confront and control it, as CM is represented in the methods and procedures that are applied to reduce the contingencies accompanying the crisis, and the mechanism to deal with it when it occurs in order to reduce its negative and destructive effects (Bryan et al., 2017). CM refers to the organization's ability to deal quickly and efficiently with the crises it is going through, with the aim of reducing or preventing the risks and negative effects of the crisis, through identifying, diagnosing, planning and confronting the crisis (Taneja et al., 2004). From the point of view of Al-Dabbagh (2020) CM is defined as: "the process of pre-planning for an unexpected negative event to limit or reduce its harm to the organization by developing strategies or a set of scenarios expected to occur and proposing appropriate solutions for each of them in the event that it occurs". It is also a means of confronting and overcoming the crisis, and controlling its course and direction, in order to reduce its negative effects, and thus protect the organization and the parties of interest from harm, take advantage of its positives, achieve maximum gains in the shortest time, and reduce losses to the lowest possible level (Coombs, 2007). There is agreement between researchers and specialists in the field of CM within organizations on a number of CMS, which are as follows:

Preparing for the crisis strategy (PCS)

The PCS is to develop adequate methods to prevent crises and try to prevent or reduce their occurrence, by developing different scenarios for anticipated crisis events and distributing roles in a way that achieves the primary goal of CM, which is to deal with the crisis efficiently and effectively (Pearson & Mitroff, 1993). The PCS also includes the discovery of the discovery phase of

crisis signals: predict crisis by monitoring and analyzing the initial indicators that predict and anticipate the occurrence of the crisis, so that it is studied and relied upon in the coming stages. The specialists in the organization's management draw up appropriate plans to confront the expected crises, and whose indicators and indications were monitored in the previous stage, in order to avoid their occurrence, or at least to develop and prepare appropriate solutions to confront them in order to avoid the occurrence of the largest amount of losses (Vardarlier & Zafer, 2020). From the point of view of Alkharabsheh et al. (2014), at PCS stage, the focus is on analyzing the critical points, by uncovering the possible causes of crises, and setting up an early warning and warning system, which provides management with a periodic review of administrative, financial and, organizational performance.

Mitigation Crisis Strategy (MCS)

MCS aims to prevent the crisis from occurring before it occurs, and this stage includes measures aimed at eliminating the causes of the crisis and reducing the likelihood of its occurrence and its impact on humans and the environment (Fener & Cevik, 2015). Here, the so-called containment of damage is also resorted to, after setting appropriate plans and procedures in the previous stage, they are translated and put into practice in the event of a crisis, or they are applied in an attempt to prevent the occurrence of the expected crisis or prevent it from spreading (Vichova et al, 2017).

Confronting and Responding to the Crisis Strategy (CRCS)

In CRCS, the CM plan and crisis handling is implemented as previously planned (Thumiki et al., 2019). As this strategy is a real test for the pre-prepared plans, equipment and training that preceded the crisis. Whenever the effort exerted in the previous phase was sufficient, that would lead to successful CM in the confrontation phase (Oplachko et al., 2019).

Learning from the Crisis Strategy (LCS)

LCS is considered an opportunity for the organization, by taking advantage of the crises it faced in the past to raise its capacity and efficiency in dealing with crises that may occur in the future (Johnston & Stepanovich, 2001). Where the management of the organization studies the crisis and the causes of its occurrence and evaluates its effects and implications on the OP in order to collect the necessary information that helps prevent the recurrence of the crisis again (Vichova et al, 2017). From the point of view of Hur and Kim (2020), LCS includes that the organization follow all necessary measures to take lessons from the occurrence of the crisis and evaluate the procedures followed, to know the strengths and weaknesses in managing the crisis.

Performance Development (PD)

PD is considered one of the most important factors for the success of organizations, and many organizations strive to improve their performance

through several methods (Zraqat, 2019). The most prominent of PD methods is the adoption of the teamwork method, the involvement of workers in developing policies and decision-making, and the motivation of workers financially and morally, and others that aim in their entirety to raise the level of job performance (Alharafsheh et al., 2021). Where performance is seen as a multi-faceted concept in management literature: such as task performance, contextual performance, facilitating personal relationships, and job dedication and there are two main factors that constitute job performance, namely: task performance (behavior in the role) and contextual performance (Al-Beshtawi et al., 2014). The task performance is traditionally defined as the employee's ability to perform his duties and responsibilities as shown in the role description, and contextual performance is the individual efforts that have no direct relationship to the tasks and activities of the core job, which stimulate tasks and processes, and shape the organizational, social and psychological environment (Dowsett, 2020). In other words, the performance of the task means the successful fulfillment of the job requirements, and contextual performance is related to the quality of social relations with the various categories. Performance is a fundamental concept for all institutions, because it is a comprehensive phenomenon and a fundamental axis for all fields of managerial knowledge, in addition to being the dimension around which institutions remain or not (Saeed et al., 2013). Also, performance reflects the objectives of the institutions and the means necessary to achieve them, and it expresses the level of efficiency of the individuals working in the organization and the degree of achievement, and it is closely related to the outputs that the institutions seek to achieve, if the performance does not rise to the level required to accomplish the work, requires the development of new methods, new technologies, and training of employees on them in order to raise their efficiency and thus raise their level of performance (Mondal et al., 2020).

Prasetyo and Dzaki (2020) believes that PD is a result of the outcome of the organization's work through its interaction and linkage with the elements of the internal and external environments, and it includes PD of individuals within the framework of their organizational unit, PD of the organizational unit within the framework of the general policy of the institution, and the PD of the institution within the framework of its economic, social and cultural environment. The concept of PD is also related to the behavior of employees and the organization in general, and it plays an important role in any institution, considering that it represents the product and the final outcome of all activities at the individual and the institution level. The definitions provided for the PD varied, due to the differing viewpoints of researchers and their desired goals of formulating a specific definition, some of them linked PD to the quantitative concept, and some considered performance development a concept with organizational, social and economic dimensions (Polischuk, 2013). PD is the outcome of developing the performance of individuals, work teams, functional divisions, and organizational units operating in the organization, taking into account the environmental impacts, and it can be expressed as the degree to which institutions achieve and accomplish their goals (Karuhanga, 2015). Here Prasetyo (2020) indicates that behavior cannot be confused with achievement, and performance. Behavior is an expression of what the individual performs in terms of tasks and activities

in the organization in which they work, and achievement is an expression of the impact that individuals leave as a result of the work they have performed, as it is a way out, and as for performance, it is the process of interaction between behavior and achievement. Through the above definitions, the researcher believes that the PD is a combination of improving behavior that leads to the completion of work within the framework of the objectives of the institution, and that it is represented in several aspects, such as the adequacy of the employee, the quality of work, and commitment to the requirements of development and growth. It may be at a high level in one aspect and low in another, so the development of performance is based on a number of elements that reflect in their entirety the ability of the institutions to achieve their goals.

Strategic Ambidexterity (SA)

The term Ambidexterity has its origins in Greek and is derived from two words (Ambos), meaning Monday, and (Dexter), meaning correctly, and therefore intended to do two things correctly (Tagaroo, 2015). Musigire et al. (2017) clarified that SA is the ability of an organization to balance in implementing exploration and exploitation strategies at the same time. Judge and Blocker (2008) defines SA as exploring new market opportunities while at the same time taking advantage of existing markets with the goal of increasing the organization's efficiency. Voss & Voss (2013) stated that companies must strike a balance between exploration and exploitation to reach SA, so that the exploration strategy explores new service capabilities and customer needs and discover new challenges. The exploitation strategy seeks to exploit existing capabilities and resources currently available (Wu et al., 2020). Huang (2008) explained the concept of SA through identifying the processes of exploitation and exploration. He described exploitation as including the processes of "Refinement, Selection, and Execution." As for exploration, it includes operations of "Searching, Testing and, Agility". There are special conditions to ensure the success of the SA in the institution, as the higher management and the stakeholders in the organization must be convinced of the importance of exploration and exploitation to ensure the success of the organization, and the formation of an administrative unit for exploration and another for exploitation and the two units enjoy the same importance (Preda, 2014), in addition to the upper management having the ability to balancing both exploitation and exploration, and providing a cognitively flexible team (Cegarra-Navarro & Dewhurst, 2007). Bustinza et al. (2020) argue that SA plays an important role in PD of institutions through the path of sequential exploitation and exploration in all stages of decision-making.

The relationship between CMS and PD

The proper CM would bring the organization out of this crisis with the least losses and negative effects, and sound CM contributes to achieving the positive effects of the crisis and not only reducing its negative effects. Majli and Tamimi (2018) study showed that there is an impact of applying CMS on the performance of employees and the company in general, and therefore it is imperative to concert efforts across the organization to find appropriate solutions to alleviate the crises it faces, and the need to provide a center to

prepare leaders and managers of institutions to enable them to deal with crises. The crisis also has positive aspects and constructive aspects, which are opportunities that can be used in the institution's plans, policies and upcoming programs. The proper CM helps to search for new opportunities for the institution that are constructive and purposeful, and renew the social fabric, and work to increase cohesion and solidarity among all employees and leadership and at all administrative levels, it increases cooperation among all, as it works to show creative and creative ideas and innovative solutions that would not have appeared without the crisis, and all of this would improve and develop performance in general (Lalonde, 2004). Here, the researcher believes that adequate attention should be given to the cadres and people who deal with and manage crises successfully, as these are the essence of success in facing crises, and thus achieving the highest levels of performance, so that the success in managing crises that the institution is going through is an indication of its efficiency, distinction and development performance and thus directing its efforts to development and creativity, not to increase expenditures in solving problems and to reduce the negative effects of the crises they are going through.

Regarding the COVID-19 pandemic, Lai and Wong (2020) pointed to the importance of preparing for the COVID-19 pandemic crisis, as he showed that preparing human resources and applying epidemic prevention strategies, and after that, in the confrontation and response phase of the crisis, prevention strategies must be maintained, staff work and not focus government aid works to improve the performance of service institutions. Milojevic and Katsadze (2020) argue that institutions were not prepared for the COVID-19 pandemic crisis before its onset due to their unpredictability of this crisis. Therefore, CM in this pandemic was limited to imposing restrictions to contain the pandemic and the damages related to the world only. Dobrowolski (2020b) noted that the COVID-19 pandemic has highlighted weaknesses in organizations' capacity to CM. He highlighted the need to develop an advanced CM response system within each institution due to the inability of institutions in general to predict this crisis and their effects.

Study Hypotheses

Based on the literature review above, the following hypotheses were formulated:

H01: There is no impact of CMS during the COVID-19 pandemic with its dimensions (PCS, CMS, CRCS, LCS) on PD of Jordanian universities.

This main hypothesis is divided into the four sub-hypotheses:

H01-1: There is no impact of PCS during the COVID-19 pandemic on PD of Jordanian universities.

H01-2: There is no impact of MCS during the COVID-19 pandemic on PD of Jordanian universities.

H01-3: There is no impact of CRCS during the COVID-19 pandemic on PD of Jordanian universities.

H01-4: There is no impact of LCS during the COVID-19 pandemic on PD of Jordanian universities.

H02: There is no impact of CMS during the COVID-19 pandemic on SA of Jordanian universities.

H03: There is no impact at of SA during the COVID-19 pandemic on PD of Jordanian universities.

H04: There is no impact of CMS during the COVID-19 pandemic on PD with the presence of SA as a mediating variable of Jordanian universities.

METHODOLOGY

Population and Sample

The population of this study consists of all the (17) private universities in Jordan, and a sample consisting of (5) private universities in the northern region in Jordan was chosen, while the sampling unit consisted of leaders in these universities, where respondents to this study were chosen from members of boards of trustees and university presidents, 200 questionnaires were distributed to the respondents, and 187 questionnaires were retrieved, of which 176 were completed and valid for analysis.

Reliability Test

To test the reliability of study tool, Cronbach's Alpha was used and the results revealed a Cronbach's alpha coefficient was (0.912) for all items, the values of (α) range from 0.713 to 0.801, which refers the questionnaire is reliable. The values of (α) of the study variables of the study were as in Table (1):

Table (1) Reliability Tests of model variables

Variable	Reliability Coefficient (α)
<i>PCS</i>	0.733
<i>MCS</i>	0.713
<i>CRCS</i>	0.746
<i>LCS</i>	0.760
<i>CMS</i>	0.801
<i>SA</i>	0.794
<i>PD</i>	0.76
All Paragraphs	0.912

Source: Develop by the researcher

RESULTS

Descriptive statistics

*This part of study presents the descriptive statistics measures of study model's variable included **PD**: performance development, **PCS**: preparing for the crisis, **MCS**: mitigating the crisis, **CRCS**: confronting and responding to the crisis, **LCS**: learning from the crisis, **SA**: Strategic Ambidexterity. These variables represent dependent, independent and moderating variables.*

Table (2) represents the descriptive statistics measures for the model variables, and shows that *PD* with average (3.246), and standard deviation (0.963). Also, table (1) shows that *CMS* with average (3.485), and standard deviation (0.884), the dimensions of this variable (*PCS*, *MCS*, *CRCS*, *LCS*) range from (3.426) to (3.627). Moreover, *SA* with average (3.125) and standard deviation (0.928). These values give an indicator about respondents' attitudes about mentioned variable in Jordanian universities, the results show a moderate responding for all variables.

Table (2) Descriptive statistics results

Variable	Mean	SD	Max	Min	N
PD	3.246	0.963	1.000	5.000	176
PCS	3.436	0.949	1.000	5.000	176
MCS	3.450	0.961	1.000	5.000	176
CRCS	3.426	0.947	1.000	5.000	176
LCS	3.627	0.915	1.000	5.000	176
CMS	3.485	0.884	1.000	5.000	176
SA	3.125	0.928	1.000	5.000	176
PD: performance development, PCS: preparing for the crisis, MCS: mitigating the crisis, CRCS: confronting and responding to the crisis, LCS: learning from the crisis, SA: Strategic Ambidexterity.					

The results in Table (2) indicate that Jordanian universities used *CMS* during the COVID-19 pandemic to a moderate degree. This may be due to the emergency conditions imposed by the COVID-19 pandemic on Jordan and other countries of the world these days, and the closures and prohibitions that accompanied it, which affected the universities' ability to manage the crisis due to insufficient preparation for such unforeseen circumstances. In addition to not developing different scenarios for expected crisis events and distributing roles in a way that achieves the main goal of CM, which is to deal with the crisis efficiently and effectively. Also, it is difficult for Jordanian universities to use a *MCS*, as they cannot eliminate the causes of the crisis and reduce the possibility of its occurrence, but rather their role is limited to containing the damage. These results are consistent with what Milojevic and Katsadze (2020) indicated that institutions were not prepared for the COVID-19 pandemic crisis before its onset due to their lack of expectation for this crisis. Likewise, Dobrowolski (2020b) stated that the COVID-19 pandemic underscored weaknesses in organizations' capacity to manage crises.

With regard to universities *PD* during the COVID-19 pandemic, it has been evident that the *PD* of Jordanian universities has not sufficiently developed, and this result is consistent with the universities was not readiness and inability to manage the crisis. Jordanian universities were unable to develop performance during the COVID-19 pandemic due to their inability to adopt teamwork method, involve workers in setting policies and making decisions, and motivate workers financially and morally due to their lack of presence in universities during the pandemic and their lack of sufficient expertise and skills to work remotely (Alharafsheh et al., 2021). Also, during the COVID-19 pandemic, employees in Jordanian universities failed to successfully fulfill job

requirements due to the psychological pressures that the pandemic imposed on them. This result is consistent with what Prasetyo and Dzaki (2020) have argued, who argue that developing OP requires interaction and interconnection between the elements of the internal and external environments of the organization. Regarding SA during the COVID-19 pandemic, the level of application of SA was found to be moderate. This may be due to the inability of Jordanian universities to apply exploration and exploitation strategies at the same time during the pandemic, as it is considered an unexpected crisis. In addition to the inability of Jordanian universities to discover new work needs and discover new challenges (Wu et al., 2020).

Pairwise correlation analysis

The main purpose of correlation analysis is to compare the linear relationships model’s variables, especially those related to dependent variable. Table (3) represents the correlation matrix between each pair of model’s study shows that the large value of correlation coefficient was (0.790) between *PD* and *PCS*, this referred to significant statistically relationship between two variables, this means the large *PD* the large *PCS*. According to relationship between *PD* and other variables, we notice that the highest relationship (0.851), appeared with *CRCS*, it was positively significant statistically relationship, while the lowest relationship (0.750), appeared with *LCS*, it was positively significant statistically relationship, moreover all relationship between independent variable and predictors were positively significant. But we can’t jump to final conclusion depending on correlation matrix that measures the relationship without take in consideration the cause and effect, but it gives a first evidence of the existence of association among variables. In the other hand, we notice that correlation coefficients between all pairs of predictors were less than (± 0.80), which indicates there is no multicollinearity problem in study models.

Table (3) Correlation matrix for study variables

	<i>PD</i>	<i>PCS</i>	<i>MCS</i>	<i>CRCS</i>	<i>LCS</i>	<i>SA</i>
<i>PD</i>	1.00					
<i>PCS</i>	0.790**	1.00				
<i>MCS</i>	0.787**	0.787**	1.00			
<i>CRCS</i>	0.851**	0.717**	0.788**	1.00		
<i>LCS</i>	0.750**	0.727	0.763**	0.839**	1.00	
<i>SA</i>	0.842**	0.635**	0.678**	0.782**	0.725**	1.00

PD: the performance development, *PCS*: preparing for the crisis, *MCS*: mitigating the crisis, *CRCS*: confronting and responding to the crisis, *LCS*: learning from the crisis, *SA*: Strategic Ambidexterity.

Path analysis

The current research examines the association between *CMS* and *PD* in Jordanian universities, with mediating role of *SA*. The study uses SPSS AMOS 20.0 to analyse the research model. The links between the variables of interest

in the current research are illustrated in a research model which is presented in Figure 1.

Confirmatory Factor Analysis

The results of confirmatory factor analysis (CFA) are shown in table (3)

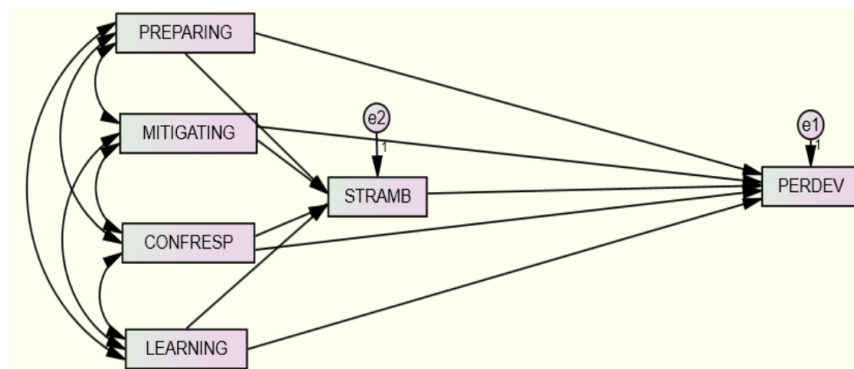
Table (4): Results of Fit Indices for study model

Goodness of Fit Index	CMIN/DF	CFI	GFI	RMSEA
Threshold value	<5	>0.90	>0.90	<0.10
Result	4.892	0.980	0.989	0.075

Model testing and pre assumption for fitness analysis of this work requires that the data meet all of the aforementioned criteria. According to Sekaran & Bougie (2010) AMOS can be used to confirm whether or not the proposed model meets the criteria of an excellent structural equation model: χ^2 (Chi Square Statistic) and Probability, value of Chi Square /DF is ≤ 3.0 or 5.0 , p-value must be ≥ 0.05 , Degrees of Freedom (Degree of Freedom) must be positive, Goodness of Fit Index (GFI) must be ≥ 0.90 , CFI (Comparative Fit Index) must be ≥ 0.90 , RMSEA (Root Mean Square Error of Approximation) must be ≤ 0.08 .

Direct, Indirect and total effects

Current study aims at investigating the relationship between CMS and PD in Jordanian university, mediator role of SA. So, results divided into two parts, the first part focus on regression weights represent the direct effects, while second part interested in the mediation role of SA.



Regression analysis – direct effect hypotheses

Table 4 presents the result of direct effect hypotheses. The table shows path coefficient (β), standard deviation (STDEV), T-values, and P-values. Also, table 16 represent more information about the relationship between study model variable.

Table (5): Regression Weights Results

Model	Estimate	S.E.	C.R.	P	Result
<i>PCS</i> → <i>SA</i>	0.033	0.087	0.374	0.709	Not Significant
<i>MCS</i> → <i>SA</i>	0.396	0.100	3.962	0.000	Significant
<i>CRCS</i> → <i>SA</i>	0.103	0.107	0.956	0.339	Not Significant
<i>LCS</i> → <i>SA</i>	0.590	0.076	7.748	0.000	Significant
<i>SA</i> → <i>PD</i>	0.375	0.053	7.036	0.000	Significant
<i>PCS</i> → <i>PD</i>	0.088	0.061	1.430	0.153	Not Significant
<i>MCS</i> → <i>PD</i>	0.331	0.076	4.363	0.000	Significant
<i>CRCS</i> → <i>PD</i>	0.075	0.074	1.014	0.310	Not Significant
<i>LCS</i> → <i>PD</i>	0.183	0.062	2.948	0.003	Significant

PD: the performance development, *PCS*: preparing for the crisis, *MCS*: mitigating the crisis, *CRCS*: confronting and responding to the crisis, *LCS*: learning from the crisis, *SA*: Strategic Ambidexterity.

Note: $P < .05$; Estimated = Standardized Coefficient (β); C.R = Critical Ratio; S.E. = Standard Error

Table 5 represents the direct effect between predictors, in one side, and dependent and mediator variables, in other side. In addition to direct effect of mediator and dependent variable. Results show that:

Relationship between independent variables and dependent variables

Results show that (*PCS* & *CRCS*) have no significant effect on (*PD*), while significant positively effects appeared for both of (*MCS* & *LCS*). Findings in Table 5 showed that the effect of (*MCS*) is significant ($\beta=0.331$, C.R.= 4.363, $P = 0.000$). Also, the effect of (*LCS*) is significant ($\beta=0.183$, C.R.= 2.948, $P = 0.003$).

This result indicates that *PCS* and, *CRCS* had no impact on the *PD* of Jordanian universities during the COVID-19 pandemic. This is consistent with the nature of the COVID-19 pandemic, as it was a sudden crisis, through which Jordanian universities were unable to develop adequate methods to prevent crises and try to prevent or reduce their occurrence, in addition to the fact that Jordanian universities were unable to discover warning signals through monitoring and analyzing initial indicators that predict and expect the occurrence of the crisis, and therefore there was no effect of *PCS* and, *CRCS* for the COVID-19 pandemic crisis in *PD* Jordanian universities. *CRCS* requires the implementation of the CM plan and the handling of the crisis according to what was previously planned (Thumiki et al., 2019), which is what universities were unable to do for not developing plans commensurate with the severity of the COVID-19 pandemic crisis, which led to no effect of *CRCS* on the *PD* of Jordanian universities.

While the above results indicate that *MCS* and *LCS* had an impact on *PD* of Jordanian universities. Whereas, universities 'containment of damage by taking measures such as activating distance learning and holding training courses for employees to deal with the crisis contributed to developing the performance of employees and giving them new skills, and the universities' pursuit of benefiting from the crisis increased their ability to deal with crises that could occur In the future, as universities began to collect the necessary information to prevent the recurrence of the crisis again by following all the necessary procedures to take lessons and lessons from the occurrence of the crisis and evaluate the procedures followed, to know the strengths and weaknesses in CM (Hur and Kim, 2020).

Relationship between independent variables and mediator variable

Results show that (*PCS* & *CRCS*) have no significant effect on (*SA*), while significant positively effects appeared for both of (*MCS* & *LCS*). Findings in Table 5 showed that the effect of (*MCS*) is significant ($\beta=0.396$, C.R.= 3.962, $P = 0.000$). Also, the effect of (*LCS*) is significant ($\beta=0.590$, C.R.= 7.748, $P = 0.000$).

This result indicates that *PCS* & *CRCS* had no effect on the *SA* in Jordanian universities during the COVID-19 pandemic. This may be due to the *SA* according to Musigire et al. (2017) requires budget for the application of exploration and exploitation strategies at the same time, which is something that universities cannot achieve in the case of the COVID-19 pandemic, since it was not possible to explore this crisis. The result also shows an impact of both *MCS* & *LCS* on the *SA* in Jordanian universities during the COVID-19 pandemic. This may be the ability of universities, after being exposed to the crisis of the COVID-19 pandemic, to learn about future opportunities and discover new requirements, which leads to their ability to brilliantly confront the challenges that may arise in the future.

Relationship between and mediator variable and dependent variable

Results show that (*SA*) have a significant effect on (*PD*), findings in Table 5 showed that the effect of (*SA*) is significant ($\beta=0.375$, C.R.= 7.036, $P = 0.000$). This result indicates that there is an effect of *SA* in *PD* of Jordanian universities during the crisis of the COVID-19 pandemic, as the *SA* works to discover the capabilities of services, new requirements and challenges (Wu et al., 2020). Consequently, universities will develop their performance when they try to meet these requirements and challenges through developing strategies to exploit their resources and refine their capabilities. This is in line with the findings of Bustinza et al. (2020), where he indicated that *SA* plays an important role in *PD* of institutions through the path of sequential exploitation and exploration in all stages of decision-making.

Path analysis and mediator role of (SA)

After examine the direct effect, mediator role of (*SA*), so indirect and total effect represented for each predictor as following:

1- *The mediator role of (SA) on the association between (PCS) and (PD).*

Table (6): Direct, indirect and total effect of (PCS)

	Direct Effect		Indirect Effect		Total Effect	
	<i>PCS</i>	<i>SA</i>	<i>PCS</i>	<i>SA</i>	<i>PCS</i>	<i>SA</i>
SA	0.033 (0.803)	0.000	0.000	0.000	0.033 (0.803)	0.000
PD	0.088 (0.240)	0.375 (0.000)	0.012 (0.802)	0.000	0.100 (0.372)	0.375 (0.000)

The results of above table showed that (SA) do not mediate the relationship between (PCS) and (PD). The mediation effect is not significant as indirect effect ($\beta = 0.012$, $p = 0.802$) of (PCS) on (PD). Therefore, in the total effect ($\beta = 0.100$, $p = 0.372$) of (PCS) on (PD).

This result indicates that there is no mediating role for SA in the relationship between PCS and developing the PD of Jordanian universities during the COVID-19 pandemic crisis, and this may be due to the fact that one of the requirements for SA is having a prior vision about the challenges that institutions may face, and during this crisis, universities had no advance predictions about the COVID-19 pandemic.

The mediator role of (SA) on the association between (MCS) and (PD)

Table (7): Direct, indirect and total effect of (MCS)

	Direct Effect		Indirect Effect		Total Effect	
	<i>MCS</i>	<i>SA</i>	<i>MCS</i>	<i>SA</i>	<i>MCS</i>	<i>SA</i>
SA	0.396 (0.010)	0.000	0.000	0.000	0.396 (0.010)	0.000
PD	0.331 (0.000)	0.375 (0.000)	0.149 (0.010)	0.000	0.480 (0.010)	0.375 (0.000)

The results of above table showed that (SA) partially mediated the relationship between (MCS) and (PD). The mediation effect is significant as indirect effect ($\beta = 0.149$, $p = 0.010$) of (MCS) on (PD) is due to the mediator. Therefore, in the total effect ($\beta = 0.480$, $p = 0.010$) of (MCS) on (PD).

This result indicates that SA partially mediated the relationship between MCS and PD of Jordanian universities during the COVID-19 pandemic crisis, and this may be due to the contribution of the exploitation strategy that works to exploit current capabilities and currently available resources to enhance universities' ability to benefit from MCS in developing their performance by providing a team work characterized by cognitive flexibility.

The mediator role of (SA) on the association between (CRCS) and (PD)

Table (8): Direct, indirect and total effect of (CRCS)

	Direct Effect		Indirect Effect		Total Effect	
	CRCS	SA	CRCS	SA	CRCS	SA
SA	0.103 (0.205)	0.000	0.000	0.000	0.103 (0.205)	0.000
PD	0.075 (0.289)	0.375 (0.000)	0.038 (0.408)	0.000	0.113 (0.389)	0.375 (0.000)

The results of above table showed that (SA) do not mediate the relationship between (CRCS) and (PD). The mediation effect is not significant as indirect effect ($\beta = 0.038, p = 0.408$) of (CRCS) on (PD). Therefore, in the total effect ($\beta = 0.113, p = 0.389$) of (CRCS) on (PD).

This result indicates that there is no mediating role for SA in the relationship between CRCS and developing the PD of Jordanian universities during the COVID-19 pandemic crisis, and this may be due to the inability of Jordanian universities to take advantage of the advantages of balancing exploration and exploitation during the COVID-19 pandemic crisis.

The mediator role of (SA) on the association between (LCS) and (PD)

Table (9): Direct, indirect and total effect of (LCS)

	Direct Effect		Indirect Effect		Total Effect	
	LCS	SA	LCS	SA	LCS	SA
SA	0.590 (0.000)	0.000	0.000	0.000	0.590 (0.000)	0.000
PD	0.183 (0.010)	0.375 (0.000)	0.221 (0.000)	0.000	0.404 (0.000)	0.375 (0.000)

The results of above table showed that (SA) partially mediated the relationship between (LCS) and (PD). The mediation effect is significant as indirect effect ($\beta = 0.221, p = 0.000$) of (LCS) on (PD) is due to the mediator. Therefore, in the total effect ($\beta = 0.404, p = 0.000$) of (LCS) on (PD).

This result indicates that SA partially mediated the relationship between LCS and developing the PD of Jordanian universities during the COVID-19 pandemic crisis. and may be due to the contribution of SA in enabling Jordanian universities to develop their performance through a path of sequential exploitation and exploration at all stages taking the decision after facing the crisis and learning from it.

CONCLUSIONS

This study aimed to discover how Jordanian universities are dealing with the COVID-19 pandemic crisis. Specifically, the study was interested in

understanding the impact of the *CMS* applied by Jordanian universities on *PD* during the COVID-19 pandemic crisis. In addition to identifying the mediating role of *SA* in the relationship between *CMS* and the *PD* of Jordanian universities. The population of this study consists of all private universities in Jordan, and a sample consisting of (5) private universities in the northern region in Jordan was chosen, while the sampling unit consisted of leaders in these universities, 200 questionnaires were distributed to the respondents, and 187 questionnaires were retrieved, of which 176 were completed and valid for analysis.

The study found mediating the level of application of *CMS* in Jordanian universities during the COVID-19 pandemic crisis, in addition to mediating the level of *PD* as well as mediating the level of practicing *SA*. This may be due to the emergency conditions imposed by the COVID-19 pandemic on Jordan and other countries of the world these days, and the closures and prohibitions that accompanied it, which affected the universities' ability to manage the crisis due to insufficient preparation for such unforeseen circumstances. These results are consistent with what Milojevic and Katsadze (2020) indicated that institutions were not prepared for the COVID-19 pandemic crisis before its onset due to their lack of expectation for this crisis. Also, Dobrowolski (2020b), who indicated that the COVID-19 pandemic highlighted weaknesses in the institutions' ability to MC. Also lacked employees in Jordanian universities during the COVID-19 pandemic to successfully fulfill job requirements due to the psychological pressures imposed by the pandemic on them. The results of the study also indicate the inability of Jordanian universities to discover new business needs and discover new challenges.

The results of testing the study hypotheses indicated that there was no effect of *PCS* & *CRCS* on *PD* of Jordanian universities during the COVID-19 pandemic. As the Jordanian universities were unable to detect warning signals by monitoring and analyzing the initial indicators that predict and anticipate the occurrence of the crisis. While *MCS* & *LCS* had an impact on developing the *PD* of Jordanian universities. As universities contained the damage by taking measures such as activating distance learning and holding training courses for employees to deal with the crisis, which contributed to developing the performance of employees and providing them with new skills. These results are consistent with Lai and Wong (2020) who demonstrated the importance of *PCS* in *PD*. With regard to *SA*, it has been shown that it partly mediates the relationship between both *MCS* & *LCS* and *PD* of Jordanian universities during the COVID-19 pandemic crisis. *SA* did not have a mediating role in the relationship between *PCS* & *CRCS*, and *PD* of Jordanian universities during the COVID-19 pandemic crisis. Based on the results reached, the study recommends the necessity of applying all *CMS* because of their effective and influential role in the *PD*, as well as for universities to experience the *SA* for their role in enhancing the ability of institutions to balance in the application of exploration and exploitation strategies at the same time.

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