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NEMZETKÖZI TUDOMÁNYOS KONFERENCIA A MAGYAR TUDOMÁNY ÜNNEPE ALKALMÁBÓL

International Scientific Conference
on the Occasion of the Hungarian
Science Festival

Sopron, 2021. november 4.
4 November 2021, Sopron



**PANDÉMIA – FENNTARTHATÓ GAZDÁLKODÁS
– KÖRNYEZETTUDATOSSÁG / PANDEMIC
– SUSTAINABLE MANAGEMENT – ENVIRONMENTAL AWARENESS
KONFERENCIAKÖTET / Conference Proceedings**

Szerkesztette / Edited by: OBÁDOVICS Csilla, RESPERGER Richárd, SZÉLES Zsuzsanna

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(LEKTORÁLT TANULMÁNYOK / PEER-REVIEWED STUDIES)

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SOPRONI EGYETEM KIADÓ /
UNIVERSITY OF SOPRON PRESS

SOPRON, 2022

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International Scientific Conference on the Occasion of the Hungarian Science Festival**

Sopron, 2021. november 4. / 4 November 2021, Sopron



Mottó / Motto: „Tudomány: iránytű az élhető jövőhöz” / „Science: a Compass For a Livable Future”

Szervező / Organizer: A Soproni Felsőoktatásért Alapítvány / For the Higher Education at Sopron Foundation

**A konferencia védnöke / Patron of the Conference:
Innovációs és Technológiai Minisztérium / Ministry for Innovation and Technology**

**Felelős kiadó / Executive Publisher: Prof. Dr. FÁBIÁN Attila
a Soproni Egyetem rektora / Rector of the University of Sopron**

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Tördelőszerkesztő / Layout Editor: TAKÁCS Eszter

Borítóterv / Cover Plan: ZSIDY Emese

ISBN 978-963-334-411-8 (pdf)

DOI: 10.35511/978-963-334-411-8

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Sopron, 2022 – Minden jog fenntartva.

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The Impact of the Corona Pandemic on the Project Management Process in Jordan

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Abstract

This study aims to investigate the extent of the impact of the Corona pandemic on the project management process in Jordan, by selecting a sample of (12) construction project managers. A questionnaire was designed consisting of five axes related to the five phases of project management. Those stages included the initiation phase, planning, execution, monitoring, and finally Closing phase.

In the results, the study indicated that the Corona pandemic had directly affected all phases of project preparation in the Hashemite Kingdom of Jordan. The study recommended the need to take advantage of the pandemic conditions to develop the project management system, in addition to developing remote work mechanisms in the areas that allow this.

Keywords: sustainable management, Crisis Management, Business Administration, Jordan

JEL Codes: H12, M10, M11, M2, N15

1. Introduction

The Corona pandemic is an unprecedented phenomenon, at least in the last fifty years of human history, and specifically in the era of globalization and modernity. All countries and peoples around the world. This pandemic has affected all countries of the world and disrupted a large part of sectors, businesses and facilities, and at all levels, logistically, economically, administratively, and technically. Such as the transport, tourism, health, and education sectors, down to the construction projects, many of which have stopped working due to the pandemic conditions (Zhang et al., 2020).

According to these circumstances, it was necessary to follow new protocols, procedures, and approaches in dealing with various aspects of life, especially the economic and administrative ones. It is commensurate with the nature of the circumstance surrounding the business environment. Administrative methods have developed to serve the current situation, as remote management methods have appeared compulsorily, which are based on the absence of an actual administrative center on the ground. Various administrative functions such as organizing, controlling, and directing through these electronic means, which were at the moment the seed for a new type of management, which is remote management, but the Corona pandemic has accelerated the pace of this matter and made it an emergency (Mirjalili et al., 2020).

As for project management, it is defined by Walker (2015) as a combination of experience, managerial, leadership, and technical skills, and relationships that the manager harnesses to achieve the project's goal. So that one of the duties of the project manager is to direct the resources, whether human or material, in addition to managing financial risks, and solving problems that arise during the implementation of the project, in addition to tracking the progress of work and communicating with stakeholders.

1.1. The Study Problem

Perhaps the profound impact of the Corona pandemic on various aspects of life did not leave the economic sectors in isolation. The macroeconomic aspects of countries and the microeconomics of individuals and companies were affected, and since projects are considered part of the economic reality of countries, where the project is considered a set of temporary economic activities. Which bears a planned start and end date and resources, which necessarily means the necessity of having an appropriate management of these economic activities (El Baba–Herbein, 2020).

With the emergence of the Corona pandemic and the extension of its consequences to affect various sectors, it was necessary to show new features for managing economic projects in proportion to the nature of the situation. Or on the other hand, from the financial aspect that was affected by the consequences of this pandemic, which naturally led to the change and modernization of project budgets in line with the current economic situation, which required project managers to find solutions and new ways to implement their projects within the new budgets and reduce the number of human resources and legislative procedures. The new ones that have been taken by governments, which may affect the various stages of project management, and the study problem can be summarized through the following questions:

1. Is there an impact of the Corona pandemic on the project Initiation phase within the economic environment in Jordan?
2. Is there an impact of the Corona pandemic on the project Planning phase within the economic environment in Jordan?
3. Is there an impact of the Corona pandemic on the project Execution phase within the economic environment in Jordan?
4. Is there an impact of the Corona pandemic on the project Monitoring phase within the economic environment in Jordan?
5. Is there an impact of the Corona pandemic on the project Closing phase within the economic environment in Jordan?

1.2. Objectives of the study

Through the study questions, the following objectives can be deduced:

The main objective: to investigate the extent to which there is an impact of the Corona pandemic on the various stages of project management within the economic environment in Jordan.

1. To investigate the extent of the impact of the Corona pandemic on the project Initiation Phase within the economic environment in Jordan.
2. To investigate the extent of the impact of the Corona pandemic on the project planning Phase within the economic environment in Jordan.
3. To investigate the extent of the Impact of the Corona pandemic on the project execution phase within the economic environment in Jordan.
4. Investigating the extent of the impact of the Corona pandemic on the project Monitoring phase within the economic environment in Jordan.
5. To investigate the extent of the impact of the Corona pandemic on the project closing phase within the economic environment in Jordan.

1.3. Study Hypotheses

1. There is an impact of the Corona pandemic on the project Initiation Phase within the economic environment in Jordan.
2. There is an impact of the Corona pandemic on the project planning Phase within the economic environment in Jordan.
3. There is an impact of the Corona pandemic on the project execution phase within the economic environment in Jordan.
4. There is an impact of the Corona pandemic on the project Monitoring phase within the economic environment in Jordan.
5. There is an impact of the Corona pandemic on the project Closing Phase within the economic environment in Jordan.

2. Literature Review

Jordan was not isolated from the world in being affected by the Corona pandemic, as all aspects of public, social, economic, political and service life were affected by the outcomes of the pandemic (Yusef et al., 2020).

None of the Jordanian economy's resources were left without being affected by the spread of the pandemic, especially in light of the limited materials of the Jordanian state, and its dependence on import and export in order to support the gross domestic product (Abu-Qdais et al., 2020).

The pandemic has affected economic establishments in many ways, as most establishments have suffered from a decline in their revenues and an increase in their expenditures (Al-Mahadin, 2020). Or through the mandatory closure of the facility in which infections or contacts with people infected with the virus appear (Prajapat et al., 2020).

In addition, commercial establishments have suffered from a decrease in demand for the goods they provide, due to the impact of the pandemic on individual citizens, whose income has decreased (Almagtome–Abbas, 2020), especially those who do not receive a fixed salary from one side, but rather those who work within their own interests, whether Commercial establishments or small or medium economic projects (Abdallah–Alnamri, 2015).

A comprehensive ban was imposed that prevents all forms of movement, work and trading, as this type of ban halted all forms of economic life in the Kingdom, which led to many sectors incurring unprecedented losses, especially those sectors that depend on the daily purchase movement such as the agricultural sector or the agricultural sector (Almomani et al., 2021). On the other hand, work has been disrupted in many construction projects, which has affected the project management process (Jammal et al., 2020).

The Corona pandemic has rapidly affected the administrative process in general, especially in light of the obstacles imposed by the pandemic and led to the obstruction of many stages and administrative functions (Ghandour, 2020). On the other hand, project management was not isolated from this influence, as all stages of the project management process were affected (Hajiagha et al., 2021).

Project management is defined as a discipline related to the process of organizing and managing the resources available in projects, such as: human resources or physical resources, in such a way that the project can be completed successfully while taking into account the factors of quality, time and available cost (Walker, 2015).

Many studies have dealt with the relationship between the Corona pandemic and project management, but it is noted that there are no studies related to Jordan related to this relationship.

Wang et al. (2020) finds that the Corona pandemic has affected many aspects of the project management process, such as budgeting, supply chain and project design. As for Ghandour (2020) he believes that the Corona pandemic has affected the delivery of projects, as it increased the number of days required to deliver projects.

Where Koch and Schermuly (2021) believes that the Corona pandemic has a high correlation with the delay in administrative processes related to project management, as it was found that the presence of the Corona pandemic has led to the emergence of many incomplete tasks, in addition to an increase in the feeling of fatigue among workers due to the pandemic, which leads to delaying work .

For his part, Rehman et al. (2021) believes that the emergence of the Corona pandemic has resulted in many challenges, including delays in delivery, payments, and even the technical examination of the project. As for Hajiagha et al. (2021) it was found that the Corona pandemic affected the project management by delaying or stopping the supply chain of the project.

3. Methodology

The descriptive analytical method will be used in conducting the study because it is the appropriate method for this type of studies.

3.1. Study Tool

To achieve the objectives of the study, A questionnaire was designed consisting of five axes related to the five phases of project management. Each axis has 4 questions. Those stages included the initiation stage, planning, implementation, monitoring and closing.

The questionnaire was developed based on the previous similar studies. The researcher depended on (Rehman et al., 2021; Ogunnusi et al., 2021; Ayat–Kang, 2021; Umar, 2022; Walker, 2015; Heagney, 2016; White–Fortune, 2002; Cleland, 2007; Picciotto, 2020; Larsson–Larsson, 2020; San Cristóbal et al., 2018; Borkovskaya, 2018; Mavi–Standing, 2018; Jugdev et al., 2019) in building the questionnaire.

3.2. Study population and sample

The study community consisted of a group of workers in the construction sectors in Jordan, including (12) project managers, engineers, planning managers and financial managers of these projects.

4. Analysis

4.1. Initiation Phase

Table 1 shows the mean of the sample members answers about the extent of the impact of the Corona pandemic on the initiation Phase in project management. The results show that the total mean of the answers of the sample members about the initiation Phase has reached (3.27), which means that it is higher than the standard mean (3), which means acceptance of the hypothesis that states that “*There is an impact of the Corona pandemic on the projects Initiation Phase within the economic environment in Jordan*”. also, the results show that the paragraph “*There is an impact of the Corona pandemic on the form of contracts and charters for the project*“ has the highest approval by the sample members by (3.4), which indicates that the Corona pandemic has directly affected the pension conditions of the projects, to reduce losses due to the delay in the Corona pandemic, and to ensure tighter commitment on the contractors, especially in construction projects.

Table 1: Means for Initiation Stage

Item	Mean
1. There is an impact of the Corona pandemic on the way project goals are set.	3.3
2. There is an impact of the Corona pandemic on determining the type and nature of the project to be established.	3.2
3. There is an impact of the Corona pandemic on the form of contracts and charters for the project.	3.4
4. There is an impact of the Corona pandemic on the project stakeholder list.	3.2
Total Mean	3.27

Source: Based on Rehman et al. (2021), Ogunnusi et al. (2021), San Cristóbal et al. (2018)

4.2. Planning Phase

Table 2 shows the mean of the sample members answers about the extent of the impact of the Corona pandemic on the Planning Phase in project management, the results show that the total mean of the answers of the sample members about the Planning Phase has reached (3.82), which means that it is higher than the standard mean (3), which means acceptance of the hypothesis that states that “*There is an impact of the Corona pandemic on the projects Planning Phase within the economic environment in Jordan*”.

Table 2: Means for Planning Stage

Item	Mean
1. There is an impact of the Corona pandemic in determining the scope of work for the project.	4.2
2. There is an impact of the Corona pandemic on the project plan preparation process.	3.6
3. There is an impact of the Corona pandemic on the process of setting project budget limits.	3.4
4. There is an impact of the Corona pandemic on defining the administrative roles and responsibilities of the project.	4.1
<i>Total Mean</i>	3.82

Source: Based on Ayat & Kang (2021), Cleland (2007), Walker (2015)

The results also show that the paragraph “There is an impact of the Corona pandemic in determining the scope of work for the project” has the highest approval by the sample members by (4.2), This item relates to determining the scope of the project, whether at the financial level or the organizational level related to resources, or even about the time frame for the project delivery stages. The result indicates that the Corona pandemic affected the determination of the financial and organizational scope of the project, as the conditions of the pandemic may have contributed to reducing the financial scope of the projects, in addition to the narrowing in the contractual and legal scope resulting from the consequences of the pandemic.

4.3. Execution Phase

Table 3 shows the mean of the sample members answers about the extent of the impact of the Corona pandemic on the execution phase in project management, the results show that the total mean of the answers of the sample members about the execution phase has reached (3.75), which means that it is higher than the standard mean (3), which means acceptance of the hypothesis that states that “*There is an impact of the Corona pandemic on the projects execution Phase within the economic environment in Jordan*”.

Table 3: Means for execution Stage

Item	Mean
1. The corona pandemic has an impact on project resources.	3.3
2. There is an impact of the Corona pandemic on the distribution and management of project resources.	3.6
3. There is an impact of the Corona pandemic on the creation of the product or project structure.	3.9
4. There is an impact of the Corona pandemic on discovering errors during the implementation process.	4.2
<i>Total Mean</i>	3.75

Source: Based on Ayat & Kang (2021), Umar (2022), Cleland (2007), Picciotto (2020)

Also, the results show that the paragraph “There is an impact of the Corona pandemic on discovering errors during the implementation process” has the highest approval by the sample members by (4.2), The results show that the Corona pandemic has affected the process of discovering errors during the project implementation process, and this impact can be more negative than positive, as the pandemic may have reduced the control roles through the absence of some employees specialized in oversight, or through laws that forced Companies to condone some practices that workers may perform, such as absence from work due to quarantine requirements or absence due to illness.

4.4. Monitoring Phase

Table 4 shows the mean of the sample members answers about the extent of the impact of the Corona pandemic on the monitoring Phase in project management, the results show that the total mean of the answers of the sample members about the Monitoring Phase has reached (3.4),

which means that it is higher than the standard mean (3), which means acceptance of the hypothesis that states that “*There is an impact of the Corona pandemic on the project Monitoring Phase within the economic environment in Jordan*”.

Also, the results show that the paragraph “There is an impact of the Corona pandemic in monitoring the workflow of the project” has the highest approval by the sample members by (3.7). It seems that this proposition is very logical in light of the circumstances imposed by the Corona pandemic on the work environment, as the pandemic contributed to delaying many stages related to projects, as the laws and regulations imposed by the Jordanian government on all economic sectors, including closures and quarantine, and imposed many Restrictions on stakeholders and project management, which led to a delay in the delivery dates originally scheduled within the project plan.

Table 4: Means for Monitoring Stage

Item	Mean
1. There is an impact of the Corona pandemic on the process of tracking project resources and costs.	3.2
2. There is an impact of the Corona pandemic in monitoring the workflow of the project.	3.7
3. There is an impact of the Corona pandemic in monitoring compliance with the project plan.	3.6
4. There is an impact of the Corona pandemic on controlling errors in reducing errors during the implementation of the plan.	3.1
<i>Total Mean</i>	<i>3.4</i>

Source: Based on Ogunnusi et al. (2021), White & Fortune (2002), Mavi & Standing (2018)

4.5. Closing Phase

Table 5 shows the mean of the sample members answers about the extent of the impact of the Corona pandemic on the closing Phase in project management, the results show that the total mean of the answers of the sample members about the Monitoring Phase has reached (4.17), which means that it is higher than the standard mean (3), which means acceptance of the hypothesis that states that “*There is an impact of the Corona pandemic on the project Closing Phase within the economic environment in Jordan*”.

Table 5: Means for Closing Stage

Item	Mean
1. There is an impact of the Corona pandemic on the delivery of the completed parts of the project.	4.1
2. There is an impact of the Corona pandemic on the evaluation and review of the completed parts of the project.	3.8
3. The Corona pandemic has an impact on the project accreditation process.	4.5
4. There is an impact of the Corona pandemic on the delivery of project termination documents to stakeholders.	4.3
<i>Total Mean</i>	<i>4.17</i>

Source: Based on Umar (2022), White & Fortune (2002), Borkovskaya (2018)

The results show that the paragraph “The Corona pandemic has an impact on the project accreditation process” has the highest approval by the sample members by (4.5). The accreditation Phase constitutes the final Phase before handing over the project to the contracting party, where the specifications and standards stipulated by the country’s rules and legislation must be reviewed. This Phase has been greatly affected by the defect that occurred in the accreditation mechanisms, as the Jordanian government declared a state of emergency in the country.

During the pandemic, according to which a lot of legislation related to economic sectors has been suspended, which directly affected the accreditation processes of projects. On the other hand, the movement of many stakeholders related to the project has been restricted due to the emergency.

5. Discussion and Conclusion

The Corona pandemic has affected all walks of life, and all economic sectors, including the enterprise sector of all kinds, in various ways. Sectors that allow the nature of their work to do so. Projects were not spared from these effects, as all phases of project management were affected by the pandemic. At the Jordanian level, field results show that the Corona pandemic has affected all aspects and stages related to project management, as the results show an impact on each of the stages, initiation, planning, implementation, monitoring, and closing. These results can be explained by the change that occurred in the social, economic and legal environment, where many, legislative frameworks were changed, which in turn contributed to changing the general framework of the project management process in Jordan.

6. Recommendations

The study recommends the following:

1. Take advantage of the circumstances that accompanied the Corona pandemic to develop the project management process in the future.
2. Developing remote work systems within projects that allow the nature of their work to do so, to mitigate the potential effects of the restrictions imposed by such a pandemic.

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