"Influence of financial information systems on increasing competitive advantage: Evidence from Jordan"

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INFLUENCE OF FINANCIAL INFORMATION SYSTEMS ON INCREASING COMPETITIVE ADVANTAGE: EVIDENCE FROM JORDAN

Abstract

The study aims to measure the influence of financial information systems (FIS) on competitive advantage in organizations listed on the Amman Stock Exchange (ASE). To achieve the objectives of the study, a quantitative approach is used. The study sample adopted in this study is a self-administered questionnaire handled by a study sample of 66 financial managers, internal auditors, information systems managers, and heads of departments in organizations listed on the ASE, categorized by the following competitive advantage variables, including service efficiency, cost flexibility, learning organization, and service variety. The results of the study accept the main hypothesis stating that financial information systems can increase competitive advantage within organizations. In addition, the results show that the service efficiency and learning organization variables have a positive and strong relationship with FIS and are highly influenced by it on the one hand. On the other hand, service variety has a medium relationship, while cost flexibility has a weak and positive relationship. The study recommends focusing on training programs that support employees' skills in using the financial information systems in all their forms, in line with continuing technological developments and activating creativity in the organization in all its forms to achieve competitive advantage.

Keywords financial information systems, information systems, competitive advantage, competitive priorities

JEL Classification G14, G15, M19

INTRODUCTION

Currently, the use of information technology in organizations is considered one of the most important processes and strategies adopted within an organization, since information technology is the department responsible for organizing the internal, external, financial, administrative, and marketing operations of an organization, thus saving time and effort for administrators at all levels (Figueroa-Flores et al., 2020). To further clarify the idea, the concept of information technology in organizations refers to the technological and electronic systems adopted by an organization to manage its financial affairs and structure its administrative system, thus facilitating the decision-making process, solving problems, and ensuring access to pre-established strategic goals (Benbya et al., 2021).

According to Arshad et al. (2019), the use of technology aims to meet the needs of an organization, improve productivity, and raise the level of quality of services provided by relying on technology support for performance efficiency and increasing and improving the job performance of employees, which will enhance the organizational performance in its entirety. Among the modern information and technological systems used in organizations are financial information systems (FIS), which are by nature a group of electronic systems based on the Internet. It is the cornerstone in organizing, analyzing, and managing financial information for an organization and presenting it to decision-makers with accuracy and high quality within the required time (Force et al., 2017).

The role of financial information systems in the positive impact on organizations and their internal operations at all levels has been addressed and proved by many previous studies. Djanegara et al. (2018) find that the reliance on information systems has a positive impact on financial and non-financial decision-making and decision-making processes. In the same vein, Muhunyo and Jagongo (2018) point to the information system's positive impact on the financial performance of an organization and the structure of its management and methods to solve up-and-coming problems. Also, Yang-Ngam et al. (2019) show the importance of information systems in managing risks and predicting future problems and risks to prepare the decision-making departments about the mechanism of dealing and avoiding them in the future.

In light of the above-mentioned introduction and on the basis that financial information system (FIS) is one of the most prevalent information systems among organizations, this research paper aspires to reveal the impact of FIS on the competitive advantage of an organization listed on the Amman Stock Exchange. To achieve this objective, the dimensions of competitive advantage, i.e. service efficiency, cost flexibility, learning organization, and service variety, based on the studies by Mulyono et al. (2019) and Ja'afar (2016), have been appropriately adopted.

1. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

This section gives insight into related previous studies and literature, alongside the development of the study's hypotheses.

1.1. Financial information system (FIS)

The principle of financial information systems focuses on managing, organizing, and analyzing the financial data of an organization and converting it into information. Once this information is furnished to investment and administrative decision-making centers, the appropriate decision is taken at the right time (Al-Sufy, 2019).

As defined by El-Sharif (2019), financial information systems are technical systems designed with information technology and concerned with supporting, monitoring, analyzing, maintaining, and providing information and facts about the financial activities of an organization. Financial information systems, however, are viewed as an automated technical operation of the financial inputs

of an organization technically processed by reference to the technological elements in connection with the inputs of employees and the controls and available data (Bello, 2019).

In the same context, Santos et al. (2018) define financial information systems as a sub-system within an organization, consisting of human and technological resources, and these resources are combined to achieve an interaction that includes the operation, control, and management of financial operations within the organization in all its forms. Besides, it is defined as technical databases based on integrated input data exclusively related to the financial position of the organization, as its output information helps to take effective and efficient decisions (Rainer et al., 2020; Chahadah et al., 2018).

1.2. Competitive advantage

As long as organizations are required to meet the current and future needs of customers, they need to strive to obtain a competitive advantage that distinguishes them through the development of their physical and virtual resources (Yasa et al., 2020). According to Distanont and Khongmalai

(2020), competitive advantage is defined as relying on information and using it to expand the market influence of an organization by referring to the employment of resources to achieve a competitive advantage, consisting of hardware, software, staff, facilities, data, and information.

In other clarifications given by Cenamor (2021) and Hagiu and Wright (2020), competitive advantage is considered a process to access more effective and efficient marketing, production, and administrative methods in the organization than those used by competitors, i.e. achieving creativity in the internal and external operations of an organization. As for Dagnino et al. (2021), competitive advantage is the situation in which the organization provides a higher value to clients or customers than that value provided by the rest of the competitors, either through lower prices or higher benefits. Moreover, Wagner and Hollenbeck (2020) define competitive advantage as adopting strategies that create higher value for the product or service provided to consumers, on the condition that competitors cannot access, identify, or apply those strategies.

1.3. Competitive advantage relationship to FIS

Among the conditions for competitive advantage to be effective and productive is continuity and sustainability, as it cannot be a target for an organization in a particular year and not a target in another year (Nkundabanyanga et al., 2017). Furthermore, the achievement of the competitive advantage shall be attainable place in the long term and not in the short term. However, Ashta (2015) indicates that the competitive advantage is characterized by being relative, so there shall be a comparison between varying periods, and this is what financial information systems can achieve from the ability to provide information and data and compare it to different periods to give an impression of the financial and competitive position of an organization. Likewise, Astuti and Rahayu (2018) emphasize that the competitive advantage shall be flexible through the possibility of replacing competitive plans and strategies based on data commonly provided by FIS, since this information is typically flexible, accurate, and varied.

According to Ja'afar and Ali (2019), information systems are among the most sought and used systems within an organization, as they facilitate a clear and well-built information environment for decision-makers, enabling them to take the right decision at the right time. This, according to the authors, helps in developing the organizational competitive advantage through focusing on more than one side of the organization, including risks, finances, services, learning skills, and efficiency levels. In other words, the authors reveal that depending on information systems is not only a process used to tackle financial information and numerical data, but also help in presenting all the needed information for the organization, empowering it to adopt competitive priorities and elevate the level of its competitive advantage.

Almazán et al. (2017) emphasize that information systems are one of the most important and main areas in the organization of business and access to the desired goals of the organizational strategies adopted by the organization. To achieve this objective, a study consisting of 133 organizations in one of the states of the United Mexican States has been conducted. The study proves that the organizations adopting information systems, regardless of their goal, can strongly improve the quality of services and products provided and raise the level of their organizational results and thus achieving a higher competitive advantage than others competing organizations.

In the same area, Lipaj and Davidavičienė (2013) point out that in light of the fierce competition in today's markets, along with the uncontrolled technological developments, organizations always seek to adopt the latest technological developments to manage their business and achieve their set goals. These technological efforts by organizations have the first and last goal of gaining a competitive advantage and developing their economic indicators of productivity, efficiency, and performance. On this subject, organizations continuously consider adopting information systems in all their financial and non-financial processes to improve their internal operations and financial performance. In their study, it is concluded that the adoption of information systems in all their forms can improve the overall performance of the organization. Logically, improving the level of organizational performance

will lead an organization to organizational excellence and thus a higher market competitive advantage (Albuhisi & Abdallah, 2018; Hawari, 2016).

Azhar Susanto (2019) argue that competitive advantage can be initially achieved through managing material resources of an organization, as the virtual resources of information systems are capable of achieving competitive advantage at the same time, since information systems can obtain advantages that are tactical, operational, and strategic in nature. Thus, the organization can achieve efficiency in work, a shortcut to bureaucracy reducing costs, and provide up-to-date and accurate information and data that help in the decision-making process. These benefits obtained from information systems can make the organization more competitive and expand its market share by relying on data and information that can provide quick response and decision-making.

Besides, Al-Shbiel and Al-Olimat (2016) identify the impact of information technology and information systems on the competitive advantage in Jordanian commercial banks in connection with the mediating role of accounting information systems. To achieve this aim, five questionnaires are designed to distribute to each bank of 13 Jordanian commercial banks listed on the Amman Stock Exchange. The study sample consists of financial managers, managers' deputies, internal audit managers, information systems managers, and heads of departments. It is proved that IT, along with systems, in particular accounting information systems, have a positive effect on the competitive advantage of commercial banks in Jordan, affecting the quality and level of banking services provided. In light of the previous literature review, the following main and sub hypotheses are developed:

1.3.1. Main hypothesis

H: There is a statistically significant influence of FIS on competitive advantage on the Amman Stock Exchange.

1.3.2. Sub-hypotheses

H1: There is a statistically significant influence of FIS on service efficiency on the Amman Stock Exchange.

- H2: There is a statistically significant influence of FIS on cost flexibility on the Amman Stock Exchange.
- H3: There is a statistically significant influence of FIS on learning organization on the Amman Stock Exchange.
- H4: There is a statistically significant influence of FIS on service variety on the Amman Stock Exchange.

2. METHODOLOGY

With the COVID-19 hit on the entire world, and the inability to have and secure face-to-face meetings due to quarantine and lockdowns, there is no option but to adopt the quantitative approach even though the qualitative approach is more suitable for informative purposes. Based on that, a questionnaire is designed depending on previous studies (Alikhani et al., 2013; Mulyono et al., 2019; Ja'afar & Ali, 2016; Almazán et al., 2017; AlShbiel & Al-Olimat, 2016). The questionnaire is constructed based on a 5-Point Likert Scale, i.e. (1) Strongly disagree, (2) Disagree, (3) Neither agree nor disagree, (4) Agree, and (5) Strongly agree.

In detail, the questionnaire consists of two main parts. The first part takes into account demographics of the study sample, namely, gender, age, qualification, experience, while the second presents statements related to variables of the study of FIS and competitive advantage, namely, service efficiency, cost flexibility, learning organization, and service variety.

The study population consists of financial managers, managers' deputies, internal audit managers, information systems managers, and heads of departments in 66 brokerage firms listed on the Amman Stock Exchange. Due to COVID-19 health precautions, the questionnaire has been uploaded online through Google Forms for five weeks. A convenient sample of 132 firms responded to the questionnaire. After the due time, an excel sheet with responses is reviewed, and 97 properly filled questionnaires are suitably retrieved, indicating that a response rate of 73.4% is statistically accepted.

Due to the nature of the study, SPSS V. 23.0 is adopted to screen and analyze the gathered data. Cronbach's Alpha is also employed to test the reliability of the study instrument, where the Alpha of 0.952 is accepted because it is above 0.60, which means the scale is reliable. The following statistical tests are also used:

- Descriptive statistics: Mean standard deviation, frequency, and percentages.
- Linear regression is used to test the hypotheses, whether accept or reject them according to responses presented by sample participants.

3. RESULTS

3.1. Demographic results

Table 1 shows the results of sample demographics according to their responses. The table shows that the majority of the sample is made up by males

(77.3%), whose age ranges from 37 to 42 years, which is 36.1% of the total study sample. Besides, the descriptive analysis indicates that the majority of the study sample holds Ph.D. degrees with an experience of +11 years, which is 52.6% and 42.3% of the study sample, respectively.

3.2. Questionnaire and analysis of variables

Table 2 shows the mean and standard deviation of the study sample's answers to questionnaire statements based on a 5-Point Likert Scale. The table shows that the study sample's participants have positive attitudes towards statements as all of them manage to score higher than the mean of scale 3.00. The highest mean scored by "FIS can help in the decision-making process whether to sell or buy" 4.31/5.00 compared to the least mean, which is also positive, scored by "Through FIS information, strategies for competitive advantage can be better employed" 3.72/5.00.

Table 1. Study sample statistics

	F	%
Gender	·	
Male	75	77.3
Female	22	22.7
Age		
	6	6.2
32-36	25	25.8
37-42	35	36.1
+43	31	32.0
Qualification		
BA	9	9.3
MA	37	38.1
PhD	51	52.6
Total	97	100.0
Experience		
2-4	5	5.2
5-7	13	13.4
8-10	38	39.2
+11	41	42.3
Total	97	100.0

Table 2. Questionnaire descriptive statistics

Descriptive Statistics											
Phase	N	Min	Max	Mean	Std. Deviation						
Financial Information Syst	ems										
FIS supports strategies of competitive advantage	97	1	5	3.82	1.051						
Processes of FIS can draw the path for better competitive advantage	97	1	5	3.96	1.030						
Through FIS, information, strategies for competitive advantage can be better employed	97	1	5	3.72	1.087						

Table 2 (cont.). Questionnaire descriptive statistics

Descriptive Statistics					
Phase	N	Min	Max	Mean	Std. Deviation
The FIS process can develop a competitive advantage	97	1	5	4.02	1.031
With the help of FIS, there is an approach for a more evolved competitive advantage	97	1	5	3.82	1.041
Competitive Advantage			•		
Service efficiency					
Services can be easily altered and modified based on FIS results	97	2	5	4.23	.797
FIS can give precise info regarding the level of service	97	1	5	3.99	.984
The efficiency of services can be numerically graded	97	3	5	4.19	.741
Service efficiency in financial markets is always monitored through finances	97	1	5	4.16	.886
FIS can support financial results related to services	97	3	5	4.03	.742
Cost Flexibility					
FIS can always give indications about price fluctuations in the market	97	3	5	4.30	.695
The (FIS) programs can compare and contrast prices and costs	97	3	5	4.30	.724
With the dependency on FIS, there is an approach to read through costs at different times	97	3	5	4.18	.677
FIS can help in the decision-making process whether to sell or buy	97	2	5	4.31	.782
FIS applications can give means and averages of prices and costs in a flexible way	97	2	5	3.85	.983
Learning Organization					
With results always on time, FIS aids learning skills among marketers	97	2	5	4.25	.830
FIS aids the process of learning from previous incidents	97	2	5	4.00	.968
Depending on FIS within financial markets can predict possible future risks	97	2	5	3.89	1.019
Predicting possible risks through FIS can help in learning how to avoid them	97	2	5	3.96	.815
All FIS financial indications can support a learning organization	97	2	5	4.26	.711
Service Variety					
FIS results can help in focusing on the most wanted service	97	2	5	3.89	.762
FIS can compare and contrast the most profitable services.	97	2	5	4.09	.843
Services can vary but FIS results can indicate which one of them is more needed	97	2	5	4.21	.816
Through the FIS indication, an organization can decide when to pull out a service and when to add one	97	1	5	3.97	1.084
Services analyzed financially through FIS can appear in the scientific and logical approach	97	1	5	4.02	1.041

Table 3. Descriptive statistics of variables

Variables	Mean	Std. Deviation
(FIS)	3.8701	.88367
CA	4.1026	.61004
Efficiency	4.1196	.69322
Flexibility	4.1856	.62199
Learning	4.0701	.73317
Variety	4.0351	.67885

The same process of mean and standard deviation is adopted to study variables. Table 3 indicates that all variables are influenced by FIS, as all have scored higher than the mean scale. The highest mean is for the variable (flexibility), scoring 4.18/5.00 compared to the least mean for the benefit of FIS 3.87/5.00.

3.3. Hypotheses testing

3.3.1. Main hypothesis

H: There is a statistically significant influence of FIS on competitive advantage on the Amman Stock Exchange.

Besides, linear regression is used to test the hypothesis. It is found that the hypothesis is accepted because the F value is significant, and the R-value reflects a positive and medium relationship. That indicates a statistically significant influence of FIS on competitive advantage on the Amman Stock Exchange.

3.3.2. Sub-hypotheses

H1: There is a statistically significant influence of FIS on service efficiency on the Amman Stock Exchange.

Likewise, linear regression is used to test the hypothesis. It is found that the hypothesis is accepted

Table 4 Main hypothesis testing

		M	odel Summary							
Model	R	R Square	R Square Adjusted R Square			R Square Adjusted R Square Std. Err		Std. Error of	l. Error of the Estimat	
1	.596a	.355		.348		244				
	,		ANOVA							
M	odel	Sum of Squares	df	Mean Square	F	Sig.				
	Regression	12.690	1	12.690	52.329	.000b				
1	Residual	23.037	95	.242						
	Total	35.727	96							
	,		Coefficients	,	'					
Model		Unstandardized	Coefficients	Standardized Coefficients	t	Sig.				
		В	Std. Error	Beta		_				
1	(Constant)	2.510	.226		11.121	.000				
1	(FIS)	.411	.057	.596	7.234	.000				

Table 5. Testing the 1st hypothesis

		IV	lodel Summary				
Model	R	R Square	Adjusted R Square		Std. Error of	the Estimate	
1	.622a	.387		381	.54557		
	·		ANOVA	•			
Мо	odel	Sum of Squares	df	Mean Square	F	Sig.	
	Regression	17.857	1	17.857	59.993	.000b	
1	Residual	28.276	95	.298			
	Total	46.133	96				
			Coefficients				
Unstandardize Model		Unstandardized	dized Coefficients Standa		t	Sig.	
		В	Std. Error	Beta			
1	(Constant)	2.231	.250		8.920	.000	
1	(FIS)	.488	.063	.622	7.746	.000	

Table 6. Testing the 2nd hypothesis

		M	odel Summary						
Model	R	R Square	R Square Adjusted R Square Std. Er			R Square Adjusted R Square Std. Error o		Std. Error of	the Estimate
1	.279a	.078	.1	068	.600	051			
	,		ANOVA	,	,				
Mo	odel	Sum of Squares	df	Mean Square	F	Sig.			
	Regression	2.882	1	2.882	7.992	.006b			
1	Residual	34.258	95	.361					
	Total	37.140	96						
	,		Coefficients	,	,				
Mo	Unstandardized Co		Coefficients	Standardized Coefficients	t	Sig.			
		В	Std. Error	Beta					
1	(Constant)	3.427	.275		12.449	.000			
1	(FIS)	.196	.069	.279	2.827	.006			

because the F value is significant, and the R-value H2: reflects a positive and high relationship. That shows a statistically significant influence of FIS on service efficiency on the Amman Stock Exchange.

There is a statistically significant influence of FIS on cost flexibility on the Amman Stock Exchange

Table 7. Testing the 3rd hypothesis

			Mo	del Summary			
M	lodel	R R Square		Adjuste	Adjusted R Square		the Estimate
	1	.686a	.471		465	.53	607
				ANOVA			
M	lodel	Sum of	Squares	df	Mean Square	F	Sig.
	Regression	24	.303	1	24.303	84.573	.000b
1	Residual	27	.300	95	.287		
	Total	51	.603	96			
			C	oefficients			
Model Unstandar		Unstandardized Coefficie		oefficients	Standardized Coefficients	t	Sig.
			В	Std. Error	Beta		
1	(Constant)	1.	867	.246		7.596	.000
Τ	(FIS)		569	.062	.686	9.196	.000

Table 8. Testing the 4th hypothesis

		M	odel Summary			
Model	R	R Square A		Adjusted R Square	Std. Error of the Estim	
1	.511a	.261		.253	.58	678
	,		ANOVA			
Мо	del	Sum of Squares	df	Mean Square	F	Sig.
	Regression	11.532	1	11.532	33.493	.000b
1	Residual	32.709	95	.344		
	Total	44.241	96			
	,		Coefficients			
Model		Unstandardized Coefficie		Standardized Coefficients	t	Sig.
		В	Std. Error	Beta		
1	(Constant)	2.517	.269		9.359	.000
1	(FIS)	.392	.068	.511	5.787	.000

Moreover, linear regression is used to test the hypothesis. It is found that the hypothesis is accepted because the F value is significant, and the R-value reflects a positive and weak relationship. That shows a statistically significant influence of FIS on cost flexibility on the Amman Stock Exchange.

H3: There is a statistically significant influence of FIS on learning organization on the Amman Stock Exchange.

Linear regression is also used to test the hypothesis. It is found that the hypothesis is accepted because the F value is significant, and the R-value reflects a positive and high relationship. That shows a statistically significant influence of FIS on learning organizations on the Amman Stock Exchange.

H4: There is a statistically significant influence of FIS on the service variety on the Amman Stock Exchange.

Again, linear regression is used to test the hypothesis. It is found that the hypothesis is accepted because the F value is significant, and the R-value reflects a positive and medium relationship. That shows a statistically significant influence of FIS on service variety on the Amman Stock Exchange.

4. DISCUSSION

This study aspires to measure the influence of financial information systems (FIS) on competitive advantage. Variables of competitive advantage are selected from Mulyono et al. (2019) and Ja'afar (2016). A sample of 97 financial managers, managers' dep-

uties, internal audit managers, information systems managers, and heads of departments within 66 organizations listed on the Amman Stock Exchange are selected to represent the study population. SPSS V. 23.0 is also used to tackle the primary data, and the results of the study show the following findings.

The main hypothesis is accepted with an influence of FIS on the competitive advantage of an organization with a medium and positive relationship. Service efficiency and learning organization have scored a high and positive relationship to FIS, meaning that they are influenced by FIS outcomes, which have led to better competitive advantage. Service variety as a variable is also influenced by FIS outcomes and has led an organization to better competitive advantage with a medium and positive relationship. Cost flexibility is the only variable that has scored a weak and positive relationship with FIS. Thus, the study proves that information is a revolution in itself, and no organization can live without this revolution, especially after the information is linked to modern technology.

Processing information through financial information systems can change the way business is done, and this is what managers responding to the current study's survey have realized. The results of the study also prove that the idea of introducing technology to an organization plays a key role in increasing the level of existing competitive advantage, and this is proved through the results of the study and is at one with the studies by Ja'afar and Ali (2019) and Almazán et al. (2017). Accordingly, information systems in all their forms and specific financial information systems contribute to raising the level of competitive advantage of organizations through their ability to convert financial data into digital information. This information, in its full sense, constitutes signals about weaknesses and strengths in an organization. It can refer

to a decrease in the performance of a department compared to another or the difference in profitability from one year to another. This result can be referred to as a decrease or increase in costs, expenses, or financial obligations of an organization. This result is also in agreement with Lipaj and Davidavičienė (2013) arguing that many hints can be read through FIS reports that can indicate the current status of an organization. However, Financial information systems can give flexibility to the costs in an organization and control expenses and financial obligations through the supply of accurate and reliable financial reports at the time when they are requested.

The flexibility offered by FIS has greatly contributed to increasing the competitive advantage of organizations through the high level of reliance on technological and creative development in the technological field. This flexibility has transformed the quality and cost dimensions into traditional dimensions as organizations can find many solutions to the high cost and low quality by relying on numerical FIS outputs, creating standard deviations and numerical tendencies for the organization's financial environment.

Importantly, this is consistent with Azhar Susanto (2019) and Al-Shbiel and Al-Olimat (2016) as they indicate that FIS increases an organization's ability to keep pace with developments in technology, based firstly on competitors' developments and secondly on customer preferences. Thus, an organization can strongly respond to various variables in the competitive environment in terms of the production volume from increase or decrease and monitor profits based on demand levels. The possibility of utilizing digital currencies to increase the ability to work in an unstable business environment also agrees with results obtained by Astuti and Rahayu (2018).

CONCLUSION

In a nutshell, the study aims to examine the effect of financial information systems (FIS) on the competitive advantage in Jordan. Today, however, technology in all its forms is the main driver of organizations' work, as organizations adopting various technologies in their internal and external operations become strong players in the market and quickly and easily achieve their goals through the adoption of information systems that reduce financial costs and frequency of errors and thus enable the organization to perform its work more accurately and quickly than in the past.

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Importantly, whatever the names of information systems differ, whether they are financial information systems, accounting information systems, management information systems, decision support systems, or even expert systems, they already exist to realize organizational goals, since their tasks overlap in all internal processes in an organization and affect and are affected. Accordingly, it can be said that the final result of this study is that the isolation of an organization from modern technology and its refusal to adopt advanced and technical information systems prevents and hinders it from achieving superiority over competitors or targeting customers about whom it knows nothing.

More importantly, however, since every rule has an exception, some obstacles have to do with global economic policies, such as the alliance between major organizations so that no other organizations can surpass them, or the emergence of rules that help global organizations and hinder local organizations.

AUTHOR CONTRIBUTIONS

Conceptualization: Mahmoud Nour.

Formal analysis: Mohammed Hassan Makhlouf.

Methodology: Fares Alsufy. Resources: Fares Alsufy. Supervision: Mahmoud Nour.

Writing – original draft: Mahmoud Nour, Fares Alsufy, Mohammed Hassan Makhlouf. Writing – review & editing: Mahmoud Nour, Fares Alsufy, Mohammed Hassan Makhlouf.

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