The reality of virtual teams' performance in the new Kafr 'Aqab School during the Covid-19 pandemic (Case study)

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Abstract

The aim of this study is to find out the reality of the virtual teams' performance in the new Kafr 'Aqab School during the Covid-19 pandemic.

A purposive sample of 39 male and female teachers were selected and distributed in four virtual teams according to the academic topic, and each team had a leader presenting the center of the topic. Online meetings were used as a studying tool, as well as viewing the team's virtual online inventory of emails and chat rooms. Four main practices were selected and used by the team's leaders to enhance their team's performance; provide training and support, gain the team members' commitment, learn about the members' contributions, and hold the virtual team accountable. The study yielded several results, including: factors that will help the virtual team to succeed, which are: team composition, stable membership, members from the same academic specialty, the longest duration as a team, communication and training, technology with good leverage, skills development and finally leadership.

The study also found five ways to differentiate between the highest performance and the lowest performance, which are: ability to manage change effectively, promote a cooperative atmosphere, ability to deliver the team's goals and their direction, strong communication skills, and capability of empowering the team's members. In addition, the study revealed some obstacles and challenges facing the virtual teams, including: communication, lack of resources, building: trust among members, cooperative atmosphere and personal relationships. The study concluded that ICT-enabled virtual collaboration would be effective with the support of face-to-face communication and lead to higher levels of satisfaction in collaboration. The study also made a number of recommendations, including: conducting training workshops for managers on how to build a virtual team, improving teamwork and collaboration skills, maintaining team performance through continuous learning and improvement and managing important team processes, such as: conflict resolution, and building trust which will greatly affect the virtual team's performance.

The researcher also recommended several future studies, such as studying the role of the virtual team's leader in instilling the ethical and moral culture in the team, and a study that examines the impact of both organizational culture and managerial accountability on the effectiveness of the virtual team.

Keywords: information and Communication Technology (ICT), Corona pandemic (Covid-19), virtual team, virtual team leader, electronic leadership, communication, event system theory.

INTRODUCTION

At the beginning of 2020, the Covid-19 pandemic crisis emerged, affecting the economic and educational sectors worldwide. Its impact varied from one country to another, depending on the strength of the economic and educational system of the country and its ability to withstand and recover from the crisis.

ICT played a major role in facing the repercussions of the crisis through the activation of distance learning (Peerless, 2021), which became a necessity, not an option, with this sudden shift away from the classroom environment, new challenges related to digital efficiency and the virtual environment were presented (Kuah, & Dillon, 2021), and the change in the location and working methods of employees, which became necessary to save lives, this all lead to the transformation of the existing teams in the institutions into virtual teams (Cuyot&Swhill, 2020).

This has led to serious concerns about trust, change in responsibilities and speeding up work (Nguyen, 2020), leaving each virtual team with a challenge, whether it was the insufficient number of staff in the office or keeping the entire team stay at home. It's increasingly common to take advantage of telecommuting and virtual teamwork to contextualize this brave new world. Why are virtual teams now more common? We think there are three reasons: The first reason is that organizations are looking for the best available talent with the right expertise regardless of their geographic location, leading them to use virtual collaboration. The second reason is that virtual team members exist in different locations that enable enterprises to better meet the challenges of shifts in the global economy. The third reason is that technological advances now allow enterprises to achieve higher levels of efficiency and cost savings (Beras, 2020).

Virtual teams have become more common in this increasingly global environment, with a multitude of communication and collaboration technologies currently available to build up the team's virtual structure, such as digital tools (Berliner, 2020). However, virtual teams often have difficulty in building human relationships, studies have shown that building such relationships is extremely difficult across virtual team members because communication is less efficient. Virtual collaboration literature recommends enhancing empathy and trust among team members, and carefully balancing between time available to the individual, and communicating purposefully as an exercise to improve individual virtual collaborative experiences (Olson, 2003).

But the question is: How can teams collaborate effectively under ever-changing circumstances? What is the reality of the virtual team's performance and success? This study provides an analysis of the performance of the virtual teams in the Kafr 'Aqab School as a case study during the Covid-19 pandemic, the relationship between the leader to these teams and their success, the challenges and obstacles they face, the opinion of stakeholders in these teams, and the emergence of practical and research-based recommendations for leaders and managers.

The study's issue:

The study's problem arose from the fact that

First: from the researcher's experience in teaching middle school and working as a guide for mathematical research in East Jerusalem schools, she noted the gap created during the Covid-19 pandemic in the virtual team's performance for educational subjects. Second, the characteristics that appear in the virtual teams in terms of communication, training, and leadership. Third, contemplative literary studies of social and psychological aspects for the team members, which has to do with success in their performance.

On the other hand, the world has been facing huge challenges since the beginning of 2020 because of the Covid-19 pandemic that all institutions have been forced to distance working, and it certainly will create pressure on organizational leadership and its ability to influence over distance.

Based on what was presented, the search's problem has been determined to be the analyzing of the performance's reality in the

new Kafr 'AkabSchool during the Covid-19 pandemic. (Case study)

Significance:

The importance of the study stems from the importance of its subject matter. According to the researcher, the importance of the current study is as follows:

-Presenting the factors that distinguish high-performance virtualized teams regardless of those differences.

-Provide practical information, examples, and insights based on interviews done on the virtual team members and virtual team leaders about their work in enhancing the performance of their teams.

-Help empower any educational institution to create a successful and dynamic virtual environment.

Objective:

-understand the factors distinguishing high-performing teams, in which the institutions can implement high affecting strategies that will enhance the team's productivity.

-helping the team members and leaders strengthen their ability to cooperate and lead over distance.

-shed light over problems virtual team members and leaders face, and encourage to improve performance.

The study's questions:

Main question:

What's the reality of the new Kafr 'AkabSchool's virtual teams' performance during the Covid-19 pandemic?

New secondary questions emerged from the main question, such as:

First question: what makes a virtual team leader?

Second question: what are the virtual team's success factors?

Third question: what factors speed up the virtual team's performance?

Fourth question: what are the obstacles and challenges that the virtual team members and leader will face?

Terminology:

ICT (information & communication technology):

Any technology related to information and communications, this information can come in many forms such as sound, video, text and images, mobile phones, digital cameras, computers and multimedia. (Arouri, 2018)

Coronavirus (Covid-19):

Is the disease caused by the novel coronavirus called Coronavirus-SARS - 2. The novel virus was first detected by WHO on 31 December 2019, after a cluster of cases of viral pneumonia were reported in Yuhan, People's Republic of China. (Pokhrel, S, & Chhetri, R, 2021)

Virtual team: it is a group of skilled individuals who communicate electronically (Lee, 2014)

Procedurally virtual team: a group of individuals who make up the school's educational subject teams, they communicate electronically.Such as the virtual math's team, the virtual Arabic team, the virtual English team, the virtual Islamic education, social and science team.

Virtual team leader: an individual who works with the group and is responsible for encouraging and coordinating teamwork among group members. His role is to facilitate matters (Lee, 2014).

Virtual team leader (procedurally): is the subject center assigned by the school administration.

Performance: the ability of the organization to continue and stay in balance between the satisfaction of shareholders and workers, it will ensure two elements: the achievement of the goals, and how to use the available resources optimally to achieve the goals (Sharifi, 2017).

Leadership:is the ability to influence the behaviors of employees, which enables the leader to direct them towards the right direction to achieve the desired goals agreed upon, in light of good human relations between the leader and his followers (Hasan & Al-Ajmi, 2013).

Electronic leadership: leaders who conduct many leadership processes largely through electronic channels (Das, 2011).

Communication : is the process by which an idea, experience, concept, skill, feeling, or opinion is communicated or transmitted from one person to another, or to a group of people, leading to a process of sharing these experiences, ideas, and skills (Batah, & Al-Taani, 2016).

Organization Communication: The communication of information from one member to another, passing from the center of direct decision-making to other centers for the execution of work. The communication of decisions to the various devices and parties, and the aim of all this is to cause a change in the actions of individuals and groups (Belkadi, 2014).

Leadership communication: this dynamic, interactive process through which a leader exchanges symbols, information, facts, opinions, and messages with subordinates or followers in order to guide, convince, and control them to achieve the common goals between the leader and followers (Ibn Isa, 2014).

Event system theory: more recent events have stronger effects on outcomes and have a broader and more lasting impact (Morgeson, et a, 2015)

Determinants:

The study focused on the reality of virtual teams in the new KafrAqabSchool during the Covid-19 pandemic. The results of the study were determined as follows:

- Deficiencies in the virtual environment and leadership remain the factors that influence the results of the study.

- Because of the researcher's reliance on the interview as a tool to collect data and information from the sample's individuals, subjective answers may be reflected sometimes, as some tend to answer what should be the reality and not the reality itself.

Theoretical framework:

In this section, an overview of the concept of virtual teams and their types will be given. Advantages and disadvantages of virtual teams, virtual and traditional teams, challenges facing virtual teams, what is required for an effective virtual team and finally the impact of the Covid-19 pandemic on the work of the virtual team.

The term virtual team is used to cover a wide range of activities and forms of work supported by technology (Anderson et al, 2007). It can be defined as a group of people working coherently with a common goal across space, time, and organizational boundaries using technology (Lipnack, & Stamps, 2000). (Townsend, et al, 1998) defined it as a group of geographically or organizationally distributed co-workers who are grouped using a combination of communication and information technologies to accomplish a task. From all definitions we can derive a definition of a virtual team, which is a small group of individuals in the field of knowledge distributed geographically, organizationally or according to the time, who coordinate their work mostly with electronic information and communication technologies in order to accomplish one or more organizational tasks. Therefore any team becomes default if it meets four common criteria: Geographically separated (Lee, & Sankey, 2008), Driven as a group (Hertel, et al, 2005), skilled in the communication of technology (Peters, &Manz, 2007), participation on cooperation over distance (Precup, et al, 2006)

Types of virtual teams: 1) Telework: which is done partially or completely outside the organization's location with the help of information and communication services. 2) Virtual groups: when many remote workers are

grouped and all members are under the same director. 3) Virtual team: when members of a virtual Group train with each other in order to achieve common goals. 4) Virtual communities: are large entities for distributed work, in which members participate online guided by common roles and standards.

Advantages and disadvantages of virtual teams:

One of the main advantages of flexible virtual teams is the availability of a flexible and configurable infrastructure.

(Anderson, et al, 2007) pointed out that the effective use of communication, especially during the first stages of team development, which plays a role that is as important in gaining trust and maintaining it.

A virtual team may allow individuals more productivity remotely, on the other hand virtual teams work to reduce time spent in the market (May, & Carter, 2001), as well as the ability to digitally unite experts in areas of high investigation and speed in decision-making (Hossain, & Wigand,2004).

The advantages of virtual teams include attracting better employees, faster responses to tasks (Chen, 2008), improving member contributions towards completion of work tasks and organizational goal(Samarah, et al, 2007), and also encouraging mutual sharing of resources between organizations (Bergiel, & et al, 2008).

Disadvantages:

-requires complicated technological applications (Bergiel, & et al, 2008)

-less monitoring and control over activities (Pawar, & Sharif, 1997)

- Everything must be strengthened in a formal process (Pawar, & Sharif, 1997)

- Prone to distrust, disconnection, closeness, and power struggles (Rosen, & et al, 2007)

- Project management challenges are more related to distance between team members than to their cultural or linguistic differences (Jacobsa, & et al, 2005)

- Cultural and functional diversity in virtual teams leads to differences in members' thought processes (Shachaf, 2005)

- Team members need special training and encouragement (Ryssen, &Godar, 2000)

Virtual and Traditional teams: Unlike traditional teams, virtual teams work across time, place and organizational boundaries, with links connected and enhanced with a network of communication technology.However many of the best practices for virtual teams are similar to those for traditional teams (Bergiel, & et al, 2008)

In the traditional team, the members work side by side, while in virtual teams they work from different locations. In Traditional teams, coordination of tasks is clear, and the tasks are done through teamwork, yet in virtual teams the tasks have to even be more coordinated and organized. Also, virtual teams depend on electronic communication instead of face-to-face communication that's used in traditional teams (Kratzer, & et al, 2005)

In particular, depending on computers to communicate makes virtual teams unique. (Rice, & et al, 2007) found depending on formal procedures and organized processes increased the virtual teams' effectiveness.

Virtual teams challenges: Virtual teams face special challenges related to trust, which is key to building successful interactions, overcoming selfish interests and effective communication, which is the most important for success in the virtual environment, deadlines and team cohesion (Dineen, 2005).

Examples of challenges aggravated by time and location differences facing the leader of virtual teams are:

1) Infrequent face-to-face contact: The lack of direct face-to-face contact makes it difficult to build trust within the team and monitor its work. We believe that solving this challenge requires leaders to change their approach in virtual leading. For example, simple things are essential, calling on the way home just to say hello to team members has a big impact.

2) Lack of resources: Lack of a specific type of resource technology. Since virtual teams do not meet in person at the meeting table, they must have the technology to communicate effectively and transmit information.

3) Difficulty in building a collaboration atmosphere: At the heart of this problem lies a fundamental question: are humans more inclined to cooperate or compete? Encouraging and sustaining collaboration in a virtual environment is a daunting challenge, yet not insurmountable. It can be overcome by dividing the team into subteams, and the largest team then becomes a steering committee and ensures the communication process for the subteams.

4) Lack of time to focus on leading the team: Team membership and team leadership are responsibilities that employees often take on in addition to their day-to-day work, leaving missed appointments and a lack of productivity.

5) Shifting team and organization priorities: While the virtual team leader updates goals and priorities, he forgets to properly inform the team about changes, which is a challenge for team members.

6) Difficulty in managing poor performers: Staff are not accountable for results. Dealing with poor performance is especially difficult when we cannot regularly monitor team members in a virtual environment

What is needed for an effective virtual team?

(Jarvenpaa, &Leidner, 1999) found that Regular and timely communication feedback has been key to building trust and commitment in distributed teams. (Lin, et al, 2008) also pointed out the factors of social dimensions need to be considered early in the virtual team creation process and are essential for Team Effectiveness.

Communication is a tool that directly affects the social dimensions of a team, as well as the ability to adapt and change, as it is a necessary process to encourage effective virtual teams (Kirkman, et al, 2002).

Creating a state of shared understanding about goals, objectives, mission requirements, interdependencies, roles, responsibilities, and member experience has a positive impact on the quality of outputs.

(Shachad, & Hara, 2005) suggested four dimensions of effective virtual team leadership which are: communication, understanding, role clarity, and leadership attitude (the leader is assertive but not bossy).

Effect of the Covid-19 pandemic on Virtual teams' work:

Covid-19 pandemic greatly affected the economic level as well as affect the lives of many individuals. It is possible that a virtual team using the event's system theory will be affected. We suggest that an event was followed by the Covid-19 pandemic is first a transitional phase (i.e. a period of time that requires initial learning and adaptation), and then a post-transition phase (the period of time that people exposed to the event adapt to the new normal) (Richter, 2020)

The spread of the coronavirus it is new, disturbing and decisive, but also considering how it affects organizations specifically through the need to shift to a new way of working based on Event's system theory or to take into account the extent to which the pandemic affects how teams work together in a virtual environment. In particular, we proclaim that the corona pandemic may accelerate individuals' collaboration with each other during virtual team tasks, even though many individuals to some extent have already been working and communicating with team members using virtual tools and technologies (Richter, 2020).However, lockdown and stay-at-home policies mean that these individuals are now forced to use these tools and technology exclusively. We assert that the immediate period after the start of the epidemic, this is the transition period. Most individuals were learning and adapting to this new way of working, Moreover in the post-transition period individuals gained important experiences when working virtually that they could transfer any task to a virtual collaboration task and thus assume that the corona pandemic led to a virtual adaptation effect.

Previous studies:

The Al-Habib, & Al-Maayouf (2021) study aimed to conduct a systematic review of the literature that discussed the effectiveness of virtual teams in organizations, was extracted 36 studies that met the inclusion criteria to become the basis of the review, the results of the study showed the most common challenges of leadership of virtual teams among researchers, which are: virtualization, trust building, virtual communication, cultural diversity.

The study also confirmed the existence of a little literature that discussed the issues of developing team products, improving the quality of life of the team, and the exchange of knowledge. The study recommended for decision makers, practitioners and researchers interested in the field of leadership.

Asba (2019) conducted a study aimed to investigate the relationship between the management of teams in private schools in Oman and the management of organizational conflict from the perspective of teachers. The study sample consisted of 346 teachers selected by random stratification method from the teaching and studying community. Two data collection tools were used, the first one is to measure the effectiveness of private school principals' management of working teams, and the second measures the level of organizational conflict management.The results indicated a positive and statistically significant relationship between the degree of private schools' principle's effective management and the level of organizational conflict management. In light of the findings, the study recommended raising awareness of the importance of managing work teams through training programs.

Al-Ghamdi) 2015) made a study aimed to identify the extent to which school principals use the skills to lead academic teams in the Public education system in Medina. The sample of the study consisted of (18) principals, and one of the most important findings of this study was that the degree of practice of the skills of building trained work teams and managing them as a team management method among school principals was very large, and that the

obstacles related to the management of the school and its employees was also to a large degree.

Al-Zahrati (2011) study which aimedto know the degree to which principals practice team management style. The researcher used the descriptive method and the study sample consisted of 414 managers, the researcher used the questionnaire as a tool to collect data. The study reached a set of results, the most important of which is that the use of managers of team managing was medium, and the importance of using the team management method in schools was high.

Attieha, & Zouhairy (2021) study entitled "an assessment of how educators in virtual teams perceive charismatic leadership during the covid-19 crisis"

The study examines the impact of charismatic leaders on dispersed virtual teams in non-professional educational institutions in Lebanon. This quantitative study used two questionnaires to verify charismatic leadership during the pandemic from the perspective of educators working in virtual teams on a sample of 77. Five hypotheses were selected about the impact of charismatic leadership on crisis on distant educational teams.The relationship between the number of years of experience and charisma has not been explored because the majority of respondents fall into the category of five or more years in the organization. The results showed that neither gender nor level of Education affected the quality of followers in charismatic leadership during crises.

Chartetis, et al (2021) made a study entitled "Virtual team professional learning and practitioner development in education".

The study looked into the idea of Virtual teams in education and its role in learning and professionally developing teachers. The study depended on researched literature about learning combined with development done online to develop what is important to consider when creating virtual teams for the purpose of teaching. Through answering this next question: What are the characteristics of virtual teams that can serve the purpose of learning

and professional development in the student? We can provide a model of technology planning for institutions wanting to create and maintain the virtual team approach in developing teachers.There are three relevant, collaborative and future-focused strategies to address how virtual teams can support professional learning for teachers.

Klonek (2021) study entitled "Did the shutdown during the corona pandemic make working in virtual teams better?"

Depending on the theory of events, the study examined whether virtual teams showed improved processes in later stages of the epidemic compared to the early stages of the epidemic.

Agarwal, et al (2020) named "Effective leadership in virtual teams during the Covid-19 pandemic." This research paper examines the most effective ways to lead virtual teams, as the study was based on a literature review, and survey answers of a sample size of 42 professionals working across different career levels.The researchers identified the main challenges of leading and working in virtual teams from the survey results, including communication difficulties and obstacles with hiring remote employees. The paper proposes a set of best practices based on the pattern observed in the survey, and also includes the scope of future work that can be done in this Meluso (2020) study entitled "Making virtual teams successful: redesigning virtual collaboration for the future."This study examines the communication techniques, individual techniques, and leadership techniques that work for effective virtual collaboration, then highlights several outstanding interests and potential as an incentive for designers and researchers to develop solutions to the challenges of continuous remote and integrated collaboration.The study recommended that researchers consider social practices as artifacts designed and thus components of solutions to problems of the social system.

Burton et al (2019) study, it aimed to know the main factors multi-generational task teams,to

achieve its goal, the study used a descriptive approach by reviewing the literature of 121 scientific articles, the study found the five most influential elements on teams: Team Dynamics, extraction, leadership, wages and work environment, and commitment. The study recommended creating studies on the impact of the Generation (Z) on the performance of the team and its needs, especially since it is completely different from previous generations.

In an academic thesis conducted by (Mabon, 2017) aimed to find out the best methods of communication in the virtual team,to achieve its goal, it used the literature review methodology for 41 scientific articles published during the time period of (2012-2017). The results of the study determined the best structures and channels of virtual communication, and the communication characteristics necessary for the team leader, as well as the importance of training the virtual team to use a variety of means of technical communication to raise the effectiveness of the team.

Tang, et al (2014) conducted a study entitled "Electronic leadership in virtual teams". The study aims to uncover the effects of the leaders' motivational language and feedback approach on the creative performance of team members. The experimental approach was used before and after testing to explore how to stimulate the creativity performance of virtual team members using a group decision support system.The results show that motivation, feedback, machine learning approaches of leaders and feedback via email instructions have different interactive effects on members' creativity and Idea generating performance. Team members who are instructed to give guidance generate more ideas under a demanding feedback approach.

Mukherjee, et al (2012) conducted a study entitled "virtual teams: what is the importance of social, cognitive, and behavioral abilities?" The objective of the study is to propose a research framework that defines critical leadership decisions, related to the different life cycle stages of a virtual team.The framework seeks to identify and explain the role of social,

cognitive and behavioral abilities as important determinants of effective leadership for team success.The study used the analytical approach, analyzing the literature on virtual team leadership and describing leadership abilities while linking those abilities to different stages of the virtual team life cycle.The proposals show that for effective leadership to occur in the field of venture capital, it is important to understand the set of specific abilities that contribute to the successful management of a particular stage of the virtual team.The emergence of tolerance that may help improve employee satisfaction, team cohesion and promote a better work-life balance could benefits society, and the importance of authenticity.

In a study conducted by (Carte, King, 2010) the study seeks to advise managers in this new age of virtualization,interviews were conducted with a variety of individuals involved in virtual team activities asking about communication, performance, managing change and leadership practices.The researchers also studied the techniques used by the teams and what areas of team operations could be improved, finally they asked participants to clarify the difference between their views on effective practices of face-to-face teams and effective practices of virtual teams.From this interview data, insights are provided on the social and managerial issues that push virtual team performance no matter where they are.

Comments on previous studies and the situation of the current study:

It is noted from previous studies that they discussed the leadership of virtual teams with linking it to one of the factors influencing his study. After reviewing previous studies, we find that some of them looked at the level of management of school principals in the leadership of teams such as the studies of (ASBA, 2019), (Al-Ghamdi, 2015), (Al-Zahrati, 2011), (Atlieh, Zouhairy, 2021), (Klonek, 2021), (Chorteslis, et al, 2021). (Atlieh, Zouhairy, 2021)، (Klonek, 2021)، (Chorteslis, et al, 2021). And some studies looked into electronic, effective and charismatic leadership in virtual teams such as

the studies of (Tang, et al, 2014),(Atlieh, Zouhairy, 2021)،(Agarwal, et al, 2020). The study of (Mukherjee, et al, 2021) looked into the importance of social, cognitive and behavioral abilities of virtual teams.

In each of (Al-Habib, Al-Maayouf, 2021) and (Mabon, 2017) studies were basically a systematic review of the literature that found the importance of virtual team training.

The researcher benefited from previous studies as follows:

- Enrich the theoretical aspect of the study and interpret its results, and make recommendations.

- Definition of study terms.

- Choosing the best suitable approach to study, which is the method of qualitative case study, where the descriptive method of its various branches: analytical, comparative and survey is considered one of the most prominent methods of scientific research adopted by previous studies.

This section describes the methodology of the study, its community, the method of sample selection, interview preparation, and the steps of conducting and designing the study.

The study sample: The study sample of the interviews consisted of five virtual teams that were educational subject crews, the leader of each team who was the subject center assigned by the school administration, and these leaders had relationships with team members that spanned from one to three years.In most of the teams the leader didn't change except only in English, he was changed more than once during the three years. From one of the team members, the subject guide appointed by the Ministry of knowledge, almost half of the people studied work together for one to three years. They have the right technology to work together, relying mostly on email and phone. The following table shows the sample study.

Table 1: *Demographic composition of virtual teams:*

Major	Number of virtual team members	Virtual team
3 Math's major 4 + members + Education major 1 + science major 2 computer major. The team leader is) a math center with a doctorate in educational management (	10	Mathematics Team
7 + Arabic major 5 Educational major. The team leader is) an Arabic language center holding a master in Arabic language (	12	Arabic Language Team
English major 6. Team leader) English language center holding a bachelor in English (	6	English Language Team
Islamic studies 3 Social 2 + major 4 + studies major 1 + science Physical education computer 1 + major major The team leader is) a science center with a bachelor of biology (.	11	Other Topics Team

The primary method of data collection was interviewing four virtual teams in 2021.

Interviews were conducted with a variety of individuals engaged in virtual team activities. The parties varied from virtual team leaders who were themselves moderate or absolute in their apparent degree, to virtual team members who could be classified as absolute virtual team members.In addition, the opinions of third parties from key stakeholders (headmistress, parents, school inspector) were collected.

Criteria for virtual team performance were created, and they were divided into two groups according to the level of effectiveness (performance): high effectiveness, and low effectiveness.

Factors affecting the effectiveness of the virtual team:

- Duration of virtual team work.

- Willing to put in extra effort to get the job done.

- Produces high quality work.

- Demonstrates a high level of initiative.

- Ready to take responsibility for leadership when appropriate.

- Receive feedback necessary to enhance their contributions to the virtual team.

- Involve each other in making decisions appropriately.

- Determine the most appropriate ways to communicate with the virtual team.

Participants were asked about their teams' communication practices, performance, change management, and leadership, and were asked about the technologies used by their team, what areas of team operations they could use, and how they could be improved. Finally, they were asked to distinguish between their views on the effective practices of face-to-face teams and the effective practices of virtual teams. The questions were intended to elicit responses that could help us develop an understanding of the work practices surrounding effective leadership of virtual teams.

Data collection instruments: The process of collecting data and obtaining information is the focus and basis of the study, because without obtaining data and information, we cannot verify the results of the research, so data collection needs tools. In this study, data collected through the following instruments:

(1) The interview (focus groups) through the zoom platform, and through the phone.

The interview is a verbal questionnaire through which the researcher collects information in a direct verbal manner. The difference between it and the regular questionnaire is that the person answering the questionnaire is the one who writes down the answer to the questions, while in the interview the researcher himself writes the answers of the examined person. (Abu-Zeina, 2005) Appendix (1).

So, the researcher after determining the topic of the study with the teacher of the course, and examine some of the previous literature, it was agreed with the four virtual teams to help conduct the study (interviews), which is an intentional sample that the researcher was able to meet with after they agreed to participate in the study.

The researcher conducted the planned interviews where she was present first: through electronic platforms using the strategy of the zoom program at the agreed hour, and she carried with her a list of questions that she prepared in advance for the previously mentioned people, which she derived through her presence in the teaching system, and through her prior knowledge of the study elements. She decided the problem of the study and its detailed elements, and sat facing the person she wants to meet. At the beginning, before proceeding with the interview, she did the following:

1)   Inform the person of the researcher's identity

2)   Inform the person of the study's subject and goal, while also mentioning that the study aims to accurately identify the reality of the use of information and communication technology during the Covid-19 pandemic. Such a study needs accurate and objective information.

3)   The researcher asked the person to obtain the necessary consent to conduct the study by the university administration.

4)   The researcher was clear about the scheduled (planned) duration of the interview (one hour) and whether the interviewee would like less. The person responded if the time was suitable and if they are also willing to conduct a second interview if necessary.

5)   The researcher pointed out that the interview data represents a major and important source in the study, and the speech that the person will display will be documented within the data sources, and whether there is a reservation from him to mention his name in the study because this is essential when presenting the information provided by the person within the study material, and the person has expressed his understanding of this.

6)   The researcher then began to ask her questions, giving the person the time he wants to answer without interruption, overlapping from time to time to clarify the information that is told during person's speech, which the researcher was not aware of in advance.

7)   At the end of the interview, the researcher thanked the person for his time and information.

Second: To objectively assess team performance, 16 telephone interviews were conducted with team members and their leader to better understand their experiences and challenges.

(2) View the virtual team online inventory of emails, WhatsApp, chats to know the dimensions of the performance of the virtual team including (results, communication, team motivation, personal relationships, cooperation, purpose, roles ...).

Reliability of the study's management:

Honesty and objectivity of interviews: the researcher followed the following strategies: speak little and listen a lot, Record carefully, start writing early, and feedback.

Context description:

Foundation:

In the governorate of Jerusalem and in the city of Kafr'Aqab, the campus of the new Kafr'Aqab school building is full of movement.Between arrivals and departures you feel the fragrance of the place, you feel reassured as you knock on a door that opens its

arms to embrace a knowledge-hungry group.It opens its chest to embrace those who asked for knowledge, instill in them that you're not alone, we are with you, fighting for you, we make it clear that the hands that build and support work for you and from you. This is the new Kafr 'Aqab School, a government school affiliated to the Ministry of Education founded in 2002. It includes elementary and middle school grades from first to eighth grade.

The school's vision:

Kafr'Aqab new school offers students with higher education with a goal of achieving quality using modern technology to develop knowledge, abilities and skills with values and principles to keep pace with the developments of the times.

The talk to achieve total quality and effective community participation to support the educational process in a healthy climate believes in positive, effective and purposeful excellence.

The school's message:

We believe that the main purpose of education is the transfer of values and principles necessary for the functioning of the human in a qualitative and developed society. Developing the students' personality, exploiting their individual potential and preparing them to enter the adult world, education is therefore the basis of the formulation and design of a civilized society. Equal educational opportunities are a fundamental right for all. Implementing a comprehensive educational approach puts the student at the center of educational work and allows her to have as many opportunities as possible to promote and realize her innate potential.

Values: we believe-we love-we stand out

We respect the individual and his rights and strive to:

Self-realization, consumption of abilities, management of a meaningful life to achieve a common product, and we seek special heritage and civilizational values in society. We seek social justice, solidarity, social and environmental participation, effective conflict management, and respect for the giver.

School objectives:

Goal (1): promote meaningful and qualitative learning: knowledge, skills and values.

- Enhance knowledge and thinking skills in areas of knowledge, as well as focusing on the native language, mathematics, English and science.

- Develop skills and emotional and social values in education.

- Create innovative and challenging learning environments, including digital environments.

- Enrich knowledge in the arts and expand experience with sensory and motor skills.

- Instill a culture of educational and social excellence and value.

Goal (2): strengthen educational leadership

- The continuation of the teaching culture of teachers, along with balancing the systemic, school and personal needs.

Promote intermediate leadership in school.

Unique promotion of school vision.

Student numbers for the year 2021-2022 (570) female students.

Faculty numbers for the year 2021-2022 (39) members.

The Results:

This section presents the results of the study reached on "the reality of virtual teams in the new Kafr 'AqabSchool during the Covid-19 pandemic-a case study". To answer the main question on the research and the rest of the sub-questions, qualitative data were collected and analyzed. The following is a comprehensive analysis:

First question: what makes a virtual team leader?

Virtual team members, leaders, and stakeholders (beneficiaries of team outputs) were asked what they thought were the most important competencies for a virtual team leader. They overwhelmingly chose communication as the most important skill required for success, where "M" said: "Communication is essential for leaders, and is also a critical success factor leaders need to create a two-way conversation that keeps people engaged"

Building relationships, building trust, personal accountability, and elevating results were also cited among the top competencies. Team members and leaders also selected the ability to motivate others and plan work as important, while stakeholders identified training and strategic thinking as competencies for virtual team leaders.

The study found that the most effective virtual team leaders can balance between practices oriented towards implementation with personal factors and the cultural communication that's critical to the success of virtual teams. Specifically, the study found that the following five practices separated high-performing leaders from low-performing ones which are:

1) Ability to manage change effectively

The most effective leaders develop adaptation to change, they are also confident in involving team members in decisions that affect them, doing so increases the quality of decision-making in the team and helps maintain high levels of enthusiasm and commitment throughout the duration of the change.

The most effective team leaders use a three-step process to lead change: Visualizing Change by formulating the vision, goals, and core values of the virtual team, build support for change, and finally implement the change. "S" said: "I saw this before and I know what I am supposed to do".

2) Enhance a cooperative atmosphere.

Effective virtual team leaders can use strategies to make up for the lack of human connection, constantly looking for new ways to infuse team spirit and trust in their teams, and boost

productivity. "L" said: "I realized that I focus a lot on building trust and relationships with others, this is much harder to do when you work by virtually, I also have to be purposeful and focus on trust"

Low-performing leaders in virtual teams find it especially difficult to build relationships and develop cooperation between team members. "F" believes: "That lack of face-to-face communication makes building trust very difficult. Leaders need to reinforce the message that individuals can rely on each other when virtual team leaders become busy with all communication which can causes problems likely to result from lack of trust". Effective leaders of virtual teams help build an environment that supports collaboration by finding ways for team members to interact and communicate informally, and also helps to deal with conflict.

3) Ability to communicate team goals and reveal their direction

The best-performing leaders in the study were more effective than low-performing team leaders in communicating team goals. Clear goals help unify the geographically dispersed team and keep members focused on implementation.

4) Strong personal communication skills

It's no secret that team members who actually work virtually sometimes feel isolated, which negatively affects morale and productivity. Top effective leaders therefore develop formal and informal communication methods to ensure people get the information they need to do their jobs and feel engaged, "A" says: "I think they have to over-communicate. Also good communication makes sure their messages are heard, and know how the task is done technically. For example, email communications should be clear and concise."

When the researcher interviewed team members and stakeholders, they consistently cited responsiveness and follow-up as important elements of communication. The study also found that the leaders of the best performing virtual teams received higher

ratings on many elements related to communication effectiveness.

5) Ability to empower virtual team members

The study found that in virtual teams, empowerment was significantly related to process improvement and satisfaction of management and parents, because people are often expected to work more independently in virtual teams, and find ways to delegate work. Giving team members the freedom to make decisions and monitor work becomes particularly important for success while delegating work and checking work progress are important aspects of empowerment, they are more difficult in a virtual environment.

The higher performing team encourages team members to come up with creative ideas more consistently, and motivate team members, "M" says: "Leading a successful virtual team leader strikes a balance between independence and micromanagement and they also take steps to engage people who may feel isolated".

And to answer the second question: What are the success factors of a virtual team?

Interviews were conducted for virtual teams and stakeholders, and several questions were asked. What is the optimal team size? Do multi-functional teams have more challenges? How often should teams meet face to face?

In order to be able to make practical, research-based recommendations to leaders and managers as part of the current study, the researcher profiled high-performing teams and the study found the characteristics that emerged fall into several categories, and now we will uncover each one.

First: virtual team composition: the study found that decisions about team size and membership are essential to team success especially when team composition is likely to be more dynamic over time.

Second: Stable virtual team membership: the best performing teams in the study typically had a core group of individuals whose membership did not fluctuate frequently, and had more time for members to exchange

productive working relationships.In less effective teams, members were added and removed frequently, for example, one of the less effective virtual teams interviewed indicated that their membership changed over the course of the school year, this caused confusion about who was on the team and also led to role ambiguity, as well as team size where it is difficult for their members to communicate and deal effectively, making achieving team goals a daunting task.The lowest-performing team members reported a lack of trust, as well as indicating that there was ambiguity about what role each member should play. A few team members were doing most of the work while others failed to attend key meetings. When asked what they thought the performance barrier was, the majority of members pointed to the size of the team compared to other teams.

Third: virtual team members of the same academic field: most of the high-performing teams in the study were not from different academic fields compared to low-performing teams containing different fields.The complexities that come with being a mixed field team can easily affect performance. As a result, it is difficult for a leader to hold people accountable for their work especially if that leader is ineffective in building commitment and influencing others.In the case of low-performing mixed field teams, team members are not even evaluated based on their contributions to the team, a reality that can hinder performance.The study showed that some virtual team leaders find it difficult to hold people accountable and this is a task that becomes more difficult in multidisciplinary teams, the leader does not have direct authority over team members.

Fourth: longest period as a virtual team: the study showed that teams that lasted more than three years are better than those that lasted less than three years, during interviews with long-term teams they learned that by working together, over a long period of time, they were able to successfully implement processes that support teamwork and communication, for example these teams set standards that led to their success over time, the factor here is

experience, they have discovered how to manage conflict and coordinate work. Just as teachers who are together in one place and who have worked together for years are likely to perform better than teachers who just met, the key to virtual teams that are just getting started is to look for more experienced teams to see what best practices they should use, when there is an example to follow, it becomes much easier to get off to a good start.

Fifth: Communication and training: although technology is the basis for effective virtual collaboration, it does not guarantee the success of virtual teams. Success requires using this technology to communicate effectively.

Face-to-face meetings: the study found that virtual teams that held an initial face-to-face social meeting performed better than those who did not meet face-to-face. Face-to-face negotiations may be an investment, but they pay off. A face-to-face team meeting to clarify goals and performance and get to know each other can be extremely beneficial, and enhances communication and team performance.

Sixth: Good leverage technology: high-performing team members had technological skills that helped them work together more effectively and used video conferencing slightly more than their low-performing counterparts,For example, low-performing teams are more likely to suffer from technology overload or the use of many different technologies, which leads to communication problems and hinders performance in addition, they are less likely to match the technology to the task.For example, many high-performing teams use webinars and technologies to exchange ideas and make decisions, while low-performing teams rely more on email.In some cases, low-performing teams also explained that they had more technical problems and frequently indicated that they lacked proper technical training, and perhaps more importantly, the study found that technology should be seen as an incentive to improve virtual team performance rather than as a preventive remedy.

Seventh: skills development: the study indicates that virtual teams with more than four sessions per month for Team Development, performed significantly better than those with two or fewer sessions per month.The study participants answered that the most important skills for development needs of those working in virtual teams are communication and interpersonal skills, afterwards the teams chose the skills of collaboration, work planning, problem-solving, decision-making, the ability to lead change, and the ability to manage accountability.

Eighth: Leadership: not surprisingly, leadership plays a key role in virtual team performance, many of the low-performing teams in the study had ineffective leaders, who struggled to build collaboration within their teams which contributed to their poor performance.Higher-performing leaders have a better ability to balance between responsibilities directed towards people and execution of virtual team leadership.

Third question: What factors accelerate the performance of the virtual team?

The study found that there are four key practices that virtual team leaders can use to boost their teams' performance levels:

(1)   Provide training and support: this helps team members link their daily activities and behaviors with the overall goals of the teams. The study found that better-performing leaders were more effective at training team members than low-effective leaders, however, the study also found that virtual team leaders often thought they offered more training and support than they actually did.

(2)   Gain team member commitment: the study found that better performing team leaders are more effective at getting team member support than less successful virtual team leaders. The study suggests that four tactics are most effective for gaining the influence of team members: rational persuasion, inspirational appeals (an emotional or value-based appeal), consultation, and collaboration.

(3)   Recognizing the contributions of team members: while recognition doesn't take much of a leader's time, providing it is one of the most powerful and used techniques to motivate, reward, and retain good people.

(4)   Accountability of team members: virtual team leaders often suffer from holding team members accountable for their actions.

Fourth question: What are the obstacles and challenges facing virtual team members and their leader?

After interviewing, the obstacles facing the virtual team were identified:

(1) Team members do not cooperate effectively to achieve team goals.

(2) Team members do not trust each other.

(3) Team members are not interested in achieving goals.

(4) The team does not deal with the conflict appropriately.

(5) The team's performance appears to be inactive.

(6) Team members may feel isolated.

The study found that there are a range of challenges facing the virtual team leader that are exacerbated by differences in distance and time zone:

(1) Face-to-face communication is rarely done: lack of direct face-to-face communication makes it difficult to build trust within the team and monitor its work.

(2) Lack of resources: lack of a certain type of resource technology, since virtual teams do not meet in person around the meeting table they must have the necessary technology to communicate effectively and transmit information.

(3) The difficulty of building a virtual cooperative atmosphere: encouraging and sustaining cooperation in a virtual environment is a daunting challenge.

(4) Lack of time to focus on team leadership: team membership and team leadership are responsibilities that employees often bear in addition to their day-to-day work which leads to missed appointments and lack of productivity.

(5) Change the priorities of the team and the organization: while the virtual team leader updates the goals and priorities, he forgets to properly inform the team about the changes and this forms a challenge for the team members.

(6) Difficulty in managing poor performance: staff are not held accountable for results. Dealing with poor performance is especially difficult when we cannot regularly monitor team members in a virtual environment.

Discussion of results:

This section deals with the summary of the results and a set of recommendations and proposals, after analyzing and interpreting the data collected from the respondents in the fourth section, then presenting the most important results and the most prominent recommendations on the subject of the reality of virtual teams performance during the corona pandemic in the new Kafr 'Aqab school.

We note that social and technological pressures are pushing us to adopt virtual teamwork, as the success of virtual team work is more about processes and people than it is about technology, this virtual team forms a new and exciting work with many wonderful opportunities, because of these opportunities virtual team work is becoming increasingly popular in educational institutions.

It offers many benefits to the organization but also presents many challenges. The challenges faced by virtual team leaders are often compounded by their virtual settings, yet the most effective leaders are able to implement strategies that help address these performance barriers.

In this study, five different leaders were identified. Best-performing virtual team leaders are able to successfully manage change, foster collaboration, communicate team goals and direction, use strong interpersonal

communication skills, and empower team members, while these skills may seem essential, many virtual team leaders in the study were not able to implement them effectively, and this agrees with each of these studies: (Al-Zahrati, 2011), (Al-Ghamdi, 2015), (ASBA, 2019) (Atlieh, Zouhairy, 2011), (Klonek, 2011) (Chorteslis, et al, 2011)

Leading over distance could be more difficult, location is the first step in addressing the problems faced by virtual team leaders, so it is important for organizations to provide skills training to virtual team leaders and evaluate their performance periodically. Top effective virtual team leaders use strategies to balance implementation-oriented factors with personal and communication factors that are critical to virtual team success, and this is consistent with the study of (Agarwal, et al, 2020), (Atlieh, Zouhairy, 2011), (Tang, et al, 2014).

We can get many deep insights from studying the most effective virtual teams such as team size and skill development of virtual team members. If schools want their virtual teams to be best in this category, then it is important to understand the factors that must come together to create this excellence and implement it in advance. Paying attention to factors such as communication, training, composition and leadership of the virtual team directly affects the success of the virtual team, and this agrees with the studies of (Al-Habib, Al-Maayouf, 2021), and (Mabon, 2017). Finally virtual team leaders need to be diligent about how team members are trained, identified, influenced, and held accountable for fulfillment and commitments. These skills are challenging for team leaders physically present and can be more difficult when leading from a distance, however the good news is, that virtual team leaders using these proven strategies will enhance the effectiveness of their teams.

Recommendations:

-Conduct training workshops for managers on how to build a virtual team, improve teamwork and collaboration skills, maintain team performance through continuous learning and improvement, and manage the important processes for the team, such as conflict resolution, and confidence building that significantly affect the performance of the virtual team.

-Benefit from global experiences in leading virtual teams and published studies

-Ensure the readiness of schools in adopting modern digital technology and the suitability of the digital infrastructure

-Provide diverse opportunities for talented and highly skilled individuals to demonstrate their creativity in leading virtual teams

Recommendations for future studies:

- Conducting studies on the role of the virtual team leader in instilling the moral culture of the virtual team.

- Conduct a study looking at the impact of both organizational culture and managerial accountability on the effectiveness of the virtual team.

- Conduct a study in the relationship between leadership styles and the effectiveness of the virtual team leadership.

- Conduct a study looking at the impact of virtual team leadership challenges on decision-making effectiveness.

- Conduct a study of how to move from the traditional team structure to the virtual team structure.

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