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Employees' Dynamic Capabilities in Role-Based Performance Model Improvement through Performance-Based Management as Mediator

Ahmad Gunawan^{1*}, Abdul Rahman Rahim², Andriyansah², Fatia Fatimah³

¹Doctoral Program in Management Science, Faculty of Economics, Universitas Terbuka and Badan Pusat Statistik Polewali Mandar Regency, Indonesia,

²Management Science Doctoral Program, Faculty of Economics, Universitas Terbuka, Indonesia

³Mathematics Department, Faculty of Science and Technology, Universitas Terbuka, Indonesia

ABSTRACT

The research focuses on the verification of a new construct, namely Employees Dynamic Capabilities (EDC) under its contribution to the improvement of the Role-Based Performance Model (RBPM) as a driver of modern organizational development in the era of dynamic and fast-paced environmental uncertainty. Therefore the EDC construct was developed through a mediation model by introducing Performance-Based Management (PBM) in Performance-Based Management Involvement (PBMI), Performance-Based Management System (PBMS), and Performance-Based Management Technical (PBMT). Empirical verification of the model involved 99 respondents of all employees from Badan Pusat Statistik of three regencies in Sulawesi Barat Province using the e-questionnaire which was conducted in January 2022). The SEM-PLS methodology was used to test and confirm the hypotheses of constructs proposed in the research model. The output of SmartPLS proves that Employees' Dynamic Capabilities affect the increase of the Role-Based Performance Model; Performance-Based Management which covers Involvement, Systems, and Technical. Furthermore, Performance-Based Management Involvement contributes to the improvement of Role-Based Performance and also mediates the EDC in the analysis related to the improvement of the performance of a dynamic modern organization amidst the uncertainty of the environmental condition in the sustainable term.

Keywords: Employee Dynamic Capabilities, Performance-Based Management Involvement, Performance-Based Management System, Performance-Based Management Technical, Role-Based Performance Model

1. INTRODUCTION

There existed a tendency for environmental uncertainty to occur in line with the development of today's civilization, the changes in environmental uncertainty are very dynamic, fast, and massive, including the industrial era 4.0, the demographic dividend, the increasing middle-income population (Ginting, 2020), as well as disease coming from the outbreaks (such as Covid-19) and natural disasters. All of these factors are very affecting in all fields, especially the social and economic fields, as well as in the area of strategic HRM. A business or individual business that tends to feel comfortable in their conventional conditions and does not want to change will automatically be eroded by the uncertainty of the environment which in turn does not realize that its business has been left behind by competitors who may have a smaller business scale at first but now it is turning into a business global level or even into a world-class level.

Specifically, in strategic HRM, the focus of both business and public organizations in various determining factors or strategies that must be implemented to ensure organizational resilience to realize sustainable competitive advantage in dynamic conditions. In regards to this term, the concept of Dynamic Capabilities (DC), which is a meta-capabilities, has the potential to be one of the main organizational characteristics regarding its contribution to achieving sustainable organizational development (Wolf, 2013; Gross et al., 2020; Law et al., 2017).

* Corresponding author: 530059899@ecampus.ut.ac.id

Pulakos et al., (2000), that today's employees must be more able to adapt, be tolerant, and be flexible to operate effectively in the uncertainty of a rapidly changing and varied environment. Thus, the addition of employees as DC elements of the organization will result in a new construct, namely Employees' Dynamic Capabilities (EDC) representing their role in improving job performance and contributing to research gaps related to DC (Bienkowska & Tworek, 2020). Furthermore, based on the theoretical basis above, it is assumed that EDC will have an impact on employee role-based performance models.

However, it seems clear that assuming a direct effect of EDC on role-based performance would be oversimplified. Thus, it is attempted to describe the procedures that should be the basis of the relationship between the two constructs, through the context of performance-based management with involvement, systems, and technical constructs (Suppa & Webb, 2016), as mediating the indirect effect of EDC on the role-based performance (Dhammika, 2013), assuming these constructs can explain the predictive value of EDC. Therefore, the model is expected to benefit from the EDC construct, achieving higher role-based performance, and ultimately contributing to sustainable organizational excellence in an era of environmental uncertainty.

2. LITERATURE REVIEW

2.1 *Employees' Dynamic Capabilities*

The basic theory of Dynamic Capabilities (DC) is the capabilities of organizations to build, integrate, or repeatedly configure internal and external capabilities related to handling dynamic and fast environments (Teece et al., 1997), namely the DC concept is also the use of special resources organizations to shape market change (Eisenhardt & Martin, 2000). The DC perspective focuses on the capabilities needed to adapt to a highly changing environment (Rasouli et al., 2015; Singh & Rao, 2016; Lo, 2013; Motowidlo & Kell, 2012; Cullen et al., 2014). Dynamic capabilities are prepared for unavoidable risk events and have a response to be free from unexpected obstacles (Golgeci and Ponomarov, 2013; Scholten et al., 2014; Ponomarov and Holcomb, 2009; Purvis et al., 2016; Dabhilkar et al., 2016; Brusset and Teller, 2017; Yu Wantao et al., 2019), strategic management and risk management capabilities (O'Connor, 2008), organizational opportunities to deal with negative impacts on different risk sources (Teece, 2007). To take possession of business resilience in a dynamic and highly competitive environment, organizations should at the same time carry out additional and radical innovations (Božič & Dimovski, 2019). Refers to strategic changes in organizations (Helfat & Peteraf, 2009) and supports analysis and explains the mechanisms by which organizations make changes to resources and their behavior as a result of external pressures (Daniel et al., 2014; Arndt et al., 2018; Canhoto et al., 2021).

The EDC construct is a derivation of the DC construct, which focuses on employees, thus DC becoming EDC is closely related to the employee's ability to observe (sensitive) changes and recognize opportunities and risks, take preventive actions (adaptation), as well as be proactive regarding problem-solving innovations, as well as continuous learning and personal development that has the potential to affect employee performance in the workplace (Bienkowska & Tworek, 2020).

H1. The employees' dynamic capabilities have a positive effect on performance-based management involvement.

H2. The employees' dynamic capabilities have a positive effect on performance-based management systems.

H3. The employees' dynamic capabilities have a positive effect on performance-based management technical.

H4. The employees' dynamic capabilities have a positive effect on role-based performance.

2.2 *Performance-Based Management*

According to Robinson (2007), performance management is the use of formal, broad, and systematic information to improve public performance. It includes two important aspects of performance-based management, namely: the availability and use of performance information in the decision-making process, and the second implementation is considered the most important (Hammerschmid, et al., 2013). It is an interrelated measurement and management of information and action (Bouckaert & Van Dooren, 2009). Organizations use information intending to support the improvement of organizational performance, through knowledge related to the factors that have the opportunity to achieve or reduce the success of implementing performance-based



management (Suppa & Webb, 2016). Historically, these factors have arisen from empirical analysis and theory, and many researchers have used them in surveys and case study analyses to examine the various factors in question (Bianchi & Rivenbark, 2012). Studies conducted by Fryer et al., (2009) and Suppa & Webb (2016) in the context of performance-based management use a construct approach: involvement, systems, and technical.

H5. Performance-based management involvement has a positive effect on role-based performance.

H6. Performance-based management systems have a positive effect on role-based performance.

H7. Performance-based management technical has a positive effect on role-based performance.

H8. Performance-based management involvement mediates the employees' dynamic capabilities to role-based performance.

H9. Performance-based management systems mediate the employees' dynamic capabilities to role-based performance.

H10. Performance-based management technical mediates the employees' dynamic capabilities to role-based performance.

2.3. Role-Based Performance Model

In general, a role is an overall responsibility for performance related to the work of an individual or a person (Murphy & Jackson, 1999). The role of employees in their work is very influential on organizational effectiveness, so that must be considered in measuring employee performance (Wallace et al., 2009). The theory regarding the term of the Role itself represents complete job responsibilities (Griffin, Neal, & Parker, 2007). Similarly, employee behavior, such as sportsmanship, helping, loyalty, compliance, initiative, self-development, and organizational citizenship behavior (Podsakoff et al., 2000) subsequently in work will determine the level of performance (Kappagoda et al., 2014). The identification of the role-based performance model constructs in this study uses indicators: job roles, team roles, career roles, and innovator roles, as well as the role of organizational behavior (Welbourne, Johnson, & Erez, 1998; Dhammika, 2013).

Table 1. Variables and Indicators

Variables/Constructs	Indicators
(1)	(2)
Employees' Dynamic Capabilities (EDC)	EDC1. Sensitivity ability to environmental changes
	EDC2. Ability to adapt to environmental changes
	EDC3. Proactive ability in problem-solving
	EDC4. Continuous learning and development capabilities
Performance-Based Management Involvement (PBMI)	PBMI1. Commitment and accountability of human resources (employees)
	PBMI2. Employee engagement, interaction, and behavior
	PBMI3. Various mandatory requirements (standard operating procedures)
Performance-Based Management Systems (PBMS)	PBMS1. Integration of information technology with organizational systems
	PBMS2. Strategic planning and the process of achieving organizational goals
	PBMS3. Organizational norms and rules
Performance-Based Management Technical (PBMT)	PBMT1. Capacity for providing information, data, and analysis
	PBMT2. Training capacity and technical knowledge
	PBMT3. Managerial capacity (understanding, directing, and utilizing resources)
Role-Based Performance Model (RBPM)	RBPM1. Job role owned
	RBPM2. Career role in work
	RBPM3. The role of the innovator at work
	RBPM4. Team role at work
	RBPM5. The role of organizational behavior in work

3. RESEARCH METHODOLOGY

The research was conducted at three offices of Badan Pusat Statistik (BPS) at the regency level in West Sulawesi, comprising BPS Polewali Mandar which involves 37 respondents, BPS Mamasa which involves 35 respondents, and BPS Pasangkayu which involves 27 respondents. The sampling technique of this research is a saturated sample because all employees (a small population) are respondents. The type of data obtained through an e-questionnaire using the Google form is ordinal, which describes variables of which values can be sorted or ranked (Fatimah F., 2021) and then translated into a Likert scale (1 to 5 points).

This study uses the Structural Equation Model (SEM) as a tool of inferential statistical analysis, which is a group of statistical multivariate methods, to test several relationships that tend to be complex simultaneously (Ferdinan, 2000). In other words, the multivariate relationship of the independent and dependent variables (multiple relationships of independent and dependent variables) can use SEM (Hakim, 2020). Due to the small number of respondents, the alternative technique used is SEM-PLS. The number of respondents which involves 99 respondents above also fulfilled the sample adequacy requirement as suggested by Hair, et al., (2014). The total sample using the method of SEM-PLS is 30 to below 100 (Ghozali, 2014).

4. RESULTS

4.1 Outer Model (Test Validity and Reliability)

The implementation of the validity test was carried out as an effort to measure the extent to which the questionnaire indicators were able to show the representativeness of the research variables. The SEM-PLS reflective indicators, can be known through the value of the loading factor (correlation value of the construct score to the indicator score) with a value > 0.7 for research at the development stage starting with a value of 0.5 and above is still accepted/valid (Ghozali, 2014), this is can be observed in Figure 1, as a result of processing the SmartPLS software.

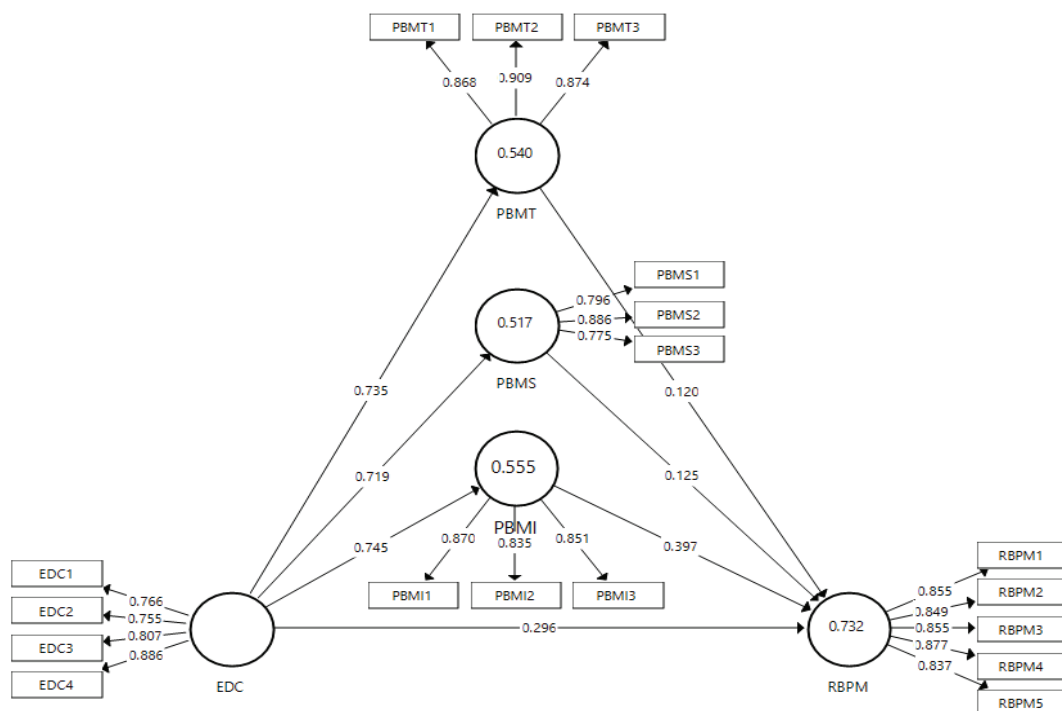


Figure 1. Loading Factor Value

Table 2. Cross-Loading Discriminant Validity Value

Constructs	EDC	PBMI	PBMS	PBMT	RBPM	Description
(1)	(2)	(3)	(4)	(5)	(6)	(7)
EDC1	{0.766}	0.591	0.601	0.588	0.523	(EDC1:Valid)
EDC2	{0.755}	0.538	0.438	0.436	0.576	(EDC2:Valid)
EDC3	{0.807}	0.592	0.585	0.686	0.627	(EDC3:Valid)
EDC4	{0.886}	0.669	0.668	0.634	0.739	(EDC4:Valid)
PBMI1	0.688	{0.870}	0.723	0.653	0.680	(PBMI1:Valid)
PBMI2	0.566	{0.835}	0.719	0.653	0.724	(PBMI2:Valid)
PBMI3	0.648	{0.851}	0.674	0.568	0.666	(PBMI3:Valid)
PBMS1	0.587	0.626	{0.796}	0.637	0.542	(PBMS1:Valid)
PBMS2	0.641	0.771	{0.886}	0.702	0.718	(PBMS2:Valid)
PBMS3	0.538	0.630	{0.775}	0.566	0.597	(PBMS3:Valid)
PBMT1	0.594	0.570	0.633	{0.868}	0.571	(PBMT1:Valid)
PBMT2	0.661	0.670	0.704	{0.909}	0.670	(PBMT2:Valid)
PBMT3	0.687	0.694	0.715	{0.874}	0.674	(PBMT3:Valid)
RBPM1	0.654	0.672	0.639	0.631	{0.855}	(RBPM1:Valid)
RBPM2	0.616	0.682	0.634	0.612	{0.849}	(RBPM2:Valid)
RBPM3	0.724	0.676	0.625	0.617	{0.855}	(RBPM3:Valid)
RBPM4	0.612	0.723	0.633	0.565	{0.877}	(RBPM4:Valid)
RBPM5	0.681	0.704	0.712	0.674	{0.837}	(RBPM5:Valid)

Validity is also observed through the cross-loading factor indicator of the construct on the discriminant validity reflective indicator. The loading factor value of all indicators in the objective construct is > 0.7 and is higher than that of the other constructs (Table 2). Thus, it can be said stated that the latent construct can predict indicators better under its block than in other blocks. Furthermore, all the Average Variance Extracted (AVE) values in Table 3, which consist of the constructs: Employees Dynamic Capabilities (EDC) are 0.649; Performance-Based Management Involvement (PBMI) of 0.726; Performance-Based Management System (PBMS) of 0.673; Performance-Based Management Technical (PBMT) of 0.781; and the Role-Based Performance Model (RBPM) of 0.731 is a valid construct (all AVE values > 0.5).

Measuring the consistency of the score stability from a measurement scale on the instrument measurement in a research concept using a reliability test through SmartPLS software. Construct reliability can be observed in Table 3, namely the Cronbach's Alpha (CA) and Composite Reliability (CR) values, all of which are > 0.7 which concludes that all constructs have good reliability (Ghozali, 2014).

Table 3. Cronbach's Alpha (CA), Composite Reliability (CR) and Average Variance Extracted (AVE) Value

Constructs	CA	CR	AVE
(1)	(2)	(3)	(4)
EDC	0.818	0.880	0.649
PBMI	0.811	0.888	0.726
PBMS	0.756	0.860	0.673
PBMT	0.860	0.915	0.781
RBPM	0.908	0.931	0.731

4.2 Inner Model (Structural Model Test)

Structural model testing is used to determine the significance of the effect of all independent variables simultaneously on the dependent variable, by observing the R-Square (R2) value. As an example the R-square of PBMI is 0.555, thus EDC contributes 55.5% positively to PBMI. Similarly, EDC contributed 51.7% positively to PBMS and EDC contributed 54% positively to PBMT. Furthermore, EDC, PBMI, PBMS, and PBMT contributed 73.2% positively to the RBPM, while 26.8% was affected by other constructs outside the research variables. An increase in the value of R-square will represent a better structural equation.

Table 4. R-Square (R2) Value

Constructs	R Square
(1)	(2)
PBMI	0.555
PBMS	0.517
PBMT	0.540
RBPM	0.732

4.3 Hypothesis Testing

Hypothesis testing is used to analyze the significance of the effect of the independent variable on the dependent variable, by looking at the Patch Coefficient value in the Algorithm Bootstrapping Report. The level of significance in this study is 5% ($\alpha = 0.05$), thus (t-statistic > 1.96) or (p-value < 0.05) so that it is concluded that H0 is rejected (accept Hn).

Table 5. Path Coefficients, t-statistics and p-values

Path Coefficient	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	t-statistics	p-values	Conclusion
(1)	(2)	(3)	(4)	(5)	(6)	(7)
EDC → PBMI	0.745	0.745	0.046	16.034	0.000	Accepted:H1
EDC → PBMS	0.719	0.718	0.067	10.671	0.000	Accepted:H2
EDC → PBMT	0.735	0.735	0.048	15.386	0.000	Accepted:H3
EDC → RBPM	0.296	0.288	0.080	3.708	0.000	Accepted:H4
PBMI → RBPM	0.397	0.407	0.115	3.458	0.001	Accepted:H5
PBMS → RBPM	0.125	0.123	0.103	1.218	0.224	Rejected: H6
PBMT → RBPM	0.120	0.122	0.097	1.238	0.216	Rejected: H7
EDC → PBMI → RBPM	0.296	0.304	0.091	3.250	0.001	Accepted:H8
EDC → PBMS → RBPM	0.090	0.088	0.074	1.210	0.227	Rejected: H9
EDC → PBMT → RBPM	0.088	0.090	0.073	1.211	0.226	Rejected: H10

5. DISCUSSION

Referring to the results of data processing above, the proposed hypothesis can be concluded that: H1: Employees' Dynamic Capabilities (EDC) have a significant positive effect on Performance-Based Management Involvement (PBMI). By observing at the loading factor value indicates that implementing EDC will encourage an increase in the PBMI by 0.745. Similarly, H2: EDC has a significant positive influence on the Performance-Based Management System (PBMS), by implementing EDC will contribute to increasing PBMS by 0.719. Furthermore, H3: EDC has a significant positive effect on Performance-Based Management Technical (PBMT), by implementing EDC will contribute to an increase in PBMT of 0.735. For H4: EDC has a significant positive



effect on the Role-Based Performance Model (RBPM), by implementing EDC will encourage an increase in RBPM by 0.296, this is following the fact that the employees' dynamic capabilities have a very significant effect on employee work performance which encourages the achievement of increased organizational performance sustainably in a very dynamic era (Bienkowska & Tworek, 2020).

In H5: there is a significant effect of PBMI on RBPM, the availability of better PBMI will contribute to the increase of RBPM by 0.397, this result then has an impact on H8: PBMI as a mediator of the influence of EDC on RBPM, this is due to in the era of dynamic environmental uncertainty Currently, employee dynamic capabilities (EDC) such as sensitivity, adaptability, problem-solving, and continuous learning are more likely to be in line with performance-based management involvement (PBMI) such as commitment and accountability, interaction and behavior, and compliance with various standard operating procedures, thus PBMI is an action (Bouckaert & Van Dooren, 2009), as well as an implementation (practice) that is considered the most important (Hammerschmid, et al., 2013) in this case improving role-based performance in an era of environmental uncertainty.

Although employees dynamic capability (EDC) has a positive effect on PBMS and PBMT, however, H6: PBMS has no significant effect on the role-based performance model (RBPM) as well as H7: PBMT has no significant effect on the role-based performance model (RBPM), this is further having an impact on H9: that PBMS does not mediate EDC to RBPM, as well as H10: PBMT does not mediate EDC to RBPM, this is because the dynamic disruption of environmental uncertainty causes the inability of performance-based management systems (PBMS) such as technology integration, strategic planning, and various organizational rules. Similarly, in performance-based management technical (PBMT), namely the information capacity, training capacity, and managerial capacity of the organization, thus the PBMS and PBMT constructs are more likely to be information management (Suppa & Webb, 2016) in improving role-based performance in the era of environmental uncertainty.

6. CONCLUSION

The proposed research model gives the result that the Employees' Dynamic Capabilities as a new construct is a concept that should be implemented in an era of environmental uncertainty which is very dynamic and fast in improving the Role-Based Performance Model (RBPM) in achieving sustainable organizational performance improvement. Furthermore, the EDC also contributes to encouraging the improvement of Performance-Based Management (PBM) in PBMI (involvement), PBMS (system), and PBMT (technical) constructs. PBMI is an action or implementation (practice) mediator that can encourage the improvement of RBPM in modern and dynamic organizations. Meanwhile, PBMS and PBMT which are information management (theory) do not mediate EDC in encouraging the improvement of RBPM.

For further similar research, EDC should be replicated in addition to public organizations (focusing on public services and accessibility) as well as business organizations (focusing on profitability), as well as that the EDC concept should be associated with more diverse mediating constructs or variables so that verification and validation of the EDC construct in various models of relationships analyzed to be more representative.

ACKNOWLEDGMENTS

I thank Universitas Indonesia for providing the opportunity to conduct international conferences. Also to Abdul Rahman Rahim, Andriyansah, and Fatia Fatimah who have provided very useful insights, comments, and discussions in this study.

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