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The Influence of Digital Competencies, Learning Communities, And Supervision on Teacher Performance That Impact Work Achievement in Pangkalpinang City Primary Schools

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Abstract

This research aims to analyze the influence of digital competence, learning communities, and supervision on teacher performance which impacts work performance in elementary schools (SD) in Pangkalpinang City. The research uses an explanatory approach to explain causal relationships between variables. The model applied is hypothesis testing based on theories developed by the researcher. Primary data was collected through questionnaires distributed to elementary school teachers in SD Negeri 3, 6, 10, and 28 Pangkalpinang. The data were analyzed using Structural Equation Modelling (SEM) with the SmartPLS 4 software. The research findings indicate that digital competence, learning communities, and supervision significantly influence teacher performance. Furthermore, these three variables also have a positive and significant impact on work performance. The study also reveals that digital competence, learning communities, and supervision not only directly affect work performance but also indirectly through improvements in teacher performance. Therefore, enhancing digital competence, strengthening learning communities, and implementing effective supervision can significantly improve teacher performance, ultimately leading to better overall work performance in elementary schools.

***Keywords**: Digital competence, learning community, supervision, teacher*

1. INTRODUCTION

Entering the 21st century, the international world's demands on a teacher's duties are very heavy (Yunita, 2023). The needs of students in this era are different from students in previous eras. Currently, students are very enthusiastic about digital and technological things. Teachers in the digital era now face different challenges. They have students who incidentally is a digital generation who has been familiar with internet technology since

birth. With this new era, teachers must adapt and be professional in the era of fast-paced technology and information.

Teachers are required to have digital competence with optimal mastery to balance digital students with their various characteristics (Sitompul, 2022). The aim is so that the teaching and learning process can run more effectively and efficiently because teachers are able to teach more creatively by using technology. In the era of digitalization, teachers must apply their professionalism in using learning technology, meaning teachers are able to develop, adapt and learn many new things in accordance with the digital era, especially increasingly fast technology and information. With digital competence, teachers are able to create, create and operate various learning media.

Changes in the school's strategic environment play a role in developing teachers' need to continue learning. In the Netherlands, as part of a national government program, schools set strategies to develop as learning organizations and strengthen a professional learning culture where teacher collaboration is deliberately embedded in design, implementation, evaluation and teacher learning (Admiraal et al., 2021). The school creates and supports ongoing learning opportunities for all staff which means that the school provides time and other resources to support learning. In learning communities, collaboration, team learning, peer consultation and advice, reflection and school conditions are carried out and schools allocate time and other resources for collaboration and collective learning (Admiraal et al., 2021).

Learning community management relates to how to plan, implement and evaluate the development of knowledge, skills, A person's ability and capacity to develop and innovate within a school. This is also related to the added value that can be provided to the school. Learning communities are very important because they manage school human resource assets that can increase school value. The aim is to improve the quality of teachers and schools in both the short and long term and achieve competitive advantage (Armstrong & Yusron, 2021).

GTK Director General Circular No. 428/B/HK.04.01/2023 concerning Optimizing Learning Communities states that every educational unit must have a learning community within the school. Data submitted by the Ministry of Education and Culture states that 88% of schools have intra-school teacher learning communities (Giyanto et al., 2023).

Learning communities are very important as a forum for realizing collaboration (Palallo et al., 2023). Teachers can learn together (not in isolation) and agree that the education of all students is a collective responsibility. Inequalities in teacher competence can be minimized. So, students have a learning experience of the same quality, regardless of the teacher.

Developing teacher performance can also be done through supervision. Supervision has an important position in coaching and the development of cooperation in an educational organization (Saharudin et al., 2022). Educational supervision is a process that aims to improving teaching by developing teachers (Altun & Sarkaya, 2020). The goal of teacher supervision is to develop teachers' pedagogical skills to increase student success.

The supervision process is not based on assessing and seeing mistakes made. The main activity of supervision is doing coaching, assessment, development and control efforts to improve ability to develop in order to realize effective work (Cecep et al., 2021). This means that in the world of education, supervision is carried out for develop and improve the quality of teachers so that teachers can develop in carrying out their duties and responsibilities well and true (Nurhayati & Rosadi, 2022).

2. LITERATURE REVIEW

2.1 Human resource management (HRM)

Human resource management (HRM) is about measuring the value of people, determining their contribution to organizational performance, and providing insight into the strengths and weaknesses of an organization's approach to managing this important resource

(Sugiarti et al., 2022). These measurements assess how well an organization has the required human resources and analyze the operations and effectiveness of human resources (HR) activities. Thus, they can inform the process of developing human resource management strategies and indicate what steps need to be taken to change policies or practices (Armstrong & Taylor, 2023).

Organizations depend on human resources. They must acquire and develop the capable, skilled and engaged employees they need, manage their performance, reward them according to their contributions, create and maintain positive working relationships and ensure their well-being (Suparmi et al., 2023).

2.2 Digital Competence

Digital competency is included in one of eight keys lifelong learning (key competences for lifelong learning) (Tretinjak & Anđelić, 2016). Digital competency is the ability to explore in facing new technological situations to analyze, select, evaluate data and information to exploit the potential of technology to solve problems masalah (Gallardo-Echenique et al., 2015). In general, digital competence can also be defined as the creative, critical and confident use of information and communication technology to achieve goals related to work, employability, learning, leisure, inclusion and participation in society (Intef, 2017).

Teacher digital competency is a learning solution in the digital era. Digital competency is interpreted as involvement and reflective practice in teaching and learning activities through digital technology (Sitompul, 2022). Digital skills are an approach that is not just based on the teacher's skills in using technology, but also on how teachers as facilitators use technology to build thinking skills while developing students' affective aspects (Purfitasari et al., 2019).

2.3 Learning Community

Learning communities as a means for teachers to develop competence. A learning community is defined as an environment that allows teachers to share experiences, knowledge and resources with each other in order to improve the quality of learning (Khusna & Priyanti, 2023).

Schools as a collection of small groups have a characteristic that can be seen as a school community, namely cohesive behavior guided by mutual agreement based on agreed values and norms (Triatna, 2015). The interaction of the school community becomes a medium for leadership

development when teacher involvement in the interaction is the self-involvement/personal role of each teacher which is linked to the interests of the school which must be achieved together. The teacher will connect himself with the missions that must be carried out by the school. This process is considered to develop teacher leadership abilities in layers.

2.4 Supervision

Supervision activities aim to improve learning activities. Academic supervision is an effort made to improve students' learning abilities and teachers' teaching abilities (Bano, 2018). According to Sahertian (2000:19), supervision is an effort to provide services to teachers both individually and as a group in an effort to improve teaching.

Daryanto (2010: 170) explains that supervision is an effort by school officials to lead teachers and other educational personnel to improve teaching, stimulate teacher growth and development, revise educational objectives, teaching materials, teaching methods and evaluate teaching. Every implementation of an educational program requires supervision or supervision (Bano, 2018).

2.5 Teacher Performance

Teacher performance is the main factor or key that must be possessed in order to achieve educational goals comprehensively. According to Supardi (2013), teacher performance is a condition that shows a teacher's ability to carry out their duties at school and describes the actions displayed by the teacher during learning activities (Muspawi, 2021).

Kempa (2015) said that teacher performance is the teacher's overall behavior in achieving goals in carrying out the tasks assigned to him well as a teacher, trainer, mentor, coach and educator of students, so that mastering these main tasks can improve the teacher's teaching profession (Muspawi, 2021).

2.6 Work Performance

Work performance is a result achieved by a person in carrying out the tasks assigned to him which is based on skills, experience, and seriousness and time (Hasibuan & Hasibuan, 2016). The purpose of work performance assessment is to improve or increase organizational performance through increasing the performance of human resources. Human resources who excel will make a positive contribution to the organization

3. METHOD

This research is a causal quantitative research. This research uses analysis Partial Least Squarel (PLS) to test the hypothesis that will be proposed in this research. Each hypothesis will be analyzed using Smart PLS Software to test the relationship between variables.

The data collection method used to obtain the data needed in this research was distributing questionnaires. The research subjects were elementary school (SD) teachers in Pangkalpinang City, namely SD Negeri 3, SD Negeri 6, SD Negeri 10, and SD Negeri 28 Pangkalpinang, both civil servants, PPPK, regional honorariums, and APBN honorariums. The total sample of teachers at SD Negeri 3 Pangkalpinang was 25 teachers, SD Negeri 6 Pangkalpinang was 25 teachers, SD Negeri 10 Pangkalpinang was 25 teachers, and SD Negeri 28 Pangkalpinang was 25 teachers

3. RESULTS AND DISCUSSION

4.1 Measurement Model Analysis (Outer Model)

Interpretation *Discriminant Validity (Cross Loading), Fornell – Lacker Criterion*, and the Discriminant Ratio HTMT as follows:

1) With three discriminant validity measurement models, namely *cross loading*, *fornell larcker criterion* and the HTMT ratio is met properly. For discriminant validity with the model *cross loading* It can be seen that performance indicators 1 – Performance 11 have the highest correlation with the Performance variable. Likewise with indicators other indicators that have the highest correlation with each latent variable.

2) Discriminant validity by method *Fornell-Larcker Criterion* It can be seen that the value for each variable is greater than the correlation of other variables. Finally, for testing discriminant validity using the HTMT ratio method, it can be seen that the correlation value between latent variables is less than 0.9.

4.2 Inner Model Analysis

The structural model was evaluated using *R-Square* for the dependent construct t test and the significance of the structural path parameter coefficients.

a. R – Square

The results of the R-Square test using SmartPLS 4 obtained an R-Square value which can be seen in the following table:

Table 1. *R – Square*

Variable	R-square	R-square adjusted
Performance	0.700	0.690
Job Performance	0.773	0.764

The fairly high R-square value for Performance (70%) and Work Achievement (77.3%) indicates that the model used is able to explain most of the variation in these two variables. *R-square adjusted* which is not much different from R-square shows that this model does not experience overfitting and the independent variables have a strong influence on work performance and achievement. Overall, this model is effective in explaining variations in Job Performance and Achievement with a significant contribution from the independent variables included in the model.

b. Q – Square

Mark *Q – Square (* Q^2) shows the predictive relevance of the model or the model's predictive ability.

Table 2. *Q – Square*

Variable	SSO	SSE	Q^2 (=1-SSE/SSO)

Performance	1100.000	416.211	0.622
Job Performance	800.000	242.659	0.697

The Q^2 value for Performance (0.622) and Job Achievement (0.697) shows that the model has good predictive relevance for these two variables. This model is quite strong in predicting Performance and Job Achievement variables, with higher predictive ability for Job Performance. Overall, the model used shows positive results in terms of predictive ability for these two variables, which indicates that the independent variables in this model have a significant contribution to Job Performance and Achievement.

Based on these data, the variables influenced in this research have value *Q – Square* amounting to 0.622 > 0 and 0.697 > 0. This means that this research is considered good. This is because it has value *predictive relevance* which is good. ***c. F – Square***

F-Square is a measure used to assess the relative impact of a variable that influences (exogenous) on the variable that is influenced (endogenous).

Table 3. *F – Square*

	f-square	**Information**
Performance → Job Achievement	0.160	Enough
Digital Competence → Performance	0.119	Weak
Digital Competency → Job Performance	0.078	Weak
Learning Community → Performance	0.230	Enough
Learning Community → Job Performance	0.085	Weak

Supervision → Performance	0.146	Weak
Supervision → Work Performance	0.092	Weak

In general, from this table it can be concluded that performance and learning communities have a greater influence on several dependent variables compared to digital competence or supervision.

Learning Communities show sufficient influence on performance, so that improving learning communities may be more effective in improving performance compared to other factors. Supervision has a sufficient impact on performance, but the impact on work performance is relatively small. Digital Competence has a weak influence on both performance and job performance, indicating that increasing digital competence may not have a significant impact on these two variables in this context.

4.3 Testing the Total Effect Hypothesis *(Total Effect)*

Total influence *(total effect)* is the total of *direct effect* (direct influence) and *indirect effect* (Indirect influence)

Table 4. *Total Effect*

	Original sample (O)	**Sample mean (M)**	**Standard deviation (STDEV)**	**T statistics (|O/STDEV|)**	**P values**
Digital Competence → Performance	0.256	0.263	0.069	3.720	0.000
Digital Competency → Job Performance	0.191	0.190	0.094	2.033	0.042

Learning Community → Performance	0.381	0.389	0.096	3.976	0.000
Learning Community → Job Performance	0.223	0.228	0.108	2.074	0.038
Supervision → Performance	0.317	0.307	0.104	3.045	0.002
Supervision → Job Performance	0.234	0.226	0.106	2.202	0.028
Performance → Job Achievement	0.348	0.352	0.115	3.034	0.002
Digital Competence → Performance → Job Performance	0.089	0.094	0.042	2.121	0.034
Learning Community → Performance → Job Performance	0.133	0.138	0.060	2.207	0.027
Supervision → Performance → Job Achievement	0.110	0.106	0.048	2.281	0.023

The total influence of digital competence on performance is 0.256, the T/Statistic (|O/STDEV|) value is 3.720 and the probability value *(p-values)* equal

to 0.000 < 0.05. Thus, it can be concluded that there is an influence of digital competence on the performance of elementary school teachers in Pangkalpinang. The total influence of digital competence on work performance is 0.191, the T/Statistic (|O/STDEV|) value is 2.033 and the probability value *(p-values)* equal to 0.042 < 0.05. Thus, it can be concluded that there is an influence of digital competence on the work performance of elementary school teachers in Pangkalpinang.

The total influence of the learning community on performance is 0.381, the T/Statistic (|O/STDEV|) value is 3.976 and the probability value *(p-values)* equal to 0.000 < 0.05. Thus, it can be concluded that there is an influence of the learning community on the performance of elementary schools in Pangkalpinang. The total influence of the learning community on work performance is 0.223, the T/Statistic (|O/STDEV|) value is 2.074 and the probability value *(p-values)* equal to 0.038 < 0.05. Thus, it can be concluded that there is an influence of the learning community on teacher work performance elementary school in Pangkalpinang. The total influence of supervision on performance is 0.317, the T/Statistic (|O/STDEV|) value is 3.045 and the probability value *(p-values)* equal to 0.002 < 0.05. Thus it can be concluded that there is influence supervision of the performance of elementary school teachers in Pangkalpinang. The total influence of supervision on work performance is 0.234, the T/Statistic (|O/STDEV|) value is 2.202 and the probability value *(p-values)* equal to 0.028 < 0.05.

Thus, it can be concluded that there is an influence of supervision on the work performance of elementary school teachers in Pangkalpinang. The effect of total performance on work performance is 0.348, the T/Statistic (|O/STDEV|) value is 3.034 and the probability value *(p-values)* equal to 0.002 < 0.05. Thus, it can be concluded that there is an influence of performance on the work performance of elementary school teachers in Pangkalpinang. The total influence of digital competence on work performance through performance is 0.089, the T/Statistic (|O/STDEV|) value is 2.121 and the probability value *(p-values)* equal to 0.034 < 0.05. Thus, it can be concluded that there is an influence of performance on the work performance of elementary school teachers in Pangkalpinang.

The total influence of the learning community on work performance through performance is 0.133, the T/Statistic (|O/STDEV|) value is 2.207 and the probability value *(p-values)* equal to 0.027 < 0.05. Thus, it can be concluded that there is an influence of the learning community on work performance through the performance of elementary school teachers in Pangkalpinang.

The magnitude of the total influence of supervision on work performance through performance is 0.110, the T/Statistic (|O/STDEV|) value is 2.281 and the probability value *(p values)* equal to 0.023 < 0.05. Thus, it can be concluded that there is an influence of supervision on work performance through the performance of elementary school teachers in Pangkalpinang.

The influence of digital competence, learning community, and supervision on performance can be seen in the following table:

Table 5. F-Performance Statistical Test

	Sum square	**df**	**Mean square**	**F**	**P value**
Total	2325,440	99	0,000	0,000	0,000
Error	727,714	96	7,580	0,000	0,000
Regression	1597,726	3	532,575	70,257	0,000

Source: SmartPLS 4 Data Processing Results (2024)

Based on the table, the F-statistic value is 70.257. This shows a high level of significance between the relationships between the Digital Competence, Learning Community, Supervision variables and teacher performance variables. The P-value is 0.000 (less than 0.05), so it can be concluded that the influence of the three variables on teacher performance is statistically significant.

The influence of digital competence, learning community, and supervision on work performance can be seen in the following table:

Table 6. Statistical Test F-Job Achievement

	Sum square	**df**	**Mean square**	**F**	**P value**
Total	1908,000	99	0,000	0,000	0,000
Error	511,094	96	5,324	0,000	0,000
Regression	1396,906	3	465,635	87,461	0,000

Source: SmartPLS 4 Data Processing Results (2024)

Based on the table, the F-statistic value is 87.461. This shows a high level of significance between the relationship between digital competency variables, learning communities, and supervision on work performance variables. P-value: 0.000 (less than 0.05), so it can be concluded that the influence of the three variables on work performance is statistically significant

4. CONCLUSION

5.1 Closure

Based on the results of the data analysis and discussion described above, the following conclusions can be drawn:

1. There is a significant influence of digital competence on teacher performance in Pangkalpinang City Elementary School with probability values (p-values) of 0.000 < 0.05.
2. There is a significant influence of the learning community on teacher performance in Pangkalpinang City Elementary School with probability values (p-values) of 0.000 < 0.05.
3. There is a significant influence of supervision on teacher performance in Pangkalpinang City Elementary School with probability values (p-values) of 0.002 < 0.05.

4. There is an influence of the relationship between digital competency, learning community and supervision variables on teacher performance variables with a probability value (p value) of 0.000 < 0.05.
5. There is a significant influence of digital competence on work performance in Pangkalpinang City Elementary School, the probability value (p-values) is 0.042 < 0.05.
6. There is a significant influence of the learning community on work performance in Pangkalpinang City Elementary School with probability values (p-values) of 0.038 < 0.05.
7. There is a significant influence of supervision on work performance in Pangkalpinang City Elementary School with probability values (p-values) of 0.028 < 0.05.
8. There is an influence of the relationship between the digital competency, learning community and supervision variables on the work performance variable with a probability value (p value) of 0.000 < 0.05.
9. There is a significant influence of Digital Competence on Job Performance through Teacher Performance with probability values (p-values) of 0.034 < 0.05.
10. There is a significant influence of the Learning Community on Job Performance through Teacher Performance with probability values (p-values) of 0.027 <0.05.
11. There is an influence of supervision on work performance through teacher performance with probability values (p-values) of 0.023 <0.05.

5.2 Suggestions

To improve teacher work performance, it needs to be improved through digital competency variables, especially indicators *cross loading.* The highest is the ability to analyze technology needs periodically to ensure that the digital resources used are effective, learning community variables with indicators *cross loading.* Learning communities provide adequate professional support for the development of knowledge as a teacher**,** indicator *cross loading.* The highest level is that supervisors guide teachers in meeting students' needs with differentiated learning strategies

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