

Investigating Organizational Intelligence, Organizational Identification, and Perceived Organizational Support Within the Healthcare Sector in KSA during Covid- 19 Pandemic

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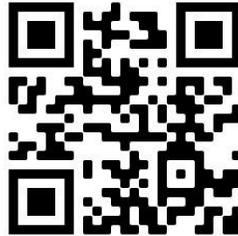
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Investigating Organizational Intelligence, Organizational Identification, and Perceived Organizational Support Within the Healthcare Sector in KSA during Covid-19 Pandemic

Mohammed Farag Ali Alaqla

Abstract:

The human factor is a crucial pillar in the success of organizations, and it is a key asset for the organization, without which the desired goals cannot be achieved. The study investigated the perception of employees of the health sector in Saudi Arabia regarding organizational intelligence, organizational identification and perceived organizational support. Organizational intelligence is one of the best methods for establishing a smart organization. In addition, organizational identification is significant in enhancing the performance of the organization. When employees are happy and committed with the organization, they contribute to achieving organizational goals. In coming to these insights, the analytical research approach was used to analyze, interpret data and testing the hypotheses. It was found that there is a high level of organizational intelligence and organizational identification among employees in several health institutions in Saudi Arabia. Moreover, organizational identification is significantly linked to perceived organizational support, which has a considerable impact on human performance. Furthermore, the results revealed that the respondents identified themselves with their institution by reshaping their values and goals to align with those of the institution and they have a positive relationship with their institution.

Keywords: Organizational identification; Organizational Intelligence; Perceived organizational support; Health Sector

Introduction:

The human factor is an important resource for an organization. It must be regarded as one of the key asset for the organization, without which the desired goals cannot be achieved. In other words, skilled and trained human resources are the cornerstone of the administrative process. The success of countries in achieving their goals and aspirations is linked to the ability of their institutions to effectively accomplish the assigned tasks. It is also linked to the ability of these institutions to explore vital human performance factors in terms of efficiency and productivity, which are reflected in the overall effectiveness of the organization (Al Shobaki, 2018, Singh, & Singh, 2010). The interest in establishing smart organizations is a relatively recent trend in the field of business administration, in particular, during the current pandemic of covid-19. In facing the current environment due to the effect of the pandemic, many businesses and government bodies, regardless of their sizes and sectors are looking for the best strategies, methods and practices to sustain and maintain the performance of the organizations. For the healthcare sector, as the frontliners, those who directly engaged with the patients of covid-19 to combat the pandemic, the body needs to be performing at the high level, smart and proficient.

The Government of KSA demonstrated commendable efforts to contain the spread of COVID-19 through a range of timely and well-developed measures to mitigate the impact. The government invested more than 7% of GDP to alleviate the impact of COVID-19 on the economy, the labour market, and individuals. Despite the good efforts of the Government, however, the scale of the COVID-19 pandemic is generating socio-economic disruptions in the country and beyond, affecting every sector of the economy and every aspect of life, with some groups such as temporary contractual workers in KSA being particularly affected, and the effects of lower remittances affecting their home countries considerably as well.

During the pandemic, there are positive as well as negative signs among the frontliners. Whilst the healthcare personnel have shown their efforts to combat the pandemic, they are actually exposing themselves to the virus. The available supports are so important for these healthcare workers to perform their duties. Some of them were

reported to experience distress while providing care and treatment to the suspected and confirmed cases. Fear and stress disorder are expected and the healthcare organizations are expected to offer and provide some sort of assurance and security to the healthcare workers to continue performing their jobs (Jianbo et al.2019).

The issue triggered here is the possible changes regarding the effect of the main factors contributing to the performance of the organization, of the research interest in the health sector. Three dimensions of (i) organizational intelligent, (ii) organizational identification and (iii) perceived organizational support were re-examined to identify the possible changes to the performance of the organization in this sector. Organizational intelligence as claimed as one of the best methods, which leads to the establishment of smart organizations (Al Shobaki et al., 2018) is being hypothesized, tested and proven to hold the significant relation during various environment condition, but never being tested during prolong severe economic and social turbulence condition, due to the covid-19 pandemic.

Problem Statement:

The healthcare sector is a critical component of public service in Saudi Arabia, and the country faced significant challenges due to the COVID-19 pandemic that hit the world in 2020. Healthcare institutions in the kingdom faced several challenges during this period, including the psychological pressures that healthcare workers experienced.

Several studies have examined the relationship between organizational intelligence, organizational identification, and perceived organizational support and their impact on employee well-being and performance in various sectors. For instance, Al-Jeraisy and colleagues (2019) found that organizational intelligence had a positive effect on employee satisfaction and organizational commitment in the healthcare sector in Saudi Arabia. Similarly, Elsayed and colleagues (2018) found that organizational identification had a significant positive effect on nurse retention in Egypt. Moreover, Eisenberger and colleagues (1990) found that perceived organizational support had a positive effect on employee diligence, commitment, and innovation in the United States.

However, there is limited research on the impact of

organizational intelligence, organizational identification, and perceived organizational support on employee well-being and performance in the healthcare sector in Saudi Arabia during the COVID-19 pandemic. Therefore, this study aims to fill this gap by investigating the current level of these factors among healthcare workers in selected healthcare institutions in Saudi Arabia and identifying best practices for promoting them during and after the pandemic.

Research questions:

To achieve this objective, the study addresses the following research questions:

1. What is the current level of organizational intelligence among employees in selected healthcare institutions in Saudi Arabia during the COVID-19 pandemic?
2. What is the current level of organizational identification among employees in selected healthcare institutions in Saudi Arabia during the COVID-19 pandemic?
3. What is the level of perceived organizational support among employees in selected healthcare institutions in Saudi Arabia during the COVID-19 pandemic?

The hypothesis of the study:

Hypothesis 1: The level of organizational intelligence in the selected health institutions in KSA is high, given the importance of establishing a smart organization to achieve desired goals.

Hypothesis 2: The level of organizational identification in the selected health institutions is high, as employees who are happy and committed to their organization contribute to achieving organizational goals.

Hypothesis 3: There is a significant positive relationship between organizational identification and perceived organizational support, as employees who identify strongly with their organization are likely to perceive greater support from it.

Hypothesis 4: The level of perceived organizational support in the selected health institutions is high, especially during the Covid-19 pandemic, given the crucial role that healthcare workers have played in responding to the

crisis.

Aims of the Study:

The aim of the current study was to investigate and analyze the perception of employees in the healthcare sector in Saudi Arabia regarding organizational intelligence, organizational identification, and perceived organizational support. Specifically, the study aimed to determine the current level of these factors among healthcare workers during the COVID-19 pandemic and identify the best practices for promoting them among employees in the healthcare sector. The study also aimed to explore the relationship between organizational identification and perceived organizational support and their impact on human performance. Ultimately, the study aimed to provide insights into enhancing employee well-being and performance in the healthcare sector in Saudi Arabia during and after the COVID-19 pandemic.

Importance of the Study:

The study on investigating organizational intelligence, organizational identification, and perceived organizational support in the healthcare sector in Saudi Arabia during the COVID-19 pandemic is important for several reasons:

Firstly, the study sheds light on the current level of organizational intelligence, organizational identification, and perceived organizational support among healthcare workers in Saudi Arabia. This information can help healthcare institutions in the country to identify the areas that require improvement and to develop strategies to promote these factors among employees. By doing so, hospitals and other healthcare institutions can enhance employee well-being and performance, leading to better patient outcomes.

Secondly, the study provides insight into the impact of the COVID-19 pandemic on the healthcare sector in Saudi Arabia. The pandemic has brought significant challenges to healthcare workers around the world, including increased workload, psychological stress, and exposure to the virus. Therefore, understanding the impact of the pandemic on healthcare workers' perception of their organizations can help policymakers and healthcare institutions in Saudi Arabia to develop effective interventions to support their workforce.

Thirdly, the study explores the relationship between organizational identification, perceived organizational support, and their impact on human performance. By understanding how these factors are related, policy-makers and healthcare leaders can develop effective strategies to promote them among employees, leading to improved job satisfaction, employee engagement, and productivity.

Finally, this study contributes to the body of knowledge on organizational behaviour and psychology in the healthcare sector. It provides valuable insights for future research, which can further enhance our understanding of how organizational intelligence, organizational identification, and perceived organizational support impact employee well-being and performance in the healthcare sector.

Terms of the study:

- **Organizational intelligence:** This refers to the ability of an organization to gather and analyze information from both internal and external sources to make informed decisions (Al-Awadhi & Al-Saddique, 2018).
- **Organizational identification:** This refers to the extent to which employees identify themselves with their organizations, including their values, goals, and mission (Ashforth & Mael, 1989).
- **Perceived organizational support:** This refers to the degree to which employees believe that their organization values their contributions and cares about their well-being (Eisenberger et al., 1986).

Theoretical background:

Organizational intelligence, organizational identification, and perceived organizational support are important factors that can influence employee well-being and performance in the healthcare sector. Organizational intelligence is crucial for establishing a smart organization that can gather and analyze information from both internal and external sources to make informed decisions (Al-Awadhi & Al-Saddique, 2018). Organizational identification is significant in relationship between organizational identification and perceived organizational support. According to SIT, individuals categorize

themselves enhancing employee engagement and job satisfaction by promoting a sense of belongingness among employees (Ashforth & Mael, 1989). Perceived organizational support is essential for promoting employee well-being and reducing turnover intentions by demonstrating that the organization values its employees (Eisenberger et al., 1986).

Social identity theory (SIT) provides a useful framework for understanding the and others into social groups based on shared characteristics such as values, beliefs, and goals (Tajfel & Turner, 1979). Employees who identify strongly with their organizations are more likely to perceive that the organization values their contributions and cares about their well-being. This perception of support, in turn, leads to increased job satisfaction, commitment, and retention (Eisenberger et al., 1990).

Another relevant theory for this study is the conservation of resources (COR) theory, which suggests that individuals strive to acquire and protect valuable resources such as time, energy, and money to reduce stress and increase well-being (Hobfoll, 1989). The COR theory can help explain why organizational intelligence, organizational identification, and perceived organizational support are essential for promoting employee well-being and performance. When employees perceive that their organizations value their contributions and care about their well-being, they feel less stressed and are more likely to invest their time and energy into their work, leading to higher levels of performance (Halbesleben & Buckley, 2004).

Furthermore, the COVID-19 pandemic has brought additional challenges to the healthcare sector and its employees. The pandemic has caused unprecedented levels of stress, burnout, and physical illness among healthcare workers, causing decreased job satisfaction and increased turnover intentions (Liu et al., 2020). Therefore, it is necessary to investigate how organizational intelligence, organizational identification, and perceived organizational support can help promote employee well-being and performance during the COVID-19 pandemic.

Finally, this study can contribute to the existing literature on

organizational behavior, particularly in the healthcare sector, by examining the impact of organizational intelligence, organizational identification, and perceived organizational support on employee well-being and performance during the COVID-19 pandemic. By providing insights into the current levels of these factors among healthcare workers in Saudi Arabia, as well as identifying best practices for promoting them, this study can inform policymakers and healthcare institutions in the country on how to support their workforce during and after a public health crisis.

Organization Performance and Employees Commitment:

Organization performance and employee commitment go hand-by-hand in creating the conducive environment for the organization and employees. Both organization and employees have to play their roles in reaching the desired situation and creating favourable working environment, whilst creating a good image for both. Whilst the three construct of organization intelligent, organization identification and perceived organization support are being modelled to impacting the organization performance, the views from the employees are investigated in the study, especially in the new environment, during covid-19 pandemic.

Previous studies have highlighted the importance of the studied constructs to the performance of the companies. For example, Al Shobaki et al. (2018) have examined and revealed how important is organizational intelligent to improve the performance of companies in dealing with strategic issues in light of rapid changes and high levels of uncertainty in the business world. In fact, Pauker et al. (2000) have long revealed that organizational intelligence provides multiple options for decision-makers regarding the organization's strategy in the long term. Al-Abadi (2012) proposes that organizations cannot survive and succeed unless they are smart, and that the survival and success of organizations require the adoption of organizational structures and methods of operations from an intelligent perspective. From the employees' side, their participation is crucial. Such condition requires employees to possess aptitudes and business intelligence to lead the competitive battle, which, nowadays, highly depends on the intelligence of the organization.

The second construct being reviewed here is regarding the organization identification. There is only a few of recent articles relate to the organization identification found. The main one being referred in the study is by Riketta (2015). In Saudi Arabia, Rashid (2003) investigated organizational identity and organizational identification and discussed their dimensions alongside the relationship between these two concepts. A comparison was made between the organizational identification of 400 faculty members with their academic departments and their organizational identification with the entire King Saud University. The investigated dimensions were organizational loyalty, identification, and engagement. It was revealed that identification with group work and organization is at a high level in Saudi Arabia, where the longer employees' service period at the organization is, the higher the level of their organizational identification, which points to the relationship between organization identification and employees' commitment.

The third construct being reviewed is the perceived organizational support, which is crucial as it is modelled to have great impact on employees, which in turn determine their commitment and also explain about the commitment of the organizations. Employees' organizational commitment is manifested in the form of maintaining the requirements of the organization and helping it achieve its goals. Also, employees' commitment mediated the relationship between perceived organizational support, organizational volunteering, and job performance, which lead to enhancing employees' participation and achieving the desired performance (Eisenberger & Stinglhamber, 2011, Eisenberger et al., 2001 and Eisenberger et al., 2002).

Public Health Informatics Tools:

In August 2019, the Sehhaty ("My Health") app was launched in the pursuit of a wide range of health promotional campaigns that target healthy lifestyles, using gamification and community-wide challenges [25]. However, both apps were updated to respond to the COVID-19 pandemic by introducing a symptom checker to enable people who suspect they have COVID-19 to directly book appointments at dedicated COVID-19 clinics [26] and drive-through mass testing locations around the Kingdom [27].

For COVID-19 surveillance, the Health Electronic Surveillance Network (HESN) has been mainly used as a reliable source of data for all COVID-19 laboratory tests in the Kingdom. The HESN serves as a national communicable disease surveillance platform. It was launched in 2012 and piloted during the largest public health event in Saudi Arabia: the annual pilgrimage season, or the Hajj [28]. Moreover, the Patient Tracing Unit (Taqasi) platform was implemented in March 2020 for the COVID-19 pandemic. Its purpose is to enhance and manage contact tracing around the Kingdom based on the laboratory results generated from the HESN.

Locally published preventative and clinical guidelines give directions for home isolation with documented daily follow-ups and for tracking symptoms for mild cases and contacts. To provide these functions, the National Health Emergency Operation Centre launched a smartphone app, Tetamman, which translates as “Rest Assured” [29]. In May 2020, the Ministry of Health announced that the Tetamman app will also be associated with a smart bracelet for individuals returning from abroad as well as those who are isolated in their homes [30].

Organizational Intelligence:

Lefter et al. (2008) offered the definitions of the organizational intelligence that focus on various aspects including;

- The problem of gathering, processing, interpreting, and communicating the technical and political information needed in the decision-making process and understanding organizations as learning systems and creative systems.
- The organization’s ability to deal with complexity, that is, its ability to capture, share, and extract meaning from marketplace signals based on the three directions, connection, for attracting knowledge, interaction, for sharing knowledge, and structuring.
- The intelligent behaviour of the organizations, as a function of their design information processing functions that permit adaptation to environmental demands and are related to innovation initiation and implementation that capacity for computation which can be applied.
- Organizational intelligence is a function of five subsystems: organizational structure, culture, stakeholder relationships, knowledge management, and strategic processes.

According to Al Shobaki (2018), the organizational structures are not always flexible and open to learning. This indicates intelligent people are necessary, but not enough for an organization to become intelligent. The intelligence of the members of the bureaucratic organizations is systematically blocked when stimulating the creativity of their employees is needed (Brătianu, 2006).

Organizational Identification:

Grabara et al., (2019) suggested that the human factor must be considered as a crucial pillar in the success of organizations. Human factor is essential for the organization to cultivate an environment of understanding based on listening to the employees, relating their personal goals to that of the organization, considering their interests and needs, creating a positive atmosphere for work, allowing their participation in developing plans, addressing their complaints, appreciating their suggestions, and enhancing their skills and capabilities (Grabara et al. loyalty and, therefore, they will use their potential towards achieving the goals 2019). De Cremer (2005) suggested that practices like these can enhance employees' of the organization in addition to their personal goals, which will strengthen organizational identification.

Perceived Organizational Support:

It refers to the employees' belief and appreciation that the organization looks after their well-being, and it acknowledges their ideas and contributions, which creates employee commitment and loyalty to the organization. Therefore, employees will be proud of and satisfied with the organization, which will be manifested through practices of loyalty and support towards achieving the organizational goals (Eisenberger & Stinglhamber, 2011, Eisenberger et al., 2001 and Eisenberger et al., 2002). Organizational support involves the extent to which the organization treats employees fairly, help them in solving their problems, and address their complaints. This is acknowledged by employees as perceived support from the organization (El-Maghraby, 2003).

According to the organizational support theory, there is a mutual relationship between the organization and employees, which includes

aspects such as respect and appreciation, money, services, and information. Based on this relationship, perceived organizational support reflects the employee's commitment towards the organization by helping it achieve its goals. Organizational support can also be reflected in the continuous improvement in the performance of the management through solving problems and supporting administrative decisions (Al-Zoghbi & Al-Kreidis, 2012).

Previous studies related to Investigating Organizational Intelligence, Organizational Identification, and Perceived Organizational Support within the Healthcare Sector

There have been several studies conducted in foreign countries related to investigating organizational intelligence, organizational identification, and perceived organizational support within the healthcare sector. These studies aimed to understand the impact of these factors on employee performance and well-being, especially during the Covid-19 pandemic.

One study conducted in Iran by Matin et al. (2021) aimed to investigate the relationship between organizational intelligence, organizational identification, and job satisfaction among healthcare workers during the Covid-19 pandemic. The study found a significant positive correlation between organizational intelligence, organizational identification, and job satisfaction among healthcare workers.

Another study conducted in Turkey by Özdemir et al. (2021) aimed to investigate the effect of perceived organizational support on healthcare employees' psychological well-being during the Covid-19 pandemic. The results showed that perceived organizational support had a significant positive effect on psychological well-being among healthcare employees.

A study conducted in Italy by Alessandri et al. (2021) aimed to investigate the role of organizational identification in predicting behaviors related to health protection among healthcare workers during the Covid-19 pandemic. The study found that organizational identification predicted positive behaviors related to health protection among healthcare workers.

There have been a limited number of studies conducted in Arab countries related to investigating organizational intelligence, organizational identification, and perceived organizational support within the healthcare sector in KSA during the Covid-19 pandemic. However, there are some studies that have examined these factors separately in other industries or contexts.

For example, a study by Alharbi et al. (2021) investigated the impact of organizational intelligence on the performance of Saudi Arabian government employees during the Covid-19 pandemic. The results showed that organizational intelligence was positively correlated with employee performance. Similarly, a study by Alsharari et al. (2020) explored the relationship between organizational identification and job satisfaction among nurses in Saudi Arabia. The study reported a positive correlation between organizational identification and job satisfaction.

Another study by Alenazi et al. (2021) aimed to assess the perceived organizational support and psychological well-being of medical professionals in Saudi Arabia during the Covid-19 pandemic. The results indicated that perceived organizational support had a positive effect on the psychological well-being of medical professionals.

These studies highlight the importance of organizational intelligence, organizational identification, and perceived organizational support in promoting employee well-being and performance, even within the context of the Covid-19 pandemic in KSA. However, more research is needed specifically within the healthcare sector to fully understand the impact of these factors on healthcare workers' well-being and performance.

Moreover, it is important for organizations in KSA and other Arab countries to prioritize these factors to ensure that healthcare workers receive proper support and encouragement to perform their jobs effectively, particularly amidst the challenging circumstances brought about by the Covid-19 pandemic.

On the other hand, several studies have been conducted in Saudi Arabia related to investigating organizational intelligence, organizational identification, and perceived organizational support. However, only a few of these studies specifically focused on these factors within the healthcare sector in KSA during the Covid-19 pandemic.

One study conducted by Alsharari et al. (2021) aimed to explore the relationship between perceived organizational support and job satisfaction among nurses in Saudi Arabia during the pandemic. The findings of the study revealed that perceived organizational support had a positive impact on job satisfaction among nurses in the country.

Method and Procedures:

The study adopts descriptive and analytical research designs, where survey questionnaire was used as the main research instrument. The respondents are doctors, nurses, managers of medical departments, and other healthcare workers at the selected health institutions in Saudi Arabia. Data collection took place in 2020, from January to April focussing on the respondents in the healthcare sector in the Kingdom of Saudi Arabia.

Table 1 illustrates the characteristics and response rate of the respondents. The total response rate is 95.1%, which 89.4% is usable. This is a good rate to yield reliable results.

Table 1: The response rate of the questionnaire

Respondents	Distributed Questionnaires	Returned Questionnaires		Incomplete Questionnaires		Complete Questionnaires	
		No.	%	No.	%	No.	%
Doctors	210	198	94.3	23	11.6	175	88.4
Nurses	152	147	96.7	22	15.0	125	85.0
Managers of Medical Departments	47	45	95.7	0	0	45	100
Employees	38	35	92.1	0	0	35	100
Total	447	425	95.1	45	10.6	380	89.4

SPSS that was used for statistical data analysis that measure the

reliability of variables and testing of hypotheses indicate the steady internal consistency for generalizing the results. The cronbach's alpha is as in table 2. Based on the illustrated results of Cronbach's alpha (ranging between 0.5714 and 0.8142), these are acceptable values and, therefore, the results are assumed good to be generalized

Table 2: Cronbach alpha coefficients values of the variables

Variables of the Study	(Alpha)	Reliability
Organizational Intelligence	0.8142	0.8805
Organizational Identification	0.8017	0.8954
Perceived Organizational Support	0.5714	0.7559

Based on Table 3, the respondents showed positive perceptions and attitudes towards organizational intelligence. The standard deviation of the variables is less than one, which means that there is consistency in the answers about the level of organizational intelligence in the selected Saudi universities.

Table 3: The respondents' perceptions about the organizational intelligence level in the selected Saudi universities

Element or Factor	Doctors			Nurses			Mangers			Employees		
	Arithmetic mean	Standard deviation	Rank									
Prospecting	4.77	0.44	1	4.83	0.48	1	4.79	0.41	1	4.52	0.35	4
Systems Thinking	4.66	0.36	3	4.54	0.34	5	4.82	0.38	3	4.63	0.48	1
Vision	4.81	0.39	2	4.66	0.38	4	4.63	0.34	4	4.89	0.34	5
Motivation	4.31	0.31	5	4.71	0.40	3	4.29	0.31	5	4.17	0.39	2
Partnership	4.52	0.35	4	4.75	0.41	2	4.41	0.4	2	4.77	0.38	3

Table 4 Results of the Kruskal-Wallis test

Variables & Variable Symbol	Estimates				(Ka2) Kruskal Wallis	Significance level	Type of Difference
	Doctors	Nurses	Mangers	Employees			
Prospecting	4.77	4.83	4.79	4.68	7.001	0.027	Insignificant
Systems Thinking	4.66	4.54	4.82	4.79	9.660	0.178	significant ^(*)
Vision	4.81	4.66	4.63	4.31	6.151	0.038	Insignificant
Motivation	4.31	4.71	4.29	4.49	8.519	0.041	Insignificant
Partnership	4.52	4.75	4.41	4.62	8.711	0.261	Insignificant

Table 5 presents the positive attitudes towards organizational support in the selected Saudi health institutions. The respondents positively perceive organizational support in the institution.

Table 5. The respondents' attitudes about the level of organizational identification

Element or Factor	Doctors			Nurses			Mangers			Employees		
	Arithmetic mean	Standard deviation	Rank									
Organizational Loyalty	4.91	0.37	1	4.82	0.39	1	4.63	0.48	2	4.79	0.41	2
Identification	4.80	0.42	2	4.77	0.38	2	4.89	0.34	1	4.82	0.38	1
Engagement	4.44	0.42	4	4.36	0.41	3	4.17	0.39	3	4.32	0.4	3

Table 6 presents the significant differences between the averages of the respondents' perceptions towards organizational intelligence. Although at 5% significant level, all null hypotheses are not rejected, at 8.2%, it can be concluded that the respondents agree that there is a high level of organizational identification in Saudi health institutions.

Table 6. Results of the Kruskal-Wallis Test

Variables & Variable Symbol	Estimates				(Ka2) Kruskal Wallis	Significance level
	Doctors	Nurses	Managers	Employees		
Organizational Loyalty	4.91	4.82	4.63	4.79	9.133	0.082
Identification	4.80	4.77	4.89	4.82	7.317	0.054
Engagement	4.44	4.36	4.17	4.32	8.165	0.067

(*) significant at 10% level of significance

Table 7. The respondents' attitudes about perceived organizational support

Element or Factor	Doctors			Nurses			Mangers			Employees		
	Arithmetic mean	Standard deviation	Rank									
Management	4.09	0.58	3	4.27	0.40	5	4.02	0.46	4	4.13	0.49	4
Work Environment	4.22	0.57	2	4.11	0.52	3	4.31	0.53	1	4.21	0.54	2
Organizational Structure	3.37	0.62	4	3.82	0.67	1	3.87	0.41	5	3.69	0.56	1
Rules & Regulations	3.21	0.60	5	3.16	0.53	2	3.35	0.49	2	3.24	0.51	3
Communications	4.41	0.47	1	4.56	0.46	4	4.51	0.48	3	4.49	0.47	5

Table 8. Results of the Kruskal-Wallis test

Variables & Variable Symbol	Estimates				(Ka2) Kruskal Wallis	Significance level
	Doctors	Nurses	Managers	Employees		
Management	4.09	4.27	4.02	4.13	8.005	0.059
Work Environment	4.22	4.11	4.31	4.21	6.142	0.048
Organizational Structure	3.37	3.82	3.87	3.69	7.192	0.055
Rules & Regulations	3.21	3.16	3.35	3.24	10.121	0.126
Communications	4.41	4.56	4.51	4.49	7.041	0.049

(*) significant at 10% level of significance

Summary of telehealth applications available in Saudi Arabia during the COVID-19 pandemic.

Name	Type	Short description	Provider
Sehha [13]	Smartphone app (iOS/Android)	Tele-consultation (synchronous live video chat, nonsynchronous SMS text messaging).	Ministry of Health
Mawid [14]	Smartphone app (iOS/Android), web-based application	Symptom checker/appointment gateway to all Saudi Ministry of Health Services. Used as the main channel for the virtual COVID-19 screening/triaging by the Saudi Ministry of Health.	
Anat [15]	Smartphone app (iOS/Android)	E-prescription gateway; licensure of all health care professionals is checked with the Saudi Commission for Health Specialties.	Ministry of Health
Wasfaty [16]	Web-based	The official e-prescription gateway provided by the Ministry of Health.	
Asefni [17]	Smartphone app (iOS/Android)	GPS-enabled requests for emergency services nationwide.	Saudi Red Crescent Authority
Cura [18]	Smartphone app (iOS/Android)	Tele-consultations (synchronous live video chat, nonsynchronous SMS text messaging, more specific subspecialties/for-profit).	Private
MayaClinic [19]	Smartphone app (iOS/Android)	Tele-consultations (nonsynchronous text messaging with health care providers).	
Nala [20]	Smartphone app (iOS/Android)	Tele-consultations (artificial intelligence-enabled chatbot provides decision support for the public, acts as an appointment gateway and nonsynchronous messaging with health care providers).	
Labayh [21]	Smartphone app (iOS/Android)	Tele-consultations (mainly provides psychology sessions and mental health services).	
80/20 Lifestyle [22]	Smartphone app (iOS/Android)	Remote patient engagement and lifestyle change recommendations.	
Virtual Medical Academy [23]	Web-based interactive academy	Videoconferencing events targeted to health care professionals.	
SCFHS Webinars [24]	Web-based seminars	Offers support services to health care professionals under their programs (Daem for residents and Emtenan for all health care professionals)	

Results and their interpretations, recommendations and suggestions:

Based on the results presented in the study, it can be interpreted that healthcare workers in selected health institutions in Saudi Arabia have positive perceptions and attitudes towards organizational intelligence, organizational identification, and perceived organizational support. This suggests that these institutions are practicing effective management strategies that focus on building a strong organizational culture and support system. The high response rate of 95.1% also indicates that the study findings are reliable and representative of the healthcare sector in Saudi Arabia.

The study findings also indicate that there is consistency in the responses regarding the level of organizational intelligence and identification among healthcare workers in the selected institutions, which suggests a high level of agreement and understanding of these concepts. Moreover, the statistically insignificant differences between the averages of the respondents' perceptions towards organizational intelligence and identification suggest that the healthcare workers in the selected institutions share similar views about their workplaces' management practices.

Furthermore, the study's findings indicate that healthcare workers in the selected health institutions in Saudi Arabia have positive attitudes towards perceived organizational support, particularly in areas such as communications and work environment. This suggests that the institutions have a supportive working environment that fosters employee engagement, loyalty, and identification, which could lead to improved job satisfaction and productivity.

Overall, the study provides valuable insights into the perceptions and attitudes of healthcare workers towards organizational culture and support in Saudi Arabia. These insights could inform decision-making processes to improve the quality of healthcare services provided in the country and promote a positive work culture that supports employee well-being and professional development.

Recommendations:

Based on the study's results, the recommendations can be made as following:

- Firstly, the implementation of strategies that maintain and improve these aspects could be achieved through regular training and development programs promoting effective management practices and employee engagement.
- Additionally, conducting further research would be beneficial to evaluate the effectiveness of tele-health services in Saudi Arabia during the COVID-19 pandemic. This evaluation could include an assessment of patient satisfaction, cost-effectiveness, and efficiency of providing healthcare services through tele-health compared to traditional in-person consultations.
- Moreover, healthcare institutions should continue to promote and support tele-health services even beyond the pandemic to increase accessibility to healthcare services, especially in remote and underserved areas. Creating a supportive working environment that encourages employee engagement, loyalty, and identification is also crucial. Opportunities for employee recognition, professional development, and work-life balance should be provided as part of this effort.

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