



## Exploring the Online Leadership Effect on Blended Learning in Educational Institutions: Post-COVID-19 Learning Context

Asaad Ali Karam<sup>1</sup>, Khaled Younis Alderbashi<sup>2</sup>, Dlofan Ameen Salman<sup>3</sup>

<sup>1</sup> Associate Professor, Department of Extension, University of Duhok Iraq

<sup>2</sup> Associate Professor, Department Chair Professional Postgraduate Diploma in Teaching, City University College of Ajman UAE

<sup>3</sup> Lecturer, Department of Management Science, College of Administration & Economics, University of Zakho Iraq

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### ABSTRACT

The COVID-19 pandemic has necessitated the transition of administrative and instructional work in schools to an online format. This shift has prompted school administrators to embrace online leadership as a suitable approach during and after the pandemic. Blended learning has been recommended as a sustainable and well-suited solution for educational institutions in the post-pandemic period.

**Aims:** to investigate the impact between online leadership and the adoption of blended learning in educational settings.

**Sample(s):** A total of 385 instructors participated in this study. The participants were surveyed using Google Forms to gather their perspectives.

**Methods:** Structural equation modelling (SEM) and path coefficients analysis were employed to analyse the survey data and examine the attitudes of instructors towards online leadership and blended learning.

**Results:** The findings indicated that online leadership (OL) exhibited a higher likelihood of being adopted for blended learning (BL) implementation, as revealed by the study results (59%). Instructors demonstrated increased flexibility and readiness to utilize online leadership methods for career advancement in the post-pandemic era. However, it should be noted that the adoption of online leadership measures was primarily driven by necessity (41%) to maintain continuity in educational practices during the pandemic.

**Conclusions:** These findings shed light on the significance of online leadership in facilitating the integration of blended learning in schools. The study highlights the adaptability of instructors and their recognition of the potential benefits associated with online leadership practices. The results emphasize the importance of online leadership as a strategic approach for educational institutions in navigating the challenges brought about by the COVID-19 pandemic and beyond.

### 1. INTRODUCTION

The widespread use of COVID-19 has impacted many educational schools (Crawford et al., 2020). The pandemic has had a negative effect on schools,

teachers, and students, so schools are looking for ways to get around this. An online education program may be a viable option for students who

cannot attend school due to health difficulties (Klomkul & Pansa 2022). However, there were several concerns and obstacles that both students and instructors had to deal with because of poor learning strategies (Bao, 2020). Education schools are using blended learning more and more as a way to improve how students learn, give them more ways to learn, and reach more people around the world (Gordon, 2014). Blended learning was one of the precautionary measures for the COVID-19 epidemic, this programme now has more options for remote (Nordmann et al., 2020).

Blended learning is being used more and more in schools in the United Arab Emirates now that the epidemic there is slowly going away. According to many theoretical views, this study tends to include a variety of aspects while developing the research framework. We examined schools' intellectual assets from 2020 to 2022, using the number of teachers to reflect schools' leadership roles. Also, whether or not a school adds a new technology or changes how it does things after COVID-19 may be seen as planning for its business and social responsibilities (Syasyila et al., 2022).

Technology-aided learning environments other than online learning platforms and conventional classroom education are included in BL (Dziuban et al., 2018). It's well-known that institutions like schools are notoriously resistant to change. Because blended learning preserves and enhances education's conventional principles, it has become popular and successful in its early stages. Informed use of the internet and communications technology may help students achieve academic success while also improving their thinking and learning (Garrison & Heather 2004). Given its potential compatibility with conventional educational ideas and goals, therefore, blended learning is a strategy that can be gradually, deliberately, and intelligently implemented (Masri et al., 2021). The institution will always evolve over time in accordance with its best practises (Collins & Ison 2009; Shareef, 2024). According to contingency theories, an early model linked leadership styles to circumstances based on employee trust, duties, and the leader's control over his staff (Van de Ven & Drazin 1984). Therefore, we argued that online leadership should be an idealised influence, with inspirational motivation, intellectual stimulation, individualised consideration, and capable of controlling the technical skills in order to be more acceptable in

the circumstance. In contrast, Agyemang et al. (2017) discussed that the above factors are suitable for knowledge sharing. In today's world, educational leaders and experts must recognise and accept all of the substantial and irreversible changes in social, educational, technical, and economic systems that have occurred (Karam & Kitana 2023). That's why it's so important that we use our creativity and initiative to deal with change. To meet these needs, schools and colleges need to change their ways of thinking and how they teach and learn. The educational industry's executives must adapt their ideas about how to run and manage it to meet this challenge, which calls for creativity and innovation (Garrison & Heather, 2004). Several studies have emphasised the need for leadership, infrastructure, and support in the transition to blended learning (Taylor & Newton, 2013; Moskal et al., 2013; Garrison & Vaughan, 2013; Porter et al., 2016). For example, infrastructure support, leader development, and technology that is influenced by pedagogy are all needed to meet distance and blended learning (Ali, 2020; Dale et al., 2021).

Online leadership in education is similarly understudied. There are many hats that educational leaders must wear. They need to be well-versed in all aspects of curriculum and assessment, as well as pedagogy and legal issues. They should also be aware of new innovations and career opportunities (Alward & Yvonne 2019). Academics and administrators are under more and more scrutiny for their role in ensuring students get a high-quality education. The COVID-19 Pandemic pushed the people who did this study to look into how online leadership affects blended learning in schools (Karam & Kitana 2020). COVID-19's appearance was unexpected because of this, businesses have had no choice but to transition quickly and completely into digital enterprises (Ahmad, 2020). It's a new sensation to be in charge of an organisation remotely (i.e., through communicating online).

In addition, many schools have little or no expertise in digital platforms and communications (Blackburn et al., 2020). As a result, there is an increased need for leaders who can lead effectively and build highly functioning virtual teams. However, it isn't clear whether current leadership skills can be translated to e-leadership (Contreras et al., 2020). On the other hand, the importance of

leadership has been identified as a critical aspect in motivating people to participate in innovative procedures and practises (Aryee et al., 2012). This is because Barling et al. (1996) found that transformational leaders can get their followers to help with technical improvements and the process of change. Many studies have explored online leadership using the transformational leadership approach as seen in the following literature review section. The transactional/transformational method has also been used in several types of studies on vertical team leadership (Neufeld et al., 2010; Ramage, 2017). Studies on how leadership styles change when educational institutions migrate from physical to hybrid work and the effects of this fast transformation on educational performance are lacking in the existing research. Further research has examined if and how online leadership might affect the results of people and subordinates. Going deeper and focusing more on how effectively blended learning works in schools might help address these gaps. The main goal of this research is to look at how OL affects BL in the education process after COVID-19's online leadership paradigm was studied and put to the test by (Eikenberry & Turmel 2018). This research aims to provide data that may be used to improve blended learning and online leadership for students in educational institutions by collecting and integrating evidence from a variety of sources. The findings may be valuable to educational administrators, faculty leaders, and staff who are responsible for the design and implementation of online programmes, especially virtual academic teams. Distanced educators and supervisors will benefit from online leadership styles that emphasise blended learning resources and particular concerns.

## 2. LITERATURE REVIEW

### 2.1 Online leadership

The core concept of leadership is inspiring others. In theory, leaders influence followers via the establishment of objectives and task assignments, moreover, providing feedback that leads to a reward or penalty, all critical factors in determining followers' desire to perform effectively (Walumbwa & Hartnell 2011). When a leader and his followers are separated in their work, it is sometimes indicated to "virtual leadership" (Ziek & Smulowitz 2014). Online

leadership is a style of leadership in which members of a team have connections with their leaders shaped by the fact that they are geographically separated. There are a variety of degrees in online leadership (Binkhorst et al., 2018). we define online leadership as an impression management method controlled by technology that aims to alter an individual's, and group's attitudes, thinking, behaviour, and performance in order to guide them toward accomplishing a certain objective. In some cases, teachers don't see their supervisors at all, while in others they see them once per semester or less. There is no clear-cut definition of what constitutes "online leadership," but it is used here to describe any kind of partnership in which the bulk of contact between the members and the leader takes place online rather than in person. Online leadership is the management of teams and units from one's own home or place of business (Yehia, et al., 2022). The idea of leadership as a method for influencing people's attitudes and actions through the implementation of technology (Arshad et al., 2021). According to research, little is known about online leaders' leadership skills. To understand how these talents are put to use, the title must be actively researched (Attieha, et al., 2021). "Online Leader" is a more contemporary term for something that has been around for a long time: the practise of leading from a distance has been around for a long time. Online leadership aims to establish and distribute a business vision, connect groups or people, correlate and oversee plan implementation without deviating from conventional leadership practises (Avolio & Kahai, 2003). Similarly, Busse & Weidner (2020) defined "online leadership" as the process of making electronic connections between educators and other people who make decisions.

### 2.2 Conceptual Model of Online leadership

A conceptual model is described as a kind of study that focuses on gathering and analysing data on a certain issue. The researchers used a conceptual model (OL/BL) for Post-COVID-19, as shown in figure 1, to generate the ideas.

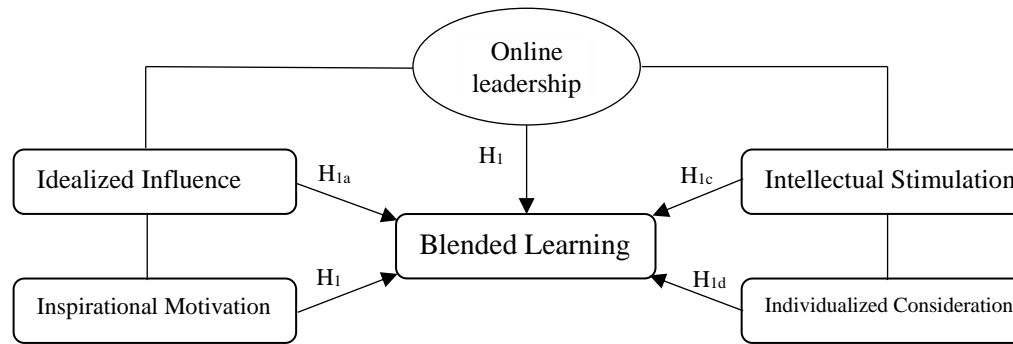


Figure 1: Study Conceptual Model

In the early stages of theorising about a leadership paradigm in which the leaders and subordinates do not interact face-to-face (Schiller & Mandviwalla 2007). This model is used as a basis for organisational behaviour research and theory, and it has been extensively studied. The vertical model lacks experimental evidence supporting the applicability of the local leadership results. As of yet, nobody has agreed that the two components are sufficiently dissimilar to warrant the use of distinct leadership styles in both. By analysing relevant studies in the educational environment.

The online leadership model devised by Eikenberry & Turmel (2018) displays three functioning gears, each of which plays a vital role in promoting online content. There are numerous talents required to utilise these technologies efficiently, as well. The study is reminded of the importance of our work by the management and leadership attire. It is required of leaders to demonstrate conventional leadership traits while employing unfamiliar tools and technologies. The easiest to care for, ability and force equipment may be a real pain in the neck. Consider the task at hand before deciding on a tool. This research adds to the model by looking at how leaders' trust and reputations are affected by their use of the internet (Dirks & Ferrin, 2002). Individualized instruction in schools has been studied by authors (Pujiyati et al., 2019). Researchers have emphasised the importance of tailored attention for online leadership in schools.

### 2.3 Blended Learning

The term "blended learning" encompasses a wide range of instructional strategies. Teaching may be approached from a variety of angles in this sector (Klimova, 2021). When it comes to education, a

study refers to a combination of many technologies (Driscoll 2002). Various instructional approaches and technology may be combined to create this notion. Research on the usage of basal ganglia (BL) has been hindered by the lack of consensus on its definition, according to certain research (Saboowala & Pooja 2021). There was research that looked into the use of BL to replace face-to-face communication entirely or in part (Al-Derbashi & Abed 2017). Increasingly, educational institutions are using BL to improve the student's experience and allow more flexibility in accessibility (Saboowala & Pooja 2021). As a result of the pandemic, this has recently been extended to cover the internet and bulletin board systems (Nordmann et al., 2020). According to a study the BL has the potential to alter education by encouraging students to reflect deeply and critically on their experiences (Garrison & Kanuka 2004). The authors say that schools should start getting ready for blended learning as soon as they can. Researchers' findings show that a blended learning approach has a favourable effect on education (Al Bataineh et al., 2019; Sun & Qiu, 2017; Klímová & Pražák, 2019; Rios & Cabrera, 2008). While the Chen (2022) found that the pupils who utilised the BL technique outperformed those in the control group who didn't use it. Building Leadership is based on the talents and competencies of leaders who are most closely associated with effective learning schools and higher academic outcomes for participants (Alderbash 2021). Numerous studies have shown that administrator training programmes have a number of deficiencies, despite the obvious need for well-trained online administrators (Darling et al., 2007). Such studies raise an issue of whether or not leaders are properly equipped to transform the

organisational environment in a manner that substantially enhances the academic advancement of students. In a digital age, educational leaders are just as important as they are in a non-digital environment. A study has also been shown that the preparedness of distant leaders to teach might alter the whole learning process if it is done digitally (Apsorn et al., 2019). As per the above arguments, the following hypothesis is proposed:  
*H1: Online leadership has effects on blended learning in schools.*

#### 2.4 Idealized Influence

Idealized influence includes behaviours that motivate followers to enjoy their affiliation with the leader; these are often associated with or equivalent to charm. It implies that a leader will put the interests of the group ahead of their own and be willing to make significant sacrifices on their behalf. "Idealized influence" is related to transformational leaders who function as role models for their followers. These leaders are looked up to, appreciated, and believed (Zdaniuk & Bobocel 2015).

Leaders of schools must be aware of the problems of virtual educational teams and use virtual leaders correctly. Some basic leadership qualities are necessary for educational virtual administrators (Alward & Yvonne 2019). Often, the attributes of a distant leader were articulated in terms of characteristics, leadership styles, and abilities. Distance has no effect on these attributes (Neufeld et al., 2010). While this may be the case, a remote leader must still have excellent management skills, including the ability to make decisions, define goals, and build a vision (Verburg et al., 2013; Ramserran & Haddud 2018). A leader's ability to elevate their job to the level of pioneering work and their reputation for doing so (Tworoger et al., 2013). Leaders are also required to be aware of the particular circumstances and qualities of the people under their charge. Teachers are motivated by the belief that they are entitled to the freedom and responsibility that they give (Poulsen & Ipsen, 2017; Savolainen, 2014; Alias et al., 2021).

Leaders who are adept at adapting to new ways of doing business as well as those who are knowledgeable about new technology may benefit organisations (Verburg et al., 2013). On the internet, a leader's openness to new ideas and a desire for continuing education are essential for

effective online leadership. Remote leaders must also be capable of efficiently managing the responsibilities that have been delegated to them in order to push their instructors in a manner that maximises their potential for professional development. Successful remote leaders also have attributes connected to their abilities and characteristics. Communication skills and the ability to pay attention are two of the most important (Poulsen & Ipsen, 2017). As a result, the following hypothesis was put forth by this research:

*H2: Idealized online leaders affect blended learning in schools.*

#### 2.5 Inspirational Motivation

Inspirational motivation is the consequence of a combination of productive and communicative persuasion techniques. To make sure schools have a shared vision, it's important for leaders to set high expectations for their followers and inspire them through the provision purpose and challenge so that they can work together (Densten, 2002). Individual and corporate objectives are aligned by "inspirational managers," making fulfilment of organisational objectives an appealing method of reaching personal ambitions. Using conduct to encourage students by providing a common purpose and an advice to the subordinates is known as inspirational motivation (Jiang et al., 2018). The capacity to encourage people, primarily via the delivery of high expectations, is referred to as inspiration (Bass 1997).

The capacity of leaders to conceive and articulate a vision that teams or the whole school can relate to from both commercial and personal perspectives is referred to as inspiration. This vision is quantified on an interpersonal basis, and the strategy considers the teacher's talents by examining how they may contribute to the goal while also pursuing their own objectives (Mach et al., 2022). Leaders act in ways that inspire others, offering purpose and challenges for their followers. By using persuasive language and actions, these leaders raise individual and team spirit and urge followers to anticipate enticing future states. They instil confidence and stimulate excitement (Gu et al., 2022). According to Gerke's (2006) writing, online leaders should identify their members' needs and talents, and then pair them with specific responsibilities. Thanks to this, executives will

have a better sense of how to contact and encourage employees when faced with a crisis that necessitates a quick reaction. To meet the need for speed and customizability in the online environment (Cortellazzo et al., 2019). In the same way, Nayak & Taylor (2009), a productive virtual team is a difficult task. The first step is to combine different parts of technology, systems, and people into a single, coherent whole. As a result, the following hypothesis was put forth by this research:

*H<sub>3</sub>: Inspirational motivation effects blended learning in schools.*

### 2.6 Intellectual Stimulation

We expect that situations that give chances for individual engagement and intellectually excite followers are more significant for the creative manifestation, based on trait activation theory (Zhou et al., 2012). Although such situations allow for more freedom of speech, they differ in the amount to which they either allow or promote specific behaviours.

As a result, we theorize that while individual engagement gives flexibility and opportunity for students to express their viewpoints, it does not always motivate creative activities. Intellectual stimulation, on the other hand, entails the leader presenting questions and questioning traditional procedures. This allows followers to design more comprehensive methods for encouraging flexible and global processing Bolkan et al., (2011), which stimulates innovation. It's critical to have this in mind that after all of these processes and norms are implemented, leaders should focus on tools that are more conducive to intellectual stimulation and greater comfort with innovation than phone and email, such as webinars, Zoom, Teams, Slack, BigBlueButton, BlueJeans, Whereby, GoToMeeting, Cisco, WebEx, Google Meet, Blackboard Collaborate, and other collaborative technologies (Crisp & Jarvenpaa 2013). The ability of leaders to properly use technology is an essential component (Bozeman & Spuck 1991). One of the most important abilities for a principal in the twenty-first century is the capacity to connect successfully with pupils using ICT such as email, WhatsApp, blogs, (Soleman 2020). Software, such as data and information retrieval, administration, and planning, is another critical ability for leaders to have. Leaders must be able to handle digital

communication tools at all levels. This means that today's modern technology has the capacity to implement modern educational trends in today's world, and online leaders of educational should have the necessary skills to make a blended learning environment. Therefore, the research suggests the below hypothesis:

*H<sub>4</sub>: Intellectual stimulation affects blended learning in schools.*

### 2.7 Individualized Consideration

As reported in the literature is considering the unique characteristics of each employee into account. Online leaders connect their followers' priorities to the progress of the school. This is how they help the school grow. Leaders place a high priority on the development and training of their teams in order to give them the chance to move up (Rafferty & Griffin 2006). These traits only have an effect if the leader can inspire and lead people to achieve their goals (Ogola, 2017). Individualized consideration is concerned with core transformational leadership behaviours, such as considering individuals as valuable contributors to the business. People who use this type of leadership help their employees and teach them how to grow in the long run (Kwon et al., 2019). To summarise, a leader who pays attention to subordinates demonstrates that he or she sees each person as an individual and is interested in long-term growth. (Zacher et al., 2014).

These findings imply that leadership may not have transformative impacts and that the existing combination of supportive and developmental elements under the personalised consideration construct may be ineffective. In this paper, we use the mentoring literature to think about how online leadership affects students and how it works. This concept has received empirical support Seltzer & Bass (1990), and the theory behind the amplification effect says that charismatic and inspiring leaders can make people want to do their best work. However, it is possible that a significant portion of the benefit might be due to the developmental influence of personalised consideration on followers. Students may do better than expected not only because they are more inspired and motivated, but also because their skills have been strengthened and improved (Harvey et al., 2003). More personalised attention has also been connected to better team

performance, which is crucial for reaching organisational objectives (Goh & Wasko, 2012). Whether or not a leader's team will trust him or her because of his or her knowledge of technology is still up for debate (Guinalu & Jordán, 2016; Taylor et al., 2013). Compassion, equality, and, remarkably, each one of these aspects has been shown to promote individualised consideration, including the perceived attractiveness of online leaders. Confidence in customised attention is the most critical aspect in building a positive working environment for everyone. Leaders' trust in the ability of their employees to do their duties and followers' trust in their leaders' power to reflect after them are both included in this concept. A trusting environment reduces leaders' need for a high degree of control.

It is essential for online teams to have a strong feeling of individual concern given the requirement for new management techniques (Bonatti & Horner, 2011). Additionally, an online team leader must have strong communication, trust, and individual attention skills (Bryant, 2013). Managers and online educators must work together in an open, honest setting to make up for the loss of physical labour. Hill & Seo (2014) came up with ideas for online academic management, like using the right technology, working together to achieve common aims, despite institutional constraints. As a result, the following hypothesis is put forward by this investigation:

*H5: Individualized consideration affects blended learning in schools.*

### 3. METHODS

An important part of this study's data collection approach was designing a questionnaire to ensure that as many favourable outcomes as possible were recorded. The information was gathered via the use of an online survey that was sent out to UAE school instructors who is a leading their classes online (using Google forms). To get an estimate of the sample size for this study, researchers employed an online survey system, which estimated 385 participants based on a "margin error" of 5 percent and a "95 percent confidence level"; the researchers used this information to determine the suitable sample size. The fact that 385 samples were correctly gathered by the researchers suggests that the intended sample size was achieved on its whole. The study was designed

based on teachers who are supervising the classroom in public and private schools in order to figure out how much online leaders have an impact on blended learning after the Corona pandemic. Using SEM Smartpls3 and path coefficients analysis, this study assessed teachers' perceptions of scales as well as the fit of the measurement model. The composite reliability (CR) was also computed, as was the average variance (AVE), to ensure the validity of the result of a study. According to a study that indicate objectives for all scales should be more than 0.7 on the critical proportion and greater than 0.6 on the AVE (Hair et al., 2014).

Currently, the literature lacks an observationally validated study instrument for assessing online leadership adoption (e.g., the class of teacher leaders who lead meetings, groups, or students online) at the individual leader level. Motivated by this gap, an effective tool for online leadership prompted us to use the conceptual model supplied to begin our implementation and invention (Fernandez & Shaw 2020). A five-point Likert scale was used to measure all of the variables in this research (1 strongly disagrees to 5 strongly agrees). Six items from the Idealized Influence (II) scale were chosen and used to measure (II). The question "My leader is eager and energetic" is an example of an idealised influence inquiry. Inspirational motivation (IM) was assessed using five items from Keem et al., (2022). My leader personally examines or investigates ICTs when he is motivated and plans to employ them". In order to assess IS, Hofmann & Jones (2005) used five elements from their list of intellectual stimulation (IS). "My leader shows strong intellectual stimulation that is unique to his or her field of expertise," is an example of an (IS) question. From Podsakoff et al. (1990), five items were selected to estimate individual consideration. "I feel very personally considered that my boss will always attempt to treat me fairly," is an example of a sample question. Birbal et al. (2018) provided a list of twelve questions that might be used to assess blended learning (BL). "I can deliver course-related material when it is offered online."

### 4. EMPIRICAL ANALYSIS

The PLS-SEM research analysis dispute was examined in a number of crucial aspects. As a statistical approach suggested model and an open

substance-based output. When the signs of paradigm effects have been validated, it is also feasible to receive them. First, there are two types of integers in the layout, representing the LVs' degree shifts that are cleaned up by the other inactive components. In addition, the headings are marked by numbers that reflect the direction coefficients of the direction.

#### 4.1 Reflective Models

The first stage in reviewing PLS-SEM data is to evaluate the models, which differ in terms of reflecting and formative components. If the estimated models fulfil the requirements, the structural model must next be evaluated. When analysing the "reflective measurement model," it is essential to first examine the indicator's loadings. Larger than 0.7 loads are preferred since they show that the construct is responsible for more than half of the variation in the indication, signalling a high degree of item consistency.

"The least acceptable AVE value is 0.50 or above, indicating that the construct resolves 50% or more of the variance in its components. The last stage is to determine discriminant validity, which appears to be the degree to which a concept is statistically differentiated from other concepts in the structural model" (Fornell & Larcker 1981; Karam & Kitana 2021). The model elucidates the relationship between each variable and the others. The path's coefficients of the route in both cases, LVs are equipped with a variety of defence mechanisms. For the phenomenon of digitalization, for example, there is a "substantive theory," and the SEM inner model connects "latent variables" (LVs) to "substantive variables" as described by this substantive theory. For example, the mixed learning wards in this study, where instructors' judgments of online leadership varied, may provide significant insight into the success of BL, with exogenous and endogenous LVs split into two groups. A following is the computation for the PLS-SEM execution: Both of the obvious things are linked by a "regression" in their LVs, this demonstrates the present worldview perspective on things. (Hair et al., 2021).

#### 4.2 Variance Explanation

There is a strong relationship between the R-value for  $Y = BL$  (the dependent variable) and the LVs X1 II, X2 IM, X3 IS, and X4 IC (the LVs shown in Table 1). The total determination of coefficients was regarded as adequate evidence in the path model estimate diagram (Figure 2). Blended learning has a coefficient of determination of ( $R^2 = 0.590$ ). Finally, it was found that the coefficient of assurance was found to be 59.0% of the variation in the DV, which is enough evidence to recognise the number of free components with a high P-value (0.00).

Table 1: Blended learning - Path coefficients

	R <sup>2</sup>	Adjusted R <sup>2</sup>	P-value
Blended Learning	0.59	0.588	0.000

#### 4.3 Discriminant Validity

As far as establishing discriminant validity goes, the most conservative and well-known method was presented by (Fornell & Larcker 1981). Consequently, many methods are used to assess the discriminant validity; the aim was to have an association number of 0.8 or less between constructs of 0.9. Although the values are bigger than those in the columns of (BL = 0.765), (II = 0.740), (IM = 0.830), (IS = 0.874), and (IC = 0.774), they are also larger than the ones in the rows. Taking into account all variables, the estimated value of square roots is greater than the AVE merits earned. Additionally, to establish "discriminant validity", the square root of the AVE of each latent variable must be greater than the LV association. As illustrated in Table 2, the research model possessed absolute "discriminant validity", as the square root of the AVE for LVs was significantly larger than comparable value for LVs (Karam, 2020).



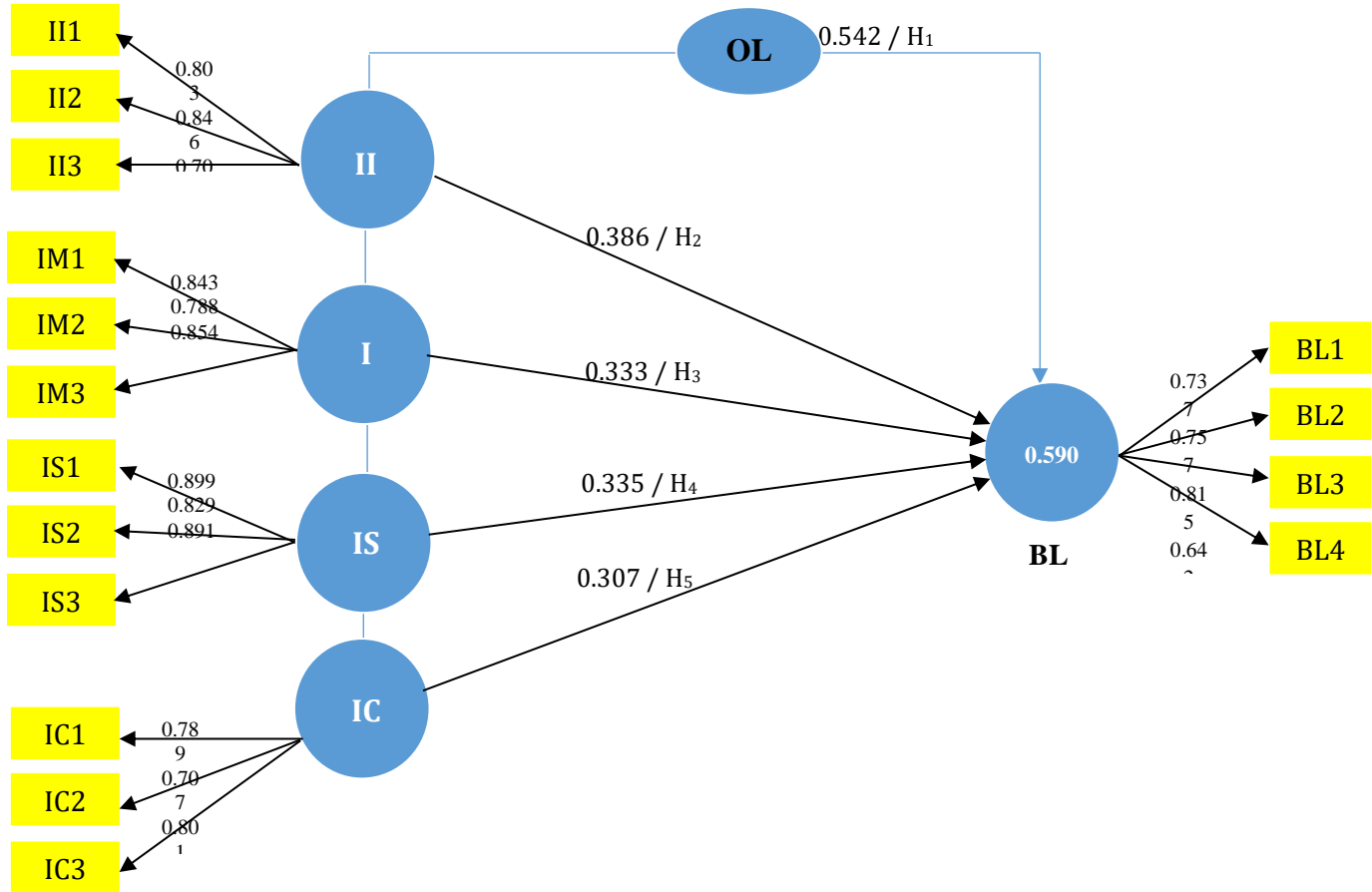


Figure 2: Online leadership affect blended learning

Table 2: Discriminant validity for model

	BL	II	IM	IS	IC
Blended learning	0.765				
Idealized influence	0.35	0.740			
Inspirational motivation	0.17	0.40	0.839		
Intellectual stimulation	0.62	0.31	0.30	0.86	
Individualized consideration	0.07	0.26	0.08	0.86	0.74

4.4 Construct Reliability

How effectively a test or experiment adheres to its rationale is influenced by construct validity. It is focused on whether the functional description of a variable transmits the term's conceptual interpretation. Traditional paradigm research considers "construct validity" to be a fundamental

sort of legitimacy verification. Criteria for legitimacy as well as content validity are related. The validity theory recognises "construct validity" as a larger issue of legitimacy research, including several types of validity confirmation. To determine the construct reliability (CR). Table 3 shows the following statistical findings for blended learning: CA (0.740), rho A (0.738), CR (0.839), and AVE (0.601). The "variance inflation factor" (VIF) must be greater than one in a collection of path coefficient variables since it is a computing overall multicollinearity. Karam (2019) detailed how this ratio is calculated for each independent variable (IV). Using blended learning (VIF = 1.490), the research found that a single coefficient's variance was 49.0% more than what would be predicted if there was no multi-collinearity (i.e., several indicators were not correlated). Since (1 and 2) include all of the variables, the SEM-PLS model evaluation was correct and well-organized.

Table 3: Model results summary

	CA	r_A	CR	AVE	CS
Blended learning	0.740	0.738	0.839	0.601	1.490
Idealized influence	0.730	0.726	0.828	0.550	1.678
Inspirational motivation	0.775	0.790	0.870	0.690	1.590
Intellectual stimulation	0.845	0.848	0.908	0.765	2.180
Individualized consideration	0.775	0.774	0.857	0.598	1.640

“Cronbach's alpha (CA), rho\_A (r\_A), Composite Reliability (CR), Average Variance Extracted (AVE), and Collinearity Statistics (CS)”.

#### 4.5 Hypothesis Verification and Validation

Hypotheses were tested using latent variables, and the determination ( $R^2$ ) was used to show how well LVs worked. The research self-assertive choice to reject the significant level ( $H_0$ ) is self-evident. The inquiry showed that the bootstrapping test findings for model hypotheses demonstrated a satisfactory fit on coefficients analysis as the foundation for all values (Table 4). All five hypotheses were found to have statistical significance at the 0.05 level, as proven by t-values greater than ( $> 0.1$ ) and p-values less than (0.05) in the BL model estimate (Karam & Kitana 2018).

After that, in order to establish statistical

#### Table 4 Hypothesis Verification

	(O)	(M)	(STDEV)	( O/STDEV )	P Values	Results
OL-> Blended Learning	0.307	0.311	0.043	7.206	0.000	Validated
II -> Blended Learning	0.370	0.368	0.050	7.639	0.000	Validated
IM -> Blended Learning	0.334	0.336	0.059	5.836	0.000	Validated
IS -> Blended Learning	0.524	0.527	0.044	12.323	0.000	Validated
IC -> Blended Learning	0.387	0.381	0.046	8.712	0.000	Validated

“Original Sample (O), Sample Mean (M), Standard Deviation (STDEV), and T Statistics (|O/STDEV|)”

## 5. DISCUSSION AND CONCLUSION

Assessing whether instructors are ready for blended learning may require assuming the role of students and seeing how they perceive various learning features. Blended learning is used more often by instructors who are positive about e-learning, online leadership, online participation, and blended learning (59%). In a world after a pandemic, teachers need just the right amount of online learning and classroom interaction (41 %) to stay flexible and adaptable and keep online leadership skills.

The present study online leadership on blended learning post-COVID-19 pandemic aligns with

significance, we found that hypotheses H1–H5 were significant. The T-statistics (12.323) and the P-value (0.00) showed that the most likely hypothesis was Intellectual Stimulation to Blended Learning. According to the AVE values in (Table 3), the research determined an adequate sample size (385) was attained, suggesting that sufficient valid data were received. Additionally, using the above-mentioned paradigm, a statistical measure known as ( $R^2$ ) is employed to explicate the variance in LVs and DV (Table 4). However, all calculations of ( $R^2$ ) confirmed the relationship's severity (P-value =0.00).

previous research on leadership styles and outcomes. Studies by Rafferty & Griffin (2006; Zhou, & Shipton 2012; Densten 2002; Zdaniuk & Bobocel 2015; Klimova 2021; Yehia, et al., 2022) emphasize the importance of leadership in various contexts. They highlight the positive impact of leadership on job satisfaction, commitment, creativity, adaptability, and effectiveness in blended learning. The present study adds to this understanding by focusing on online leadership and its role in instructors' adaptability to blended learning. It suggests that online leadership can inspire, motivate, and shape instructional practices in the post-pandemic era.

However, as previously said, integrating new technologies into current educational processes is sometimes a challenging process, and online leadership needs assistance throughout this process (Afshari et al., 2012). We demonstrated, using technologies and implicit self-theories, that followers might absorb online leadership traits as self-descriptors, which influenced their desire to participate in co-leadership. It seems as if leaders are inextricably linked to and complimented by followers. Indeed, our research revealed support for the assertion that online leadership behaviour grows and thrives only when schools provide final support. For example, the alignment between followers' active behaviour (i.e., taking on leadership roles) and an organization-level perception of leaders' inspiring vision and stimulating intellectual stimulation may be explained by combining implicit self-theories with underlying leadership theories.

Our research emphasises the significance of employing technology in the workplace post-covid-19, also This finding highlights online leadership's impact on student and teacher satisfaction levels and their perception of the quality of the blended learning experience. An important predictor of IT adoption and digital innovation in the workplace, but only to a limited extent, has been online leadership (Lin et al., 2020). As an alternative to traditional hierarchical leadership, online leadership is becoming more and more popular, and this makes teachers more willing to try out new technologies. Whose blended learning preparations have not progressed at all? despite participating in or leading webinars or seminars? Teachers who were not able to go to the conference but are already familiar with online learning platforms and tools may be eager to take part.

With the advent of internet tools, the way courses are designed and delivered has undergone a significant transformation. However, despite the pandemic, the blended learning strategy will surely contribute to enhancing the learning environment for lecturers and instructors who will be considered learners while participating in various training programmes, even if the shift from classroom to online courses is not yet complete. Hypothesis one (H1) says that instructor contacts with technology have a positive effect on the performance of online leadership for blended learning. This shows that there is a strong link

between frequent contact with technology and the implementation of online leadership for blended learning. Further, that implies that teachers who want to use technology in the classroom must be tech-skilled. With this information, the study approach could be used effectively in the wake of a pandemic in blended learning.

Finally, online leadership in UAE schools can greatly influence the effectiveness of blended learning. By providing strategic guidance, promoting professional growth, encouraging teamwork, and conducting thorough assessments, online leaders may provide a setting that facilitates significant and influential blended learning experiences for students. They play a crucial role in utilizing technology and online resources to improve teaching and learning results in the educational setting of the UAE.

### 5.2 Theoretical contributions

Our results provide significant additions to the literature on leadership, innovation, and information management. To begin, this study links the literature on leadership, and IT by examining a blended learning model of the contextual roles of intellectual stimulation and management innovation.

Second, our idea is based on a significant addition to the leadership literature: when people view their leader online, they are also more inclined to develop collaborative leadership teams. In this context, the study addressed demands in the literature on online leadership (Hoch 2013) for more research on the ways in which various leadership styles connect to the phenomena of online leadership.

Third, by emphasising online leadership in the post-COVID-19 classroom curriculum, we build the body of knowledge on leadership and information technology. This method tackles current debates on the effect of online leadership (Cassell et al., 2006) on certain employee outcomes. By concentrating only on teachers' impressions of IT adoption, we were able to capture an inspiring motivational result, which complements current research on leadership and creative work behaviour.

In summary, our conceptual model of the four processes that occur during cross-level interaction contributes significantly to research at the junction of leadership, and IT by emphasising: (a) Leaders

as idealised influence implementation agents from school to lower levels in the educational process. (b) Organizationally developed management innovations serve as contextual accelerators for overcoming possible barriers to individual IT adoption. (c) Bottom-up facilitation of organizational-level management innovation implementation through online leadership. (d) Leaders must act as critical context designers in order to implement innovative practises at the Individualized Consideration level.

### Author Contributions

Dr. Asaad Ali Karam and Dr. Khaled Younis Alderbashi worked together on the research project. Dr. Karam developed the study concept, conducted a review of existing literature, gathered and analyzed data, and participated in authoring and revising the article. Dr. Alderbashi and Dr. Dlofan Ameen Salman contributed to the study design, aided in data collection and processing, helped interpret findings, and took part in revising the article. All authors thoroughly examined and endorsed the final document, demonstrating their collaborative work and proficiency in the subject.

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