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The Pursuit of Workforce Agility: A Perspective Beyond Classroom

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Abstract
Purpose: This research aims at investigating the impact of digital competency, employee empowerment, and knowledge sharing on the agility among teachers in government-aided secondary schools in Malaysia.
Design/methodology/approach: Quantitative methodology using PLS-SEM analysis on 217 responses gathered through the distribution of survey questions using Google Form.
Findings: All factors were found to be positively influencing the workforce agility. Digital competency is the largest factor in influencing the model. The investigated elements explained 55.5% of the construct's variance. Inferring from the findings, age group and years of working experience may play a prominent role in determining the significance of these factors.
Research limitations/implications: Respondents could be segregated into more robust profiling. Limited respondents and lack of open data for comparison in digital competency.
Practical implications: Workforce agility should be a concern among school leaders and teachers to promote better performance of the organization. School leaders should take note on the digital competence, empowerment, and knowledge sharing practice among teachers.
Originality/value: Workforce agility is explored from the view of SDT, with the use of the adapted version of DigComp 2.1

Keywords: workforce agility, digital competency, employee empowerment, knowledge sharing, DigComp, PLS-SEM,

Introduction

The challenges to revamp and charter the national school education system to its right course may hamper its progress regardless of how well it is planned. Burnout, anxieties, emotional exhaustion to name a few, are axiomatic issues known to be faced by teachers, yet the causes were hardly revealed (Jamaludin & You, 2019, Othman & Vevehkanandar, 2019, Phaik Wei, 2016). To address these issues, a thorough reformation in the system is needed hence the Malaysia Education Blueprint. The blueprint consists of 11 transformational shifts in the three waves of transformation. While the focus in the 3rd wave of transformation is elevating operational flexibility, the Malaysia Education Blueprint (MEB) 2013-2025 also aims to

promote knowledge sharing culture, ICT innovation, and transformation in career pathways (Ministry of Education Malaysia, 2015).

Therefore, in order to achieve operational flexibility, agility could be the key as flexibility is a component in promoting agility (Sharifi & Zhang, 2001). Being agile may have been the right feature for organizations to overcome in facing the unpredictable, dynamic, and constantly-changing environment (Muduli & Pandya, 2018). Subsequently, Sherehiy & Karwowski (2014) asserted that an agile organization will have to rely on an agile workforce. Thus, it is high time to transform teachers into agile workforce. School leaders will need to play their roles in ensuring teachers to be equipped with the right skills and attributes to attain agility. To prevail in nurturing such workforce, the motivation factor has to be examined, hence rendering from the perspective of Self-Determination Theory (SDT) which comprised of autonomy, relatedness, and competence (Ryan & Deci, 2000). The theory posits that the cultivation of the desire to grow derives from the motivation in individuals.

In contrast to the vast number of studies on organizational agility (OA), Bala et al. (2019) highlighted that very little attention was given into studying agility from an individual's perspective. Further, Menon and M. Suresh (2020) highlighted that flexibility is one of the attributes of organizational agility. Linking to the need of agile workforce in order to be an agile organization, therefore it can be assumed that the flexibility of operation too relies on an agile workforce. In addition, the scarcity of studies, as claimed by Paul et al. (2019), further strengthens the cause to study workforce agility among teachers. Thus, in the attempt of fitting into the equation, these aforementioned factors of SDT were tested with variables such as digital competency (competency), employee empowerment (autonomy), and knowledge sharing (relatedness).

From the finding of literature, the United Nations Educational, Scientific and Cultural Organization (UNESCO) claimed that information and communications technology (ICT) usage in Malaysia is very minimal and the Smart School Qualification Standards' (SSQS) survey has very small sample, besides focusing generally on teaching and learning practices (Resource and Educational Technology Division MOE, 2019). In addition, there were findings hinting on how the lacking of empowerment impacts the wellbeing of teachers (Shanmugam & Mee, 2017). To execute responsibilities with diligence, autonomy and empowerment are crucial as teachers will need to make informed decisions (Johari et al., 2018). Further, knowledge sharing practices in educational institutions proved to be less researched on and the existence of knowledge hoarding is rather perturbing (Supermane et al., 2018; Tahir et al., 2016).

The state of being agile could be dependent of how motivated an individual is. Having said that, the optimum condition would be intrinsically motivated employees to work in an agile manner. Hence, this paper argues that through the lens of SDT, workforce agility can be promoted among teachers through better digital competency, knowledge sharing practices, and employee empowerment.

Literature Review

Theoretical Background - Self-Determination Theory (SDT)

Deci and Ryan identified three basic psychological needs essential for constructive development in social life, personal well-being, and growth; namely competence, relatedness, and autonomy (Ryan & Deci, 2000a). Competence suggests how satisfaction, confidence and the effectiveness of one are in action. Autonomy is defined how an individual act based on their self-interest and integrated values. The final piece that completes the puzzle is relatedness, which to how an individual can have the sense of belonging in and with the other individual, group or community, the connection between people, and the affection one or others felt from it (Baumeister & Leary, 1995; Deci & Ryan, 2004; Reis, 1994; Ryan & Deci, 2000b). Through

SDT, teachers can then develop their behavioural from being nonself-determined to self-determined in carrying out their day-to-day responsibilities, in which translates to developing workforce agility. In this regard, relatedness is studied as knowledge sharing where the relationship between people is built through knowledge, competence is represented as digital competence of how one is well equipped with, and autonomy is taken into account from the perspective of employee empowerment. Therefore, this study attempts to explore workforce agility of teachers from the perspective of motivation.

Workforce Agility (WA)

Chonko and Jones (2005) highlighted that a successful organization must be able to nurture employees to be agile. The WA is also known as the ability of one being able to react quickly to changes related in the given environment (Patil & Suresh, 2019). However, Sherehiy et al. (2014) claimed that "little research has been done on the WA and even less is known about what organization characteristics are conducive to the agile performance of employees". An agile workforce, according to Muduli (2013), should have seven attributes: (1) flexibility, (2) collaboration, (3) adaptability, (4) speed, (5) development, (6) competence, and (7) informative. Having defined WA, silo-working culture should not exist as collaboration among colleagues or organizations is a must-feature of being agile. Employees working in silo is a threat to the organization and also employers as the growth and progress of individuals as well as the organization may be obstructed (de Waal et al., 2019; Mohapeloa, 2017). Thus, teamwork and collaboration are crucial in establishing an agile workforce (Harsch & Festing, 2020; Stoddard et al., 2019). There are also other definitions that have been linked to workforce agility. Workforce agility has been defined as the capability of a multiskilled employee who is trained to multitask, or also known as workforce versatility (Attia, Dumbrava and Duquenne, 2012; Zaki et al., 2017). Thus, the concept of workforce agility can be defined as a well-trained and flexible workforce, capable of easily in adapting to new opportunities and situations in a quick manner.

Digital Competency

The widespread and evolution of digital technologies has changed the definitions of digital competence and digital literacy; in which they have been commonly used interchangeably. Digital competency (DC), is defined as "the ability to explore and face new technological situations in a flexible way, to analyse, select and critically evaluate data and information, to exploit technological potentials to represent and solve problems and build shared and collaborative knowledge, while fostering awareness of one's own personal responsibilities and respect of reciprocal rights/obligations" (Spante et al., 2018). Through the in-depth study on the selected digital frameworks, the initial work of Ferrari et al. (2013) from DigComp 1.0, have developed into DigComp 2.1, covering 5 competence areas with 5 dimensions by Carretero et al. (2017). Accordingly, there are five competence areas in DigComp: information and data literacy, communication and collaboration, digital content creation, safety, and problem solving. Further, these areas are measured using an 8-scale proficiency levels that is likened to the European Qualifications Framework (Bohlinger, 2019) and Bloom's taxonomy (Carretero et al., 2017). Adding value to DigComp 2.1, the UN has opted the framework as a basis to build on the Digital Literacy Global Framework (DLGF) (Law et al., 2018).

Employee Empowerment (EE)

Employee empowerment in schools is no different to any organization. The employee empowerment in this context does not delve into classroom practices, but solely on how teachers are given autonomy and also the sharing of power from top to bottom in carrying out their responsibilities. Experts claimed that empowerment allows teachers to be part of the

school's policymaking and strengthening their leadership skills, besides promoting better innovative capacity (Balyer et al., 2017; Gil et al., 2018; Visone, 2018). However, the definition of employee empowerment in this study should not be interchanged with the definition of teacher empowerment despite having teachers as the respondents. Balyer et al. (2017) defined teacher empowerment as elevating teacher's empowerment via the rights given to formulate the policies in schools and aims with pertinence to their professionalism. This context however, may not be significant in Malaysia as policies are formulated at the ministerial level. With the trust and authority given by the administrators, teachers will feel being empowered and enriched as it gives the sense of belonging, involvement and commitment to the organization while being held accountable for the outcome of their doings.

Knowledge Sharing (KS)

Knowledge can also be described as an amalgamation of logical data, prior experiences, intuition, values, and intelligence to integrate and assess new experiences and knowledge (Supermane & Mohd Tahir, 2018). Teachers have to constantly be in the pursuit of learning and acquiring new knowledge (Runhaar & Sanders, 2016). However, literature also revealed KS in educational institutions are rather unexplored and limited (Tahir et al., 2016). According to Geeraerts et al. (2016), in order to sustain a lifelong learning culture, there must be a two-way flow of knowledge, or coined by Liebowitz (2009) as 'bidirectional knowledge flow'. With that said, knowledge sharing can only occur when both parties – collector and donor, are willingly to communicate actively with each other (Lin, 2007). There were several factors that hinders knowledge sharing in varsities as outlined by Dewan Niamul & Abdul Halim (2019): external and internal barriers. Internal barriers can be referred to the intrinsic motivation or untrustworthiness on others. Organizational and technological barriers are the external barriers that could hamper knowledge sharing, should be equally paid attention to; besides overcoming the internal barriers. Thus, school leaders should monitor these barriers in their organizations and among teachers that may cause disruptions to the knowledge sharing process.

Hypothesis Development

Digital Competency and Workforce Agility

In the extensive literature review, Menon and Suresh (2020) identified that experts claimed information technology (IT) competencies and digital capabilities are enablers of organizational agility in educational institutions. These skills enable employees to share information and promote better communication. In addition, earlier literature also suggested that DC acted as an enabler for OA (Chakravarthy et al., 2013). A recent study in US showed that IT competence of employees promotes OA (Ravichandran, 2018). The key to OA is also heavily reliant on an agile workforce (Muduli, 2016). Hence, a workforce that is agile and competent digitally contributes to the organization's agility; in which translates to better performance. Jamaluddin and You (2019) highlighted teachers; especially the ones who have been serving for at least 20 years, are burdened with additional stress due to the administrative and management tasks assigned with the use of ICT. With better competency, teachers will be able to utilise gadgets and devices more efficiently besides promoting an open and transparent communication. In turn, efficient communication promotes speed, flexibility and makes employee informative, thus equals to being agile. Therefore, in this study, we argue that digital competency has influence in improving workforce agility. With many tasks and responsibilities, upskilling one with the right competency will increase productivity. Hence, a hypothesis is formed:

H1: Digital competency is positively related to WA.

Employee Empowerment and Workforce Agility

Cited works by Menon and Suresh (2020) also indicated that previous studies have claimed that employee empowerment are enablers of workforce agility. In the said literature, EE has impact on providing more voice to the employees, besides boosting their skills in promoting higher innovative capacity. According to Asgarnezhad Nouri & Mir Mousavi (2020), to endure in ensuring the survivalbility of the organization, EE is crucial. Previous empirical studies, such as by Jamaludin & You (2019) and Othman & Subramaniam (2019), have shown comparisons and level of emotional exhaustion, depression, anxiety, depersonalization, reduction in personal accomplishment, stress, and also job satisfaction, but their findings do not provide enough insights or causes of such phenomenon. The lack of empowerment also translates to suppressed voice of the teachers, leading to demotivation and becoming less agile. Highly motivated and agile teachers who are empowered are deemed to face less stress and emotional exhaustion. Therefore, this study embarks on exploring the missing piece by investigating the relationship between EE and WA among teachers.

H2: Employee empowerment is positively related to workforce agility.

Knowledge Sharing and Workforce Agility

Knowledge has been highlighted by many previous researches cited in the study of Pereira et al. (2019) in improving agility in organizations. A study showed many teachers were not keen in sharing as they feared of losing proprietorship or privilege to the knowledge (Supermane & Mohd Tahir, 2018). An investigation among the employees of a higher education institution in Iran by Hamed et al. (2014), KS explained 70.8 percent of WA ($R^2 = 0.708$). Further, recent literatures highlighted that despite myriad ways of knowledge sharing, it seemed to have received criticisms from the grassroots about the ineffectiveness (Amin, 2019; Che Had & Ab Rashid, 2019). Postulating from SDT in creating relatedness through KS, hence the hypothesis:

H3: Knowledge sharing is positively related to workforce agility.

From the formulation of hypotheses above, the research model is proposed (Fig. 1).

Research Method

Sample and Procedure

This cross-sectional study employed an adapted instrument, which was distributed to the 2444 government-aided secondary school teachers in Malaysia. As part of purposive sampling, the study also limited the types of respondents based on the inclusion criteria of any in-service academic teachers without administrative posts who use ICT and social at work. Through the calculation of G*Power, the minimal recommended size is 74 with five percent of margin error.

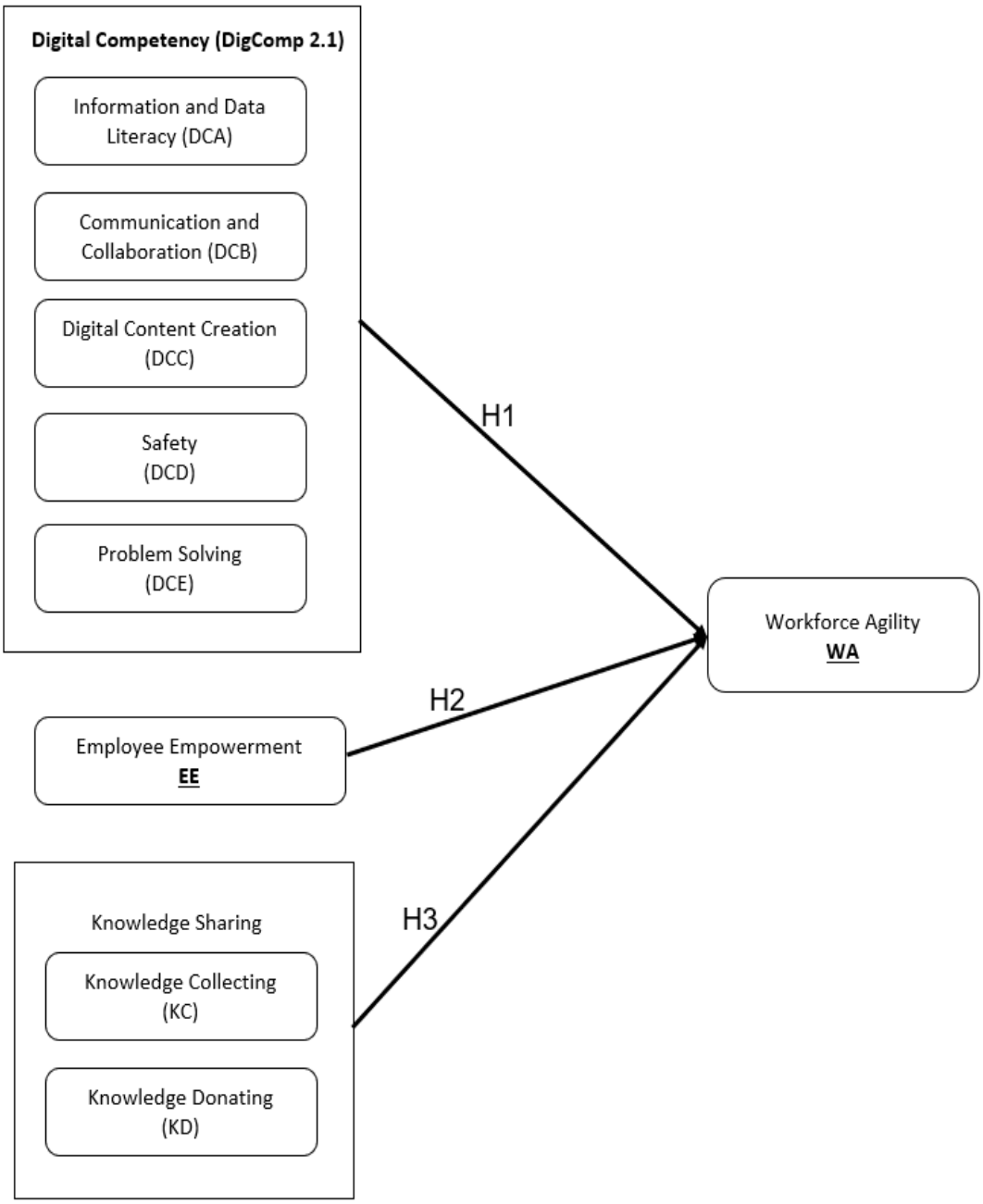

Fig. 1: Proposed research model

Measures

The instrument used comprised of two sections; the demographic and questionnaire. Particulars such as gender and age are collected in the demographic section, besides the ICT and social media platforms used. The measurement of other variables was adapted from Carretero et al. (2017), Hanaysha (2016), Lin (2007), and Muduli (2017), using Likert scales (Appendix 1). Digital competency is measured using an 8-point Likert scale while the rest used a 5-point scale.

Having used the adapted version of DigComp 2.1 as part of the empirical testing, a pilot test was conducted for its reliability using the Cronbach's Alpha, which is known for measuring internal consistency, as shown in Table 1 (Tavakol & Dennick, 2011).

Table 1: Reliability Test of Piloted Samples

Variables	Cronbach's Alpha	Number of Items
Information and Data Literacy	0.939	3
Communication and Collaboration	0.964	6
Digital Content Creation	0.920	4
Safety	0.915	4
Problem Solving	0.956	4
Employee Empowerment	0.913	5
Knowledge Collecting	0.891	3
Knowledge Donating	0.940	4
Workforce Agility	0.910	7
Total Items		40

Demographic Information

217 respondents returned with complete questionnaire. The female respondents largely representing the sample size (74.2%) with 161 teachers, while the remaining 56 are males. 40.6 of the respondents are aged between 31-40 years old and 35.5% came from the age of 41 to 50. 12 respondents are aged below 30 and 40 respondents are 51 to 60 years old. A vast majority of the sample size (81.1%) are bachelor degree holders. The working experience of the 217 respondents is summarized in the table below.

Table 2: Year(s) of working experience based on the samples collected

	Frequency	Percent
1 - 10	60	27.6
11 - 20	76	35.0
21 - 30	64	29.5
31 - 40	17	7.8
Total	217	100.0

Descriptive Analysis

The descriptive analysis revealed that the mean value for the aspects in digital competency ranged from 4.811 to 5.639, which is above average. Similarly, employee empowerment, knowledge sharing, social media usage, and workforce agility are valued high in average.

Table 3: Mean and Standard Deviation of Variables

Variables	Mean	Mode	Std. Deviation
Digital Competency			
Information and Data Literacy	5.639	6.000	1.362
Communication and Collaboration	5.624	6.000	1.371
Digital Content Creation	4.858	5.000	1.575
Safety	5.409	6.000	1.449
Problem Solving	4.811	6.000	1.601
Employee Empowerment	4.006	4.000	0.655
Knowledge Sharing			
Knowledge Donating	4.109	4.000	0.718
Knowledge Collecting	4.359	5.000	0.671
Workforce Agility	3.842	4.000	0.683

Measurement Model

Under the full collinearity test, there was no issue of Common Method Variance (CMV) or Common Method Bias due to single-sourced data as the variance inflation factors (VIF) did not exceed the value of 3.3 (Kock & Lynn, 2012).

Table 4: Full Collinearity Test

	Digital Competency	Employee Empowerment	Knowledge Sharing	Workforce Agility
VIF	1.685	1.871	2.058	2.251

Next, the average variance extracted (AVE) and composite reliability CR) were examined for its convergent validity, using SmartPLS 3.2.8 (Ringle et al., 2015). The rule of thumb by Hair et al. (2017) suggests that the outer loadings should exceed 0.708 while the AVE should exceed 0.50, hence the model of the study surpassed the recommended value.

Table 5: Measurement Model for the First-Order Constructs

First-Order Constructs	Item	Loadings	AVE	CR
Information and Data Literacy	DCA1	0.925	0.848	0.944
	DCA2	0.924		
	DCA3	0.914		
Communication and Collaboration	DCB1	0.902	0.803	0.961
	DCB2	0.921		
	DCB3	0.896		
	DCB4	0.871		
	DCB5	0.895		
	DCB6	0.889		
Digital Content Creation	DCC1	0.922	0.748	0.922
	DCC2	0.925		
	DCC3	0.868		
	DCC4	0.729		
Safety	DCD1	0.879	0.813	0.946
	DCD2	0.911		
	DCD3	0.909		
	DCD4	0.907		
Problem Solving	DCE1	0.910	0.875	0.965
	DCE2	0.951		
	DCE3	0.945		
	DCE4	0.934		
Knowledge Donating	KD1	0.877	0.793	0.920
	KD2	0.945		
	KD3	0.891		
Knowledge Collecting	KC1	0.936	0.826	0.950
	KC2	0.926		
	KC3	0.917		
	KC4	0.913		
	KD	0.936	0.877	0.935
	KC	0.937		
Employee Empowerment	EE1	0.873	0.713	0.926
	EE2	0.897		
	EE3	0.853		
	EE4	0.858		
	EE5	0.872		

Workforce Agility	WA1	0.745	0.658	0.931
	WA2	0.827		
	WA3	0.798		
	WA4	0.891		
	WA5	0.813		
	WA6	0.826		
	WA7	0.683		

Table 6: Measurement Model for Second-Order Constructs

Second-Order Constructs	Item	Loadings	AVE	CR
DigComp 2.1 (Digital Competency	Information and Data Literacy	0.904	0.854	0.967
	Communication and Collaboration	0.947		
	Digital Content Creation	0.926		
	Safety	0.921		
	Problem Solving	0.921		
Knowledge Sharing	Knowledge Donating	0.936	0.877	0.935
	Knowledge Collecting	0.937		

The assessment of discriminant validity was conducted through heterotrait-monotrait ratio of correlations (HTMT), crosschecking the correlations among all the indicators, should they overlap. Henseler et al. (2015) suggested that the value should not exceed 0.85

Table 7: HTMT between Constructs

	1	2	3	4
1. Digital Competency				
2. Employee Empowerment	0.505			
3. Knowledge Sharing	0.339	0.717		
4. Workforce Agility	0.641	0.665	0.642	

Assessment of Model

In this segment, the report of the structural model would include collinearity assessment, path coefficients of the model, coefficient of determination (R^2 value), the effect size (f^2 value), the predictive relevance (Q^2 value), and also the PLSPredict, following the suggestion by Hair et al. (2019).

Prior to assessing the structural model, it is also recommended by the researchers that the multivariate skewness and kurtosis were to be checked, and it revealed that the data was not multivariate normal, Mardia's multivariate skewness ($\beta = 1.915$, $p < 0.01$) and Mardia's multivariate kurtosis ($\beta = 24.264$, $p < 0.01$). Thus, a re-sample bootstrapping procedure of 5,000 samples with 95% confidence interval, the t-values, p-values, standard errors, and the path coefficients were reported (Ramayah et al. 2018).

In the attempt to report PLSPredict, a disjoint 2-stage approach is best suited in this study as the model would be comprised of the original items for the lower order construct (LOC) and the latent variable score derived from the hierarchical component model (HCM) combined (Sarstedt et al., 2019).

Next, the coefficient of determination of the model is checked through the figure in R^2 of the endogenous construct. Ranging from 0 to 1, figure closer to 1 indicates higher explanation power. Another rule of thumb that can be abided is the 3 levels of predictive accuracy as recommended by Hair et al. (2017); 0.75 being substantial, moderate for 0.5, and considerably weak for 0.25. In the similar publication, the researchers suggested to report adjusted R^2 due to

the instability caused by added predictors in the model. Hence, the reported R^2 value is 0.555 and the adjusted R^2 value is 0.548.
Subsequently, the effect size (f^2), is reported with digital competency (f^2= 0.299), followed by knowledge sharing (f2= 0.120), and employee empowerment (f^2= 0.057). Sheko & Spaho (2018) pointed out that the value of 0.02 indicates low effect size, 0.15 for medium, and above 0.35 is considerably large, while Hair et al. (2017) noted that values below 0.02 are considered as being no effect.

PLSPredict is the final step of the assessment. Followed by the argument brought forward by Shmueli et al. (2016) that Q^2 procedure alone is not suffice, PLSPredict is done based on holdout samples with 10 folds calculation under 10 repetitions for each item in the endogenous construct. Value of PLS root-mean-squared-error (RMSE) lower than the value of LM (linear regression model) RMSE indicates high predictive power. As a point of reference, all indicators possessing lower figure in prediction error suggest high predictive power, while more than 50% indicate medium predictive power. With reference to Table 9, this model has a moderate to high predictive power.

Table 9: PLS-Predict

Item	PLS RMSE	LM RMSE	PLS-LM	Q²_predict
WA1	0.682	0.693	-0.011	0.319
WA2	0.679	0.693	-0.014	0.299
WA3	0.667	0.679	-0.012	0.351
WA4	0.664	0.682	-0.018	0.321
WA5	0.715	0.690	0.025	0.408
WA6	0.616	0.587	0.029	0.480
WA7	0.746	0.765	-0.019	0.260

Discussion

This study has explored on digital competency, employee empowerment, and knowledge sharing, in relation to workforce agility. Based on the findings, digital competency ($\beta = 0.414$, $p < 0.01$), employee empowerment ($\beta = 0.299$, $p < 0.01$), and knowledge sharing ($\beta = 0.221$, $p < 0.01$) were found to be positively significant to workforce agility, thus confirming H1, H2, and H3.
Despite being in the educational field, this study confirmed the findings of Ravichandran (2018) and Chakravarthy et al. (2013), where digital competence is found to have complement agility. The inference of this phenomena could be demographic profile majority of the respondents. Aging 41 years old and above, these Gen-X and Gen-Y could be adopting such competence at a later age, becoming the digital immigrants (Ismail et al., 2016). In future, DC may have lower significance as the present and upcoming generations are more digitally competent and also being digital natives.
The research also revealed the positive significance between employee empowerment and workforce agility. Construing from the finding, empowerment is still a crucial factor to promote workforce agility. A closer look at the demographic profile, almost 75% of the respondents have experience between 11 to 40 years. From Hendrawijaya's (2019) point of view, often more experienced and older employees shoulder more responsibilities as they are believed to be wiser in making decisions, thinking rationally, and tolerating opinions. Thus, given that the samples in this study are teachers who do not hold administrative post, it can be inferred that they could be facing problems to make decision or carrying out their responsibilities based on their ideas or planning.

Table 8: Assessment of the Structural Model

Hypothesis	Relationships	Standardized Beta	Standard Errors	t-value	p-value	BCI LL	BCI UL	f^2	VIF	Decision
H1	DC → WA	0.414	0.052	8.037	0.000	0.324	0.495	0.299	1.285	Supported
H2	KS → WA	0.299	0.064	4.597	0.000	0.198	0.412	0.120	1.668	Supported
H3	EE → WA	0.221	0.071	3.048	0.001	0.099	0.331	0.057	1.940	Supported

Note: DC = Digital Competency, EE = Employee Empowerment, KS = Knowledge Sharing, WA = Workforce Agility

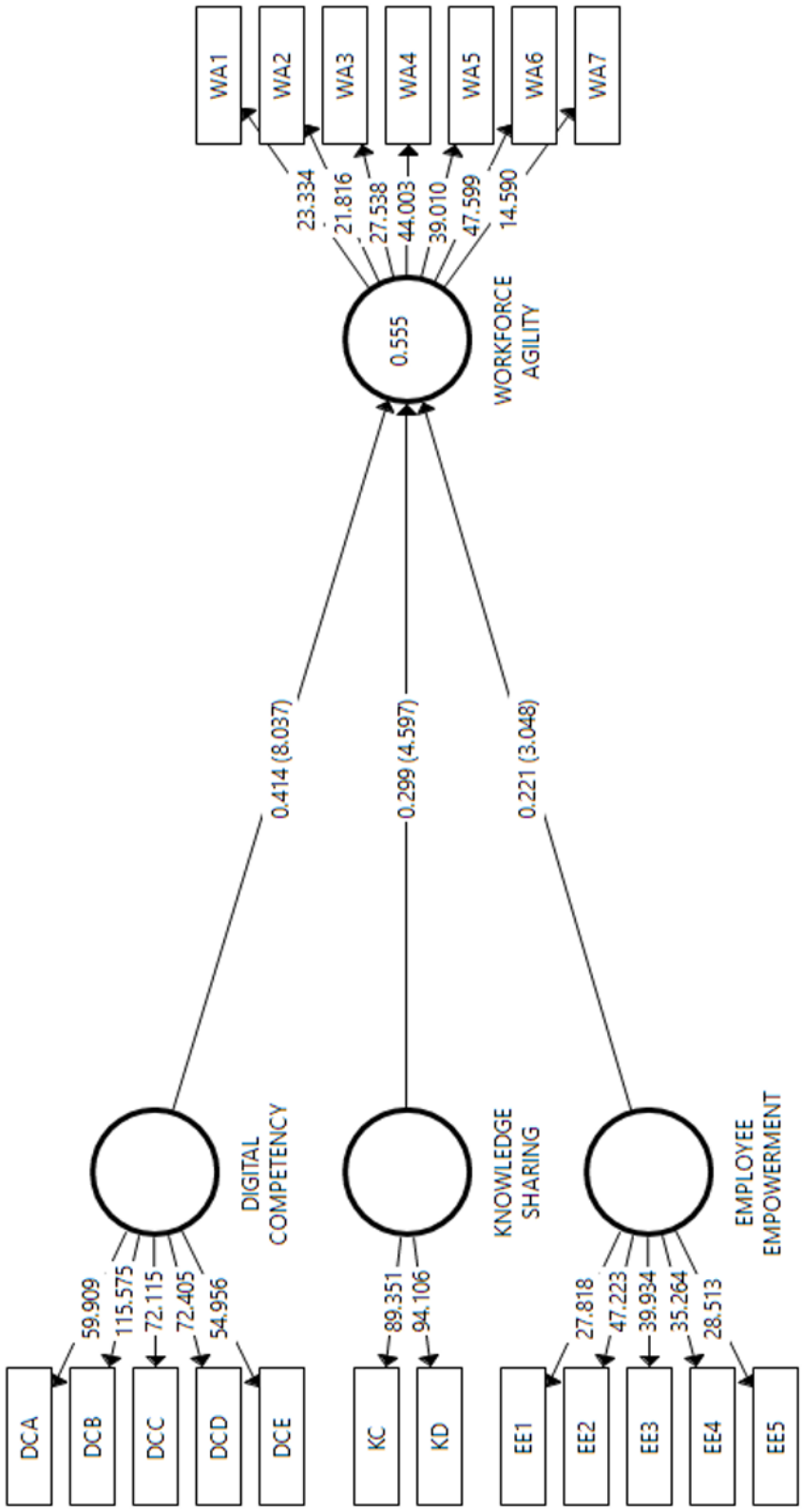

Fig. 2: Bootstrapped Mode

Knowledge sharing is notably positively correlated as well, explaining 21.2% of the model. As one become more experienced over time, they tend to filter or amplify the knowledge deemed important to them (Liepertz & Borowski, 2019; Lui & Bonner, 2016). What might be worrying is that the one with longer working experience are filtering out the information and knowledge shared by the novices or apprentices as what have been conventionally practised seemed to be right all this while. Also, the egocentrism in teacher could be a deterring factor in KS (Rice & Kitchel, 2016). Therefore, the existence of egocentrism, regardless of age and years of working experience, could hamper KS as one may argue one's practice is better over the other and refuse to accept and learn new information.

Implications

The study, in view of Self Determination Theory, has chartered a new path for future academicians and researchers to explore on workforce agility from the perspective of motivation. Acknowledging agility as an important aspect is not sufficient, but taking the approach from motivational perspective, could elevate the performance of the organization as each individual is driven extrinsically and intrinsically to be agile and adaptive in accepting future challenges and tasks. Taking into account and leveraging on all elements of Self Determination Theory, agility therefore can be achieved to promote productivity and efficiency in embracing the new changes brought forward by the government to uplift the education standards.

While there has been emphasis on digital competency, studies are still scarce and often neglected (Murawski & Bick, 2017). Looking at the potential of DigComp 2.1 as aforementioned, SSQS should be reviewed. With future generations becoming digital natives, upcoming generations of educators may find DC not as significant in influencing WA in this study. Therefore, the school curriculum should be reformed to teach DC accordingly in classroom.

The significance proved in the data should be a hint not undermine empowerment to promote innovation and also creativity in work. Highly motivated and empowered employees are passionate, often proving themselves beyond expectations (Harun et al., 2020). Thus, leaders and upper management of the school should not award or assign tasks based merely on age and years of working experience. Younger generations should be given equal chance to lead and manage accordingly, to build on their tacit knowledge which can be difficult to share or teach without experience. Furthermore, shaping this upcoming generations to be future leaders, creates a more challenging and healthier environment to compete among themselves to be the best to lead a school.

Some of the issues related to knowledge sharing such as weak cascading model, dilution of information and also "thickened" messages, may hamper efficient delivery of message (Amin, 2019; Rashid et al., 2016). On a notable account, the teachers should also prepare themselves with open minds and set aside the egocentrism that has been long implanted in them. Also, differences in pay scale due to time-based promotions should not be a deterring factor to learn from each other as they are still normal academic teachers in their substantive grade.

Conclusion

In conclusion, this study has contributed in extending SDT, particularly in the view of workforce agility. While WA is commonly studied from the perspective of dynamic capabilities view, this study has explored on the potential to tap on motivation in enhancing agility among teachers. Therefore, high authorities and administrators, such as the Ministry of Education and school leaders, should leverage from the rich discernments of this study in improving the entire workforce to be agile, flexible and adaptive; gearing them towards achieving the goals of MEB by 2025.

Limitations and Recommendations for Future Study

First, the sampling frame of this study is could be limited, despite the advantage of PLS-SEM on the use of small sample size. Plus, it is only targeted at government-aided secondary school teachers in Malaysia. The other limitation faced in this study is the lack of open data to make comparison between the previously conducted digital competency tests and the descriptive statistics based on DigComp 2.1.

One recommendation for future studies is to restructure the demographic profiling. Background of the samples can be categorized as the types of generations, such as Baby Boomers, Gen X, and Gen Y. Also, paygrade or seniority in grades can also be part of the demography so that comparison can be done among groups; both empirically and descriptively. The data however, can be very sensitive to collect and also unethical.

The findings of this study showed that the differences among generations do play a role in determining the significance of the exogenous variables to workforce agility as explained earlier. Therefore, future studies carried out can employ PLS-MGA to analyse the path coefficients of different groups for comparison purposes (Henseler, 2012). However, one of the critical criteria to meet upon using this technique of analysis is to have large sample sizes for the groups plus subgroups should be of similar sizes (Cheah et al., 2020).

Other interesting avenues would be looking into different groups of population. This study can be carried out among government-aided primary school teachers for a comparison. In addition, the comparison between public-funded and private-funded schools should be explored. On a larger scale, the similar model of research framework can be tested in all governmental departments and offices. Plus, the descriptively-analysed data collected on DigComp 2.1 will be a basis for consideration as the national standard for measuring digital competency.

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Appendix 1: Measurement Item

Workforce Agility		
	Original Item	Adaptation
1	I am comfortable with change, new ideas, and new technologies in my organization.	I am comfortable with new changes, new ideas, and new technologies in my school.
2	I am flexible to quickly change from task to task, job to job, and place to place.	I am flexible to quickly change from task to task, job to job, and place to place.
3	I map my skills, benchmark for skill assessment, and develop skills	I map my skills, benchmark for skill assessment, and develop skills.
4	I am comfortable with cross-functional project teams, collaborative ventures with other companies, or with a virtual organization.	I am comfortable working and collaborating on projects with people from other schools virtually or face-to-face.
5	I am tech-savvy and have knowledge in advanced manufacturing technologies, IT skills, use of mobile technologies, etc.	I am tech-savvy and have knowledge in advanced technologies, IT skills, use of mobile technologies, etc.
6	I quickly develop skills, adjust to new environments, and collect information.	I quickly develop skills, adjust to new environments, and collect information.
7	I take personal interest in collecting information about my organization and other related organizations.	I take personal interest in collecting information about my school and other related schools.
DigComp 2.1		
A. Information and Data Literacy		
	Original Item	Adaptation
1	*Browsing, Searching and Filtering Data, Information and Digital Content* To articulate information needs, to search for data, information and content in digital environments, to access and navigate between them. To create and update personal search strategies.	I am capable of browsing, searching and filtering data, information and digital content using my own search strategies.
2	*Evaluating Data, Information and Digital Content* To analyse, compare and critically evaluate the credibility and reliability of sources of data, information and digital content. To analyse, interpret and critically evaluate the data, information and digital content.	I am capable of evaluating, comparing, and analysing credibility and reliability of data, information and digital content. .
3	*Managing Data, Information and Digital Content* To organise, store and retrieve data, information, and content in digital environments. To organise and process them in a structured environment.	I am capable of managing, organising, storing, and retrieving data, information, and digital content.
B. Communication and Collaboration		
	Original Item	Adaptation
1	*Interacting Through Digital Technologies* To interact through a variety of digital technologies and to understand appropriate	I am capable of interacting through a variety of digital technologies (e.g., smartphone).

	digital communication means for a given context.	
2	*Sharing Through Digital Technologies* To share data, information and digital content with others through appropriate digital technologies. To act as an intermediary, to know about referencing and attribution practices.	I am capable of sharing data, information, and digital content with others through appropriate digital technologies.
3	*Engaging in Citizenship Through Digital Technologies* To participate in society through the use of public and private digital services. To seek opportunities for self-empowerment and for participatory citizenship through appropriate digital technologies.	I am capable of engaging with the society through public and private digital services.
4	*Collaborating Through Digital Technologies* To use digital tools and technologies for collaborative processes, and for co-construction and co-creation of data, resources and knowledge.	I am capable of using digital tools and technologies (e.g., Adobe Photoshop, LED Projector) to collaborate in co-creating and co-constructing data, resources, and knowledge.
5	*Netiquette* To be aware of behavioural norms and know-how while using digital technologies and interacting in digital environments. To adapt communication strategies to the specific audience and to be aware of cultural and generational diversity in digital environments.	I am aware and easily adaptable to the culture and behaviours of target audience in the digital world.
C. Digital Content Creation		
	Original Item	Adaptation
1	*Developing Digital Content* To create and edit digital content in different formats, to express oneself through digital means.	I am capable of creating and editing digital content in different formats (e.g., picture, movie) to express myself through digital means (e.g., social media).
2	*Integrating and Re-Elaborating Digital Content* To modify, refine, improve and integrate information and content into an existing body of knowledge to create new, original and relevant content and knowledge.	I am capable of modifying, refining, improving, and integrating digital information and content to create new, original and relevant content and knowledge.
3	*Copyright and Licences* To understand how copyright and licenses apply to data, digital information and content.	I understand how copyright and licenses apply to data, digital information and content.
4	*Programming* To plan and develop a sequence of understandable instructions for a computing system to solve a given problem or perform a specific task	I am capable of planning and developing a program for a computing system to solve a given problem or perform specific task.
D. Safety		
	Original Item	Adaptation
1	*Protecting Devices* To protect devices and digital content, and to understand risks and threats in digital	I am capable of protecting devices and digital content, and also understand the risks and

	environments. To know about safety and security measures and to have a due regard to reliability and privacy.	threats in digital environments (e.g., on the Internet).
2	*Protecting Personal Data and Privacy* To protect personal data and privacy in digital environments. To understand how to use and share personally identifiable information while being able to protect oneself and others from damages. To understand that digital services use a "Privacy policy" to inform how personal data is used.	I am capable of protecting personal data (e.g., username and password) and privacy of mine and others from damages in digital environments (e.g., on the Internet).
3	*Protecting Health and Well-Being* To be able to avoid health-risks and threats to physical and psychological well-being while using digital technologies. To be able to protect oneself and others from possible dangers in digital environments (e.g., cyber bullying). To be aware of digital technologies for social well-being and social inclusion.	I am capable of taking care of physical and psychological health and well-being of mine and others while using digital technologies.
4	*Protecting the Environment* To be aware of the environmental impact of digital technologies and their use.	I am capable of understanding the environmental impact of digital technologies and their use (e.g. green energy products).
E. Problem Solving		
	Original Item	Adaptation
1	*Solving Technical Problems* To identify technical problems when operating devices and using digital environments, and to solve them (from trouble-shooting to solving more complex problems).	I am capable of identifying, troubleshooting and solving technical problems related to digital technologies.
2	*Identifying Needs and Technological Responses* To assess needs and to identify, evaluate, select and use digital tools and possible technological responses and to solve them. To adjust and customise digital environments to personal needs (e.g., accessibility).	I am capable of adjusting and customising digital environments to personal needs (e.g., using microphone).
3	*Creatively Using Digital Technologies* To use digital tools and technologies to create knowledge and to innovate processes and products. To engage individually and collectively in cognitive processing to understand and resolve conceptual problems and problem situations in digital environments.	I am capable of using digital tools and technologies creatively to create knowledge and innovate processes and products.
4	*Identifying Digital Competence Gaps* To understand where one's own digital competence needs to be improved or updated. To be able to support others with their digital competence development. To seek opportunities for self-development and to keep up-to-date with the digital evolution.	I am capable of identifying and understanding digital competence gaps of mine and others to improve and to update.

Employee Empowerment		
	Original Item	Adaptation
1	I often use social media to contact other people for my work.	I feel competent to perform the tasks assigned to me.
2	I often use social media to communicate with colleagues or customers in my daily work.	I am confident about my capabilities and skills to do my job.
3	I often use social media to ask questions.	I am given the authority to make the necessary decisions to perform my job well.
4	I often use social media to answer questions.	My school administrators trust me to make the appropriate decisions in the task assigned to me.
5	I often use social media to share files.	I have freedom and at the same time, I can also depend on others in how I do my job.
Knowledge Sharing		
Knowledge Donating		
	Original Item	Adaptation
1	When I have learned something new, I tell my colleagues about it.	When I have learned something new, I tell my colleagues about it.
2	When they have learned something new, my colleagues tell me about it.	When my colleagues have learned something new, they tell me about it.
3	Knowledge sharing among colleagues is considered normal in my company.	Knowledge sharing among colleagues is considered common in my school.
Knowledge Collecting		
1	I share information I have with colleagues when they ask for it.	I share information I have with colleagues when they ask for it.
2	I share my skills with colleagues when they ask for it.	I share my skills with colleagues when they ask for it.
3	Colleagues in my company share knowledge with me when I ask them to.	Colleagues in my school share knowledge with me when I ask them to.
4	Colleagues in my company share their skills with me when I ask them to.	Colleagues in my school share their skills with me when I ask them to.