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Continued Professional Development and Organisational Performance: A Structural Equation Modelling (SEM)

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ABSTRACT

Literature on Continued Professional Development (CPD) suggests that learning could take place in three dimensions, namely formal learning (FL), non-formal learning (NFL) and informal learning (IL). However, there is a big gap in the literature as much of the discussions on CPD focus on FL and NFL, while studies on the IL component are still vague, under-researched and often overlooked. The effects of CPD and professional competency have been extensively studied but those focusing on the relationship between CPD and organisational performance (OP) are somewhat limited. This papers examines the correlation between CPD components and OP. Data was collected via structured questionnaire from 1120 executives from four different sectors of the service-based industry in Malaysia, namely Multi-National Corporations (MNCs), Malaysian Government Linked Corporations (GLCs), Small and Medium Enterprises (SMEs), and Malaysian Government Agencies (MGAs) that are located in the Klang Valley. The SEM-PLS was used to show the hypothetical relationships. The model tested in this study shows that CPD components account for 34.7% of the variance in OP. Furthermore, 24.6% explains the prediction effect of CPD components on OP. Overall, the proposed model of CPD has relatively good predictive power on OP. The findings provide invaluable insights with regards to developing a new strategic HRD model for excellent OP via CPD activities. This study also fulfils the demand for more empirical research on CPD, knowledge management, competency and OP.

Keywords: Continued professional development, formal learning, informal learning, non-formal learning, organisational performance, service-based organisation, structural equation modelling

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INTRODUCTION

A review of studies on Human Resource Management (HRM) showed a positive link between good HRM practices and Organisational Performance (OP) in the area of employee skills, employee commitment, absenteeism and turnover, which consequently led to higher productivity, enhanced quality and efficiency (Maimunah, 2011; Snell & Bohlander, 2013). In order to remain competitive, organisations must learn continuously (Whee, et al., 2012), and this refers to learning at the workplace or workplace learning (Andy, 2011). Thus, Continued Professional Development (CPD) which emphasises on continuous lifelong learning (Adanu, 2007; Udin, et al., 2012) has helped to develop and to ensure up-to-date knowledge, skills and abilities among professionals. The CPD requires organisations to encourage, support, and provide a favourable environment for employees to engage in continuous learning in order to avoid the 'professional obsolete syndrome' (López-Cabrales et al., 2011).

Literature on CPD suggests that learning could take place in three dimensions, namely (1) formal learning (FL), (2) non-formal learning (NFL) and (3) informal learning (IL) (Andy, 2011; Tomé, 2011). There are critical outcomes of CPD which include competency development and professional enhancement (Adanu, 2007). However, according to Mugisha (2009), there is very little empirical evidence of the impact of CPD on OP.

The OP is a key yardstick to measure the effectiveness of organisations in various aspects, such as their financial and non-financial performance. It reflects the survival and success of an organisation (Asree et al., 2010). Sarif and Ismail (2012) defined OP as an organisation's competitive advantage. Noorazah and Juhana (2012) viewed OP as the achievement of an organisation against its business objectives. With regards to OP measurement, most studies merely focused on tangible aspects, namely profitability, productivity, sale performance, and returns on investment (Jabar et al., 2010). However, OP could also be measured by looking into its intangible aspects, such as employee motivation, engagement and commitment (Lockhart, 2013; Marchington, 2015; Ulrich & Dulebohn, 2015).

This paper examines the relationship between CPD components and OP. It is organised as follows. Section 1 outlines the purpose of the study while section 2 describes theoretical background and research model, followed by methodology. The next section discusses the results obtained from the study. Section 5 points out the limitations of the study and makes suggestions for future research. Lastly, section 5 concludes the paper.

THEORETICAL BACKGROUND AND THE RESEARCH MODEL

The literature on CPD has mostly focused on FL and NFL (Chuang et al., 2013; Cunningham & Hillier, 2013), which are

referred to as traditional CPD activities (Briggs & Sommefeldt, 2002). Hence, most organisations allocate funds for OP through FL and NFL (López-Cabrales et al., 2011; Udin et al., 2012). Nonetheless, according to Chuang et al. (2013) and Nägele and Hasler (2010), FL and NFL are clearly insufficient to meet the growing demand for skills required at work. Fuller et al. (2003) argued that relying on FL and NFL to determine performance is unlikely to capture their unique relationship . Furthermore, the CPD programme which was mainly delivered via NFL is no longer perceived as the main source of knowledge enhancement. The NFL, which is mainly characterised by learning interventions, identifying training needs and sending people for courses (Sambrook, 2004), has also created a serious gap between knowledge and practice(Ong, 2005) and it is not learner driven (Briggs et al., 2002).

Despite the recognition of FL, NFL and IL for improving employee competency, there are limited studies on the third learning component, IL, (Hooi, 2010; Andy, 2011). Studies show that IL helps to fill in the knowledge and skills gaps that are not covered by FL and NFL (Klink, Van Der, Boon, & Schlusmans, 2012). Hence, IL is equally important as FL and NFL (Marsick, 2009), while Caniëls and Kirschner (2010) and Klink et al. (2012) maintain that IL is more significant than FL and NFL. Boud and Middleton (2003) opine that IL is a more dominant learning approach. Illeris (2003) on the other hand, viewed IL as partial or full complement to FL and NFL. According to Illeris, IL, FL and NFL must be further examined, with a view to integrating them. Several studies note that learning is mainly through informal ways, both in and outside of the workplace. Udin et al. (2012) reveal that IL activities are the most preferred of the CPD programmes.

The OP could be evaluated in terms of the performance of its HR (Marchington, 2015; Ulrich et al., 2015). Several studies have used HRM practices to measure OP, particularly in the area of strategy and strategic HRM (Nyberg et al., 2014). According to Remo (2012), OP is very much related to employee engagement and commitment. Employees, who are competent, are able to contribute towards OP through their commitment and engagement. This in turn requires organisational commitment and willingness to allow employees to participate actively in terms of ideas, talent, and efforts in determining the future of the organisation (Horibe, 1999).

The research framework proposed in this study is based on the CPD model developed by Kie (2010). However, Kie's model only took into account two CPD dimensions, namely FL and NFL. With that in mind, the present study attempts to improve this model by integrating the third CPD component, IL, and to test the model to examine its relationship with OP. Figure 1 illustrates the model of this study which describes the relationship between CPD components (FL, NFL and IL) and OP.

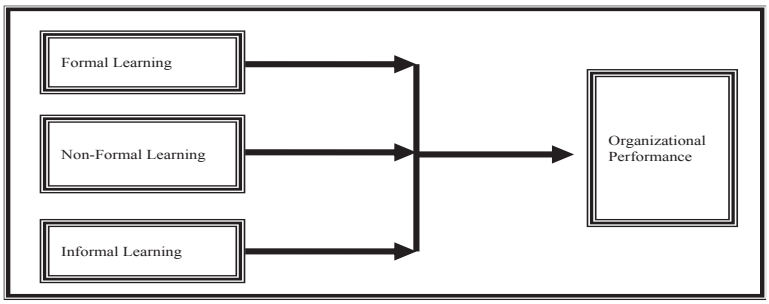

Figure 1. The research model

The following are the hypotheses:

H1: Formal learning (FL) has a significant relationship with organisational performance (OP).

H2: Non-Formal learning (NFL) has a significant relationship with organisational performance (OP).

H3: Informal learning (IL) has a significant relationship with organisational performance (OP)

RESEARCH METHODOLOGY

Data was collected from 1120 executives who represent from 4 different sectors of the Malaysian service-based industry, namely MNCs, GLCs, SMEs, and MGAs, located in the Klang Valley. Structured questionnaires were used for this purpose and measures were adapted from Briggs et al., (2002); Cunningham et al., (2013); Kie (2010); Chuang et al. (2013); Caniëls & Kirschner (2010); Berg & Chyung (2008); Junaidah (2008); Levenson (2005), and Mahmood & Wahid (2012) and several items were self-developed. Table 1 depicts the demographic profile of the respondents. They were grouped randomly into two data sets, that is, 350 for the exploratory factor analysis (EFA) and the remaining 770 for SEM analysis. The sample size for both data sets was considered adequate, following the minimum sample size as suggested by Hair et al. (2014, 2010).

DATA ANALYSIS

Data were tested for scale reliability and validity, using both EFA and confirmatory factor analysis (CFA), to ensure they were robust. The 350 cases in the first data set were subjected to EFA for validity test and also Cronbach's alpha (CA) for reliability test. The purpose of these tests was to determine the underlying number of factor structures in each type of variable. The factor structure for independent variable (IV) and dependent variable (DV) were constructed separately using EFA. Loadings of less than .40 were suppressed to ensure the extraction item has a high correlation towards the respective factor, thereby securing the validity content (Field, 2011).

Table 1
Respondents' profile

Respondents Profile	EFA (n = 350)	SEM (n = 770)	Respondents' Profile	EFA (n = 350)	SEM (n = 770)
Gender			Educational Level		
Male	174 (49.7)	345 (44.8)	Certificate / Diploma	71 (20.3)	159 (20.6)
Female	176 (50.3)	425 (55.2)	Bachelor's Degree	222 (63.4)	431 (56.0)
Age Categories			Master's Degree	39 (11.1)	134 (17.4)
Below 30 years old	151 (43.1)	279 (36.2)	Doctor of Philosophy (PhD)	5 (1.4)	31 (4.0)
31-40 years old	141 (40.3)	305 (39.6)	Professional Certificate	13 (3.7)	15 (1.9)
41-50 years old	41 (11.7)	143 (18.6)	Organisation		
More than 50 years old	17 (4.9)	43 (5.6)	MNC	83 (23.7)	177 (23.0)
Tenure of Service			GLC	132 (37.7)	296 (38.4)
Less than 10 years	242 (69.1)	493 (64.0)	SME	36 (10.3)	78 (10.1)
11-20 years	71 (20.3)	170 (22.1)	GA	99 (28.3)	219 (28.4)
21-30 years	25 (7.1)	65 (8.4)	Designation		
31-40 years	12 (3.4)	42 (5.5)	Junior Officer / Junior Executive	33 (9.4)	98 (12.7)
Monthly Income			Officer / Executive	200 (57.1)	319 (41.4)
Less than RM2000	27 (7.7)	30 (3.9)	Senior Officer / Senior Executive	79 (22.6)	250 (32.5)
RM2001 – RM3000	107 (30.6)	132 (17.1)	Assistant Manager	10 (2.9)	39 (5.1)
RM3001 – RM4000	98 (28.0)	216 (28.1)	Others	28 (8.0)	64 (8.3)
RM4001 – RM5000	56 (16.0)	145 (18.8)			
Above RM5000	62 (17.7)	247 (32.1)			

The results of EFA for IVs (FL, NFL, IL) and DV (OP) are presented in Table 2 below.

The questionnaire was vetted (1) by several HR professionals and experts in the field, and (2) validated through a pilot study. The goodness of measurement of the questionnaires were tested again for its reliability via a pilot study before the questionnaires were sent out. There were 42 respondents in the pilot study.

Meanwhile, about 770 cases in the second data set were analysed using SEM, based on partial least square (PLS) approach. The SEM is a statistical technique that combines aspects of multiple regression and FA to estimate simultaneously a series of inter-related dependent relationships (Chin, 1998; Hair et al., 2010). This enables researchers to answer a set of interrelated research questions in a single, systematic and comprehensive analysis, by modelling concurrently the relationships among multiple independent and dependent constructs (Hair et al., 2014). The SEM uses the exogenous variable, which is equivalent to the IV and the endogenous

Table 2
Summary results of EFA

Variable	Factors and Items Included	Factor Loading	Communalities	Variable	Factors and Items Included	Factor Loading	Communalities
	Non-Formal Learning (NFL)				Informal Learning (IL)		
	NFL1	.841	.807		IL1	.732	.597
	NFL2	.907	.835		IL2	.785	.661
	NFL3	.897	.854		IL3	.811	.703
	NFL4	.926	.849		IL4	.904	.762
Independent Variable	NFL5	.958	.904	Independent Variable	IL5	.843	.752
	NFL6	.931	.814		IL6	.858	.741
	NFL7	.919	.844		IL7	.859	.664
	NFL8	.933	.842		IL8	.811	.682
	NFL9	.791	.717		IL9	.802	.702
	Eigenvalue = 14.966, % variance explained = 56.70%, Cronbach's alpha = .977				Eigenvalue = 3.057, % variance explained = 10.83%, Cronbach's alpha = .952		
	FL1	-.819	.728		OP1	.853	.728
	FL2	-.864	.819		OP2	.862	.742
Independent Variable	FL3	-.840	.751	Independent Variable	OP3	.834	.696
	FL4	-.879	.762		OP4	.897	.804
	FL5	-.915	.845		OP5	.877	.769
	FL6	-.852	.763		OP6	.897	.804
	FL7	-.886	.747		OP7	.905	.819
	FL8	-.916	.785		OP8	.892	.796
	Eigenvalue = 2.596, % variance explained = 9.12%, Cronbach's alpha = .964				OP9	.869	.756
					OP10	.818	.669
					Eigenvalue = 7.822, % variance explained = 75.84%, Cronbach's alpha = .968		

variable, referred to as DV, that explain the relationships in the model (Diamantopoulos & Siguaw, 2006). It comprises two interrelated models that could be assessed at the same time (Urbach & Ahlemann, 2010), which are:

1. The measurement model (outer model), which refers to the relationships between empirically observable indicator and the latent variables, and
2. The structural model (inner model), that shows the relationship between latent variables.

Measurement Model

The measurement model for this study, as shown in Figure 2, is tested using the PLS approach. The statistical programme used for this study was Smart-PLS 2.0 M3 (Ringle et al., 2010),which assesses the psychometric properties of the measurement model as well as the parameters of the structural model. Before considering the results from the structural model (parameters estimate), the quality of the measurement model was reviewed. The measurement model was evaluated to determine the validity and reliability of the measurement items, where all the constructs were of a reflective type. The measurement model was assessed by examining the convergent validity and discriminant validity which is discussed in detail in the next subsection.

Furthermore, the analysis of the measurement model was based on the results of the EFA. The validity of the measurement model was assessed using convergent validity and discriminant validity (Lewis et al., 2004). The summary of validity guidelines to assess a measurement model is depicted in Table 3. The results of convergent validity are presented in Table 4 below.

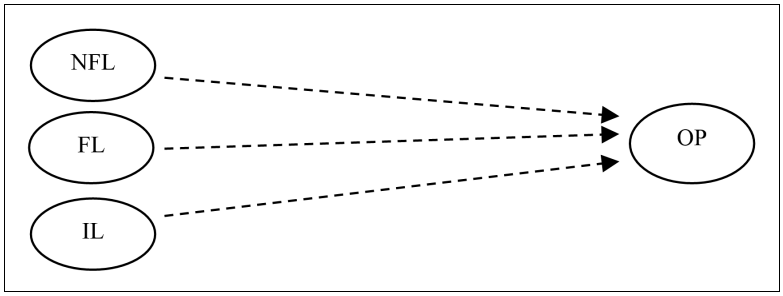

Figure 2. The measurement model of the proposed research model

Table 3
Summary of validity guidelines for assessing measurement model

Validity	Criterion	Guidelines
Convergent Validity	Indicator Loadings	Item's loading > 0.7 and significant at least at the 0.05 confidence level.
	Composite Reliability (CR)	CR > 0.70
	Internal Consistency Reliability (ICR)	ICR > 0.70
	Average Variance Explained (AVE)	AVE > 0.50
Discriminant Validity	Cross Loading	Item's loading of each indicator is highest for its designated construct
	Fornell and Larcker	The square root of the AVE of a construct should be greater than the correlations between the construct and other construct in the model.

Convergent validity measures the extent to which the items of a scale that are theoretically related are correlated. Based on Table 4, it can be concluded that the convergent validity has been established.

Table 4
Result of convergent validity for measurement model

Construct	Items	Convergent Validity				Construct	Items	Convergent Validity			
		ICR	Indicator Loading	CR	AVE			ICR	Indicator Loading	CR	AVE
	FL1		0.829				IL1		0.742		
	FL2		0.830				IL2		0.824		
	FL3		0.792				IL3		0.810		
FL	FL4	0.938	0.832	0.948	0.697	IL	IL4		0.842		
	FL5		0.858				IL5	0.934	0.863	0.944	0.654
	FL6		0.817				IL6		0.843		
	FL7		0.841				IL7		0.798		
	FL8		0.875				IL8		0.761		
	OP1		0.837				IL9		0.786		
	OP2		0.853				NFL1		0.882		
	OP3		0.847				NFL2		0.917		
OP	OP4		0.886				NFL3		0.918		
	OP5	0.958	0.849	0.963	0.724		NFL4		0.918		
	OP6		0.868			NFL	NFL5	0.969	0.919	0.974	0.805
	OP7		0.874				NFL6		0.872		
	OP8		0.869				NFL7		0.913		
	OP9		0.848				NFL8		0.904		
	OP10		0.770				NFL9		0.828		

Next, discriminant validity, which is the degree to which the measures of different concepts are distinct, was assessed. In PLS, two techniques of discriminant validity measures are commonly used, that is, cross loading (Hair et al., 2014; Fornell & Larcker, 1981). Table 5 depicts the discriminant validity of constructs based on the approach adopted by Fornell and Larcker.

Table 5
Summary of discriminant validity of constructs based on Fornell-Larcker's approach

	NFL	FL	IL	OP
NFL	0.897			
FL	0.525	0.835		
IL	0.539	0.334	0.809	
OP	0.476	0.474	0.327	0.851

Structural Model

The following subsections discuss the tests used to assess the validity of the structural model for this study. This is assessed using the coefficient of determination (R^2), predictive relevance (Q^2), and path coefficients. Figure 3 presents the results of the structural model.

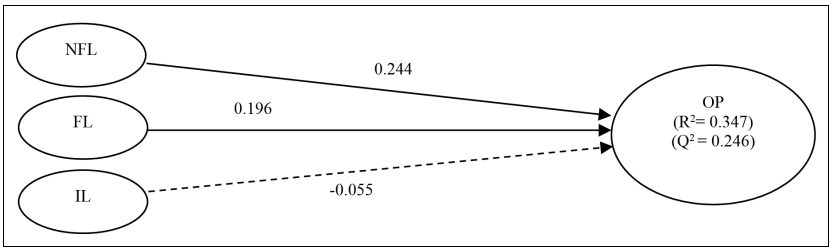

Figure 3. The Proposed research model

The R^2 is presented in Table 5 and the Q^2 results in Table 7, whereas the path coefficient results are shown in Table 8. The R^2 value indicates the amount of variance in each DV that is explained by the IV. In other words, R^2 value explains the variation effect of sets of IVs towards DV. Thus, a larger R^2 value increases the predictive ability of the structural model. According to Hair et al. (2014), a value of R^2 of around 0.67 is considered substantial, whereas values around 0.33 are average and values of 0.19 and lower are considered weak.

Table 6
Summary Result of The Coefficient of Determination (R^2)

Variable	R^2	Remark
OP	0.347	Average

The Stone-Geisser's (Q^2) is the predominant measure utilised to assess the research model's capability to predict (Hair et al., 2014). In other words, Q^2 explains the prediction effect of a set of IVs towards DV. Based on blindfolding procedure, Q^2 evaluates the predictive validity of a model via PLS. If the Q^2 values are larger than zero, it indicates that the exogenous constructs (IV) have predictive relevance for the endogenous construct (DV) (Hair et al., 2014). According to Hair et al. (2014), the values of Q^2 of 0.02, 0.15, and 0.35 indicate that an exogenous variable has a small, medium, or larger predictive relevance for a certain endogenous variable. Table 7 summarises the results of predictive relevance of the possible endogenous variable. It is observed that all the Q^2 values were above zero. Hence, all exogenous constructs in this research have predictive relevance.

Structural model represents the relationship between latent variables hypothesised in the research model (Hair et al., 2014). Based on the analysis conducted on the structural model, the researcher is able to confirm or otherwise each hypothesis

Table 7
Summary Results of the Predictive Relevance (Q^2)

Exogenous Variable	Endogenous Variable	Q^2	Remark	Overall Predictive
NFL				
FL	OP	0.246	Medium	Yes
IL				

of the relationship between IV and DV. To test the significance level, t-statistics for all paths were generated using the Smart-PLS bootstrapping function. Table 8 lists the path coefficients, observed t-statistics, and significance level for all hypothesised paths between IV and DV and results of hypothesis testing. Using the results from the path assessment, the acceptance or rejection of the proposed hypotheses is determined. Table 8 shows that FL and NFL paths were significant at the 0.01 level. The FL has the strongest effect on OP (path coefficient = 0.224, t = 4.24) followed by NFL (path coefficient = 0.196, t = 4.00). However, the analysis indicated that IL (path coefficient = -0.055, t = 1.31) was not significantly correlated with OP. Thus, the results of the structural model supported H1 and H2.

Table 8
Summary Results of Path Coefficient and Hypothesis Testing

Hypothesis	Path	Path Coefficient	t- statistics	p-value	Results
H1	NFL → OP	0.196	4.00	.01	Supported
H2	FL → OP	0.224	4.24	.01	Supported
H3	IL → OP	-0.055	1.31	NS	Not Supported

DISCUSSION AND RECOMMENDATIONS

The purpose of this study was to test a research model to examine the relationship between CPD components (FL, NFL and IL) and OP. The sample selected was Malaysian based service organisations representing four sectors. The results of the study found that only FL and NFL were significantly correlated with OP and there was no significant correlation between IL and OP. The model showed that CPD components account for 34.7% of the variance in OP. Furthermore, 24.6% explains the prediction effect of a set of IVs (FL, NFL, and IL) towards DV (OP). Overall, the proposed model showed a relatively good predictive power on OP.

The results of the study corroborate with those of previous studies on FL by Lockhart (2013) and Ramayah et al. (2012). The findings of this study also confirm

Johnnie's (1993) who pointed out that FL endows employees with sound judgment concerning their actions and mindset that benefit their organisation. The FL further assists in improving the pace and content of work leads to introduction of new acumens to the management and to the workplace. Meanwhile, for NFL, it was found that the findings of the present are consistent with those of earlier studies. It was found that there is a significant relationship between NFL and OP in terms of achieving the strategic objectives of the organisation (Buckley & Caple, 1995), improved financial standing of the organisation (Chong, 2005) as well as improved firm or business performance (Kim-Soon & Molukin, 2011). With respect to IL, as the findings were not in agreement with those of previous studies, additional literature review was done to provide justification to support the results of the study, which however, showed that it was not the case in the context of the Malaysian service-based organisations. According to the respondents, IL has no significant relationship with OP. This is perhaps due to generation gap. As most of them were considered as Gen X, perhaps their preferred choice was still the traditional types of learning (namely FL and NFL), as suggested by Briggs and Sommefeldt (2002).

Based on the above findings, several recommendations are in order. First, in the context of Malaysian service-based organisations, traditional CPD is still relevant. Organisations should not take traditional CPD (FL and NFL) lightly but find ways to strengthen the mechanism of FL and NFL to improve OP. The traditional CPD activities prove that they have a significant positive relationship with OP. Second, respondents still recognise the importance of FL that helps employees to be more engaged, committed and loyal to the organisation. Hence, organisations must strengthen or revisit their current policies such as sending their staff for training and for further studies. This is because it enhances career development and competency of their staff and improves employee engagement, commitment and loyalty to the organisation, which are some of the key yardsticks for OP. Organisations must view this approach as an investment that would yield greater outcome to the organisation in the long run. Third, organisations should improve their current training and development practices and policies as NFL also leads to better OP outcome. Organisations are encouraged to allocate funds for employee training and development and be willing to continuously invest on NFL.

CONCLUSION

This study developed a research model to empirically test the relationships between CPD components and OP. Despite the useful findings of this study, there are several limitations that need to be acknowledged. Firstly, the design of this study was based on a cross sectional time frame, in which the results might be different in the future if a longitudinal study is carried out. Secondly,

the focus of this study was limited to CPD related factors that yield the intended OP. Nevertheless, many other significant factors are not taken into consideration. Factors such as organisational culture, organisational structure, organisational support, technology, and leadership could also affect how CPD activities are being carried out in the organisation. Lastly, this study only focuses on Malaysian service-based industry. The results might differ if the proposed research model is tested for the manufacturing industry which contributes significantly to the Malaysian economy. Hence, the results obtained in the service-based industry cannot be generalised to the manufacturing-based industry. Perhaps, the differences between service-based and manufacturing-based industry would yield unique outcomes.

Hence, following the limitations derived from this study, future research might wish to explore on how to sustain or improve OP through CPD activities among Gen Y. The type of CPD activity that best suits them or is preferred by Gen Y must be studied further. The contribution of Gen Y on OP is on on-going debate given the complexity of this generation and the challenges they bring to the current practices of HRD. Also, future researchers might wish to explore the research model of CPD for excellent OP under different contexts and settings. This is to test whether the model would work well under different settings, such as in manufacturing-based organisations or between different organisational levels, or in different sectors, such as in public listed companies or private companies. This model is developed based on intermediate or middle level employees. The same model should be applied and tested at lower levels to observe any differences or similarities.

This research concludes that the traditional CPD methods, that are FL and NFL, still play an important role in enhancing OP in the Malaysian service-based industry. It implies that learning for CPD should be championed or initiated by the organisations. It is important to note that the outcomes of the study are context dependent. In other words, the nature of association of the variables being studied is influenced by the context or organisational settings, leading to different results or outcomes of the research. In this research, there are several different contexts involved in the Malaysian service-based industry (namely MNCs, GLCs, SMEs and GAs). Impliedly, different types of knowledge, skills and abilities individual employees might have different influences under different contexts. This study contributes to the existing body of knowledge with regards to excellent OP through CPD programmes or activities. It further proves that promoting and facilitating CPD activities to enable organisations to achieve competitive advantage is vital. The more prepared the organisation is to facilitate learning at the workplace, the more engaged are the employees with learning and the richer the learning outcomes.

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