

## The influence of virtual instructional leadership on teachers' commitment: A Malaysian e-leadership case study

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### ABSTRACT

The ability of instructional leadership practices in shaping positive school culture is well known. Similarly, it is also proven that this kind of school leadership could strengthen teachers' commitment. However, the research tended to focus on conventional instructional leadership and the ability of virtual instructional leadership to produce such impact remains unclear. Therefore, this study investigated the influence of virtual instructional leadership on teachers' commitment. Based on Meyer and Allen's Organizational Commitment Model, the research model developed and analyzed using partial least squares-structural equation modeling (PLS-SEM). The finding revealed a positive impact of principals' virtual instructional leadership practices towards teachers' commitment in schools. Despite this, the study also discovered that normative and continuous commitments are not the fit dimensions for teacher's commitments in the context of virtual instructional leadership, which is quite shocking. Hence, this would be a fruitful area for further works.

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## 1. INTRODUCTION

The 21st century has witnessed rapid developments in information and communication technology (ICT) around the world. As a result, high-end mobile technology has brought a new paradigm in school leadership practices [1], [2]. This phenomenon has gradually encouraged school leaders to shift from traditional leadership to virtual leadership that integrates mobile device technology and other mediums of virtual communication [3], [4]. Meanwhile, a teacher's commitment is regarded as the most important aspect that could guarantee school success. This is because effective schools have teachers who are committed to their duties and responsibilities [5]. As we are all aware, the COVID-19 pandemic has created uncertainties in many aspects of life, including education. This pandemic has hit the world for almost two years and yet the concrete solutions for it are still unavailable. This phenomenon has forced us to change our routines. With the windy open and shut of education institutions, especially schools, the school leaders have to find ways to ensure the education process continues to happen. This is why education leadership becomes even more critical nowadays.

As school operation currently becomes virtual, school leaders have to shift from conventional to virtual instructional leaderships. However, this virtual instructional leadership style could be challenging, especially for senior school leaders. The outcomes of inefficient virtual leadership could be devastating to the respective schools. It could negatively affect the whole school operation and overall student achievements. Unfortunately, till the present, it is still not clear how far this transition could affect teacher's commitment to the school. Therefore, this study aims to investigate the impact of virtual instructional leadership practices on sub-ordinate teachers' commitment in schools.

School leaders are not just ordinary leaders in schools, but they are considered a group of influential individuals that could produce competent human capital. Hence, to be an effective school leader, a principal or headmaster needs to have two vital abilities: i) To influence the subordinates; and ii) To implement instructional leadership [6]. In this regard, the Malaysian government through the Ministry of Education (MoE) has executed several policies to ensure school leaders attained the preceding criteria, including the integration of ICT in all educational activities. School leadership is an important element in shaping quality students and competent teachers. Prior researchers in the last decade have empirically proved that positive school leaders are a key factor in determining school success [7], [8]. This notion is also supported by some recent studies, claiming that the success of a school depends on the effectiveness of the leadership of school leaders [4], [9].

In that sense, instructional leadership is one of the leadership styles that are well-known among principals and headmasters. However, there are various types of instructional leadership available, which somehow creating confusion. Most of the existing instructional leadership models were developed in the context of western education [10], [11], thus, might not be 100% fit with the Malaysian scenario. Additionally, besides ordinary leadership routines, principals are also subjected to excessive workloads such as office management, school financials, meetings, and many more. This circumstance thus caused principals to pay less on practicing instructional leadership [12]. As compensation, most observation activities have to be taken over by assistant principals [13]. Furthermore, the frequent unavailability of principals in school (for attending meetings, courses and seminars) has dramatically diminished the instructional leadership practices. Considering all these deficiencies, an urgent investigation should be conducted to improve current instructional leadership practices.

In today's modern societies, the role of ICT education has become inevitable [14]. The eruption of a limitless number of ICT innovations, which featuring new communication mediums and gadgets should be seen as an opportunity by school leaders in their instructional leadership practices. Virtual instructional leadership is a new term that currently gaining popularity among researchers and practitioners in educational leadership [4], [15], [16]. It refers to the incorporation of various ICT and communication tools to exercise instructional leadership [17]. There are many existing works on this matter, but the study that investigates in detail the impact of the adoption of such technology in instructional leadership on teacher's commitment is missing.

Commitment is defined based on certain characteristics including a high trust in the organization, acceptance of organizational goals and values, striving for the achievement of organizational goals, as well as a strong desire to remain and continue to be a member of an organization [18]. It is comportment beyond formal and normative expectations, which is indicated by the individual's willingness to accept a workload for the sake of achieving organizational goals [19]. In the educational context, it is regarded as a feeling of trust, loyalty and willingness to cooperate within the organization [20]. The success of a school is not solely depending on the principal/headmaster, but it should also be borne by all teachers. A teacher's commitment is the most important asset that determines a school's success. By logic, this idea is undeniable as effective schools have teachers who are committed to their duties.

Teachers' commitment indicates a strong intention to achieve school goals and to engage in school duties. This has been evidenced by several past studies which revealed that professional behavior is a factor for the commitment of teachers in schools [21], [22]. Indeed, the findings of these studies proved that school climate has a relationship with teacher commitment. The findings also showed that committed teachers will demonstrate their high levels of performance to positively transform the schools. In light of this, the role of principals or headmasters is not just limited to managing education delivery, but they are also expected to produce human capitals. Although the influence of conventional instructional leadership in shaping teacher's commitment is well-versed by prior researchers [23], [24], ones could still argue whether the same impact could be produced when it is implemented virtually [25]. With the recent COVID-19 pandemic that triggers an ambiguous future in traditional education, the urgency of this kind of investigation is critical, as it is the only means that is available to support remote education [26].

## 2. RESEARCH MODEL

The research model as shown in Figure 1 is developed based on Meyer and Allen's Organizational Commitment Model [27]. It suggests that virtual instructional leadership (VIL) would have a direct relationship to teachers' commitment (TC) in schools. Both the exogenous and endogenous constructs in this model consist of second-order dimensions. The VIL is formed by eight dimensions namely school goal determination (SGD), school goal explanation (SGE), teachers' observation (TO), students' observation (SO), mobile devices application (MDA), incentive to teachers (ITT), incentive to students (ITS), and community involvement (CI). On the other hand, the construct of TC comprises of three dimensions, which are affective commitment (AC), continuous commitment (CC), and normative commitment (NC). In general, this model explains that the teachers' commitment to the respective school could be achieved or improved if a proper virtual instructional leadership approach is implemented by the principals. The hypothesis of this study is: There is a significant relationship between principal's virtual instructional leadership practices and teachers' commitment in schools ( $H_1$ ).

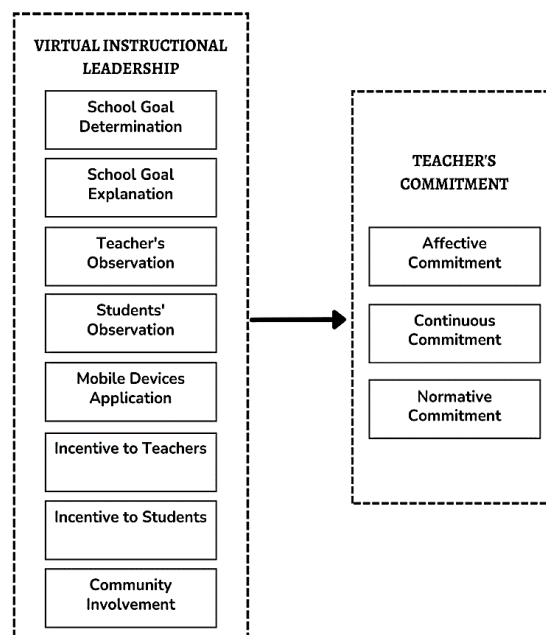


Figure 1. The research model

## 3. RESEARCH METHOD

This study applied a quantitative approach whereby the data were collected using a survey instrument (questionnaire). The questionnaire consists of 42 measurement items and was developed based on the principles of instructional management rating scales (PIMRS) by Hallinger and Murphy [28]. Measured based on a five-point Likert Scale, this questionnaire has gone through validation and reliability assessments to ensure its accuracy and robustness in measuring the virtual instructional leadership among school leaders. These procedures started with the examinations of face validity and content validity, which were done through a series of consultations with statisticians and field experts. Furthermore, the items' reliability was analyzed based on internal consistencies, indicated by the Cronbach's alpha ( $\alpha$ ) values, cut off at 0.7 [29].

There are 500 sets of questionnaires distributed to the primary and secondary school leaders across Malaysia in the period of January until April 2020. The respondents were randomly selected among headmasters, principal and assistant principals who are usually in charge of monitoring and managing the school operations. As a result, 200 usable and valid responses were gathered after conducting the data cleaning procedures. The collected data were cleaned and prepared by testing its normality, linearity, as well as eliminating extreme outliers and missing values. These procedures were done using International Business Machines Corporation (IBM) statistical packages for the social sciences (SPSS). Once the data are free from undesired characteristics, the main path analysis; Partial least squares-structural equation modelling (PLS-SEM) was done using SmartPLS Version 3.

#### 4. RESULTS

To examine the relationship between vertically integrated liquid (VIL) and total carbon (TC), this study first started by conducting a measurement model analysis based on second-order reflective constructs. By executing partial least squares (PLS) algorithm, it was found that the measurement model failed to achieve construct reliability and convergent validity. Two second-order constructs of TC, which are NC and CC demonstrated  $\alpha$  and composite reliability 0.7 [30]. Similarly, NC, CC, and TC did not attain the cut-off value of 0.5 for average variance extracted (AVE) [30]. Therefore, 15 indicators were removed from the model. Unfortunately, during the process of the model's purification, it was discovered that AC is the only indicator that is appropriate for TC, and two other second-order constructs, NC and CC must be removed to achieve construct reliability and composite reliability. Table 1 summarizes the analysis of construct reliability of this study.

Table 1. The analysis of measurement model

1st	2nd	Ind	FL	CA	Composite reliability	AVE	Construct reliability	Convergent validity
VIL	SGD	B1	0.953	0.905	0.955	0.913	Achieved	Achieved
		B2	0.958					
	SGE	B6	0.939	0.878	0.943	0.891	Achieved	Achieved
		B7	0.949					
	TO	B15	0.973	0.938	0.970	0.942	Achieved	Achieved
		B16	0.968					
	SO	B19	0.881	0.873	0.913	0.724	Achieved	Achieved
		B20	0.853					
		B21	0.836					
		B22	0.833					
MDA	B28	1.000	1.000	1.000	1.000	Achieved	Achieved	
ITT	B30	0.944	0.887	0.946	0.898	Achieved	Achieved	
		B31	0.951					
ITS	B35	0.942	0.883	0.945	0.895	Achieved	Achieved	
		B36	0.950					
CI	B41	0.936	0.853	0.931	0.872	Achieved	Achieved	
		B42	0.931					
TC	-	C2	1.000	1.000	1.000	1.000	Achieved	Achieved

For the discriminant validity, first, the cross-loadings had to be examined. In this study, all indicator loadings are greater than the entire corresponding cross-loading values [30], [31]. Therefore, the first criterion for discriminant validity is accomplished. Similarly, all constructs achieve the Fornell-Larcker criterion, indicating the discriminant validity of the model as shown in Table 2.

Table 2. The analysis of Fornell-Larcker criterion

	CI	ITS	ITT	MDA	SGD	SGE	SO	TC	TO	VIL
CI	0.934									
ITS	0.39	0.946								
ITT	0.57	0.54	0.948							
MDA	0.348	0.585	0.48	1						
SGD	0.494	0.337	0.331	0.348	0.956					
SGE	0.446	0.498	0.5	0.519	0.572	0.944				
SO	0.618	0.546	0.609	0.5	0.506	0.578	0.851			
TC	0.169	0.367	0.35	0.326	0.104	0.153	0.263	1		
TO	0.544	0.452	0.546	0.422	0.407	0.481	0.63	0.241	0.97	
VIL	0.744	0.716	0.772	0.652	0.651	0.753	0.881	0.326	0.762	0.707

To strengthen the finding, this study has conducted an analysis of the Heterotrait Monotrait Ratio (HTMT) criterion. As specified by Table 3, the result indicates that all HTMT values are 1 [31], thus securing the discriminant validity of the model. Later, the structural model analysis was embarked. Through path coefficient analysis, it is found that there is a positive and significant relationship between VIL and TC ( $\beta=0.326$ ,  $t=5.350$ ,  $p=0.000$ ), thus supporting hypothesis  $H_1$ , as illustrated in Figure 2.

Table 3. The analysis of HTMT

	CI	ITS	ITT	MDA	SGD	SGE	SO	TC	TO	VIL
CI										
ITS	0.45									
ITT	0.652	0.61								
MDA	0.377	0.621	0.509							
SGD	0.562	0.378	0.369	0.366						
SGE	0.513	0.564	0.566	0.553	0.641					
SO	0.712	0.624	0.69	0.535	0.567	0.658				
TC	0.185	0.391	0.371	0.326	0.11	0.163	0.284			
TO	0.607	0.493	0.598	0.435	0.44	0.525	0.692	0.249		
VIL	0.835	0.783	0.837	0.674	0.727	0.836	0.968	0.333	0.806	

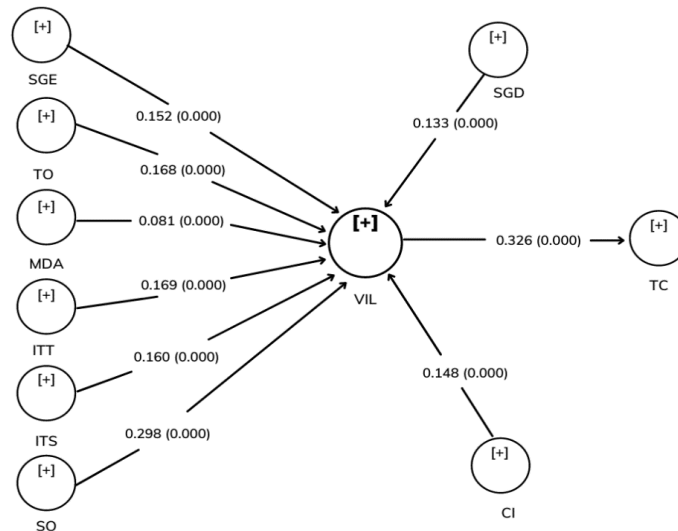


Figure 2. The structural model

5. DISCUSSION

This study has yielded several interesting findings. First, it is discovered that there is a positive influence of principals’ virtual instructional leadership practices towards teachers’ commitment in schools. There are similarities between this finding and those by some previous studies [32]–[34]. They proved that the instructional leadership practices that integrate the elements such as community involvement, as well as incentives to teachers and students will reinforce their motivation and willingness to commit to the respective schools. Furthermore, this finding also corroborates the theory of Maslow [35], who suggested that incentives could fulfill an individual’s needs. However, the current study has extended the finding by investigating it in terms of ICT-aided instructional leaderships. This is a vital transition that principals cannot avoid. With the uncertain future caused by the COVID-19 pandemic, there is no guarantee that the situation will be back to normal, where school activities can be done face-to-face. Hence, the adoption of virtual tools to execute school routines including in instructional leadership is essential, especially when the world is now ready for the endemic stage, where we will live with this virus among us.

Another important finding in this study is in terms of the dimensions of teachers’ commitments. Although the conceptual framework was proposed based on the established model [27], these dimensions did not fit the context of virtual instructional leadership among school leaders. In this study, it is revealed that normative and continuous commitments are not the fit dimensions for teacher’s commitments in the context of virtual instructional leadership. Logically, this can be explained by the fact that the career as a teacher is somehow different from others. Normative commitment is related to the loyalty or obligation towards a certain organization. On the other hand, the continuance commitment is about a need to commit to a specific school. This is somehow related to normative commitment. In light of this, a respective school is not an individual entity. But instead, it is a sub-entity under the Malaysian MoE, where approximately 10,220 schools are administered with the same principles and goals. Thus, it is acceptable to assume that the loyalty or obligation to a certain school is less relevant as teachers should be willing to serve anywhere based on the requirement by MoE.

Theoretically, it is difficult to explain this result. Since this difference has not been found elsewhere, it is probably due to certain factors and limitations. First, this study only employed 200 samples for data analysis. The limited number of data may negatively sway the reliability and generalizability of this finding [36]. Thus, this study calls for further research to improve this matter to obtain a more accurate result. Second, it is also could be argued that Mayer and Allen's Commitment Model [27] is not built on an empirical basis, and thus, the contradictions should not be a big issue, because it is a basis to improve the model.

Although this study yielded this surprising result, it should be interpreted with caution. First, the sample of this study is only collected in one country. In like manner, the demographic variance could exist in other groups of teachers, and this finding cannot be over-generalized. Therefore, to increase the robustness of this model, further investigation into different contexts should be performed. For instance, stratified sampling could be applied to fairly gather samples that represent certain characteristics of teachers. Second, to improve the robustness and validity of the produced teacher's commitment model, more related predictors should be tested. Besides the virtual instructional leadership, other factors like school culture, job satisfaction, workload and wages are among some interesting determinants that could enrich the explanation power of the model. Similarly, it is also exciting to know how ICT could ease the workload and increase teacher's commitments, especially during this pandemic era. Third, the current finding is solely yielded from quantitative analysis. Therefore, the application of a mixed-methods approach such as explanatory sequential design could possibly deepen the finding, especially to uncover the reasons behind the insignificant or significant relationships between endogenous and exogenous variables.

## 6. CONCLUSION

The finding revealed a positive impact of principals' virtual instructional leadership practices towards teachers' commitment in schools. Despite this, the study also discovered that normative and continuous commitments are not the fit dimensions for teacher's commitments in the context of virtual instructional leadership. This fact is quite shocking.

To sum up, this study has discovered an interesting finding that contributes to both, the body of knowledge and the practical contexts. Nevertheless, as previously mentioned, it is still far from enough, and more follow-up studies are required. From the practical lens, it is hoped that the finding will trigger the education authorities in coming with an appropriate policy of virtual instructional leadership practices in schools. This policy should provide a clear guideline, modules, and school leader training, which would facilitate its implementation and could result in the overall improvement of teachers' commitments.

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