

Mediating Effects in the Structural Equation Model of Malaysian Public Service Competitiveness

(Kesan Pengantaraan dalam Model Persamaan Struktur Daya Saing Perkhidmatan Awam Malaysia)

SYAHRUL IDZUAN MOHAMAD*, NUR RIZA MOHD SURADI & FARIDATULAZNA AHMAD SHAHABUDDIN

*Department of Mathematical Sciences, Faculty of Science & Technology, Universiti Kebangsaan Malaysia, 43600
UKM Bangi, Selangor, Malaysia*

Received: 3 January 2024/Accepted: 31 May 2024

ABSTRACT

These days, public service performance is determined by competitiveness. Due to a prolonged period of stagnation, Malaysia's competitive performance is at a critical level. The public service is therefore under pressure to demonstrate that all policies and programs are highly valued. This study aims to determine the primary variables influencing the ability of Malaysia's public services to compete. Data were acquired through surveys completed by 373 respondents from 26 ministries. The relationships between talent management, human capital, and competitiveness were analysed using structural equation modelling. The results indicate a significant and positive relationship between talent management and competitiveness, with human capital serving as a significant partial mediator. This study highlights the direct importance of talent management for public services competitiveness and its indirect impact through human capital. These insights can assist policymakers in developing a strategic framework to keep the Malaysian public service competitive.

Keywords: Competitiveness; human capital; mediator; structural equation modeling; talent management

ABSTRAK

Hari ini, prestasi perkhidmatan awam ditentukan oleh daya saing. Disebabkan oleh tempoh genangan yang berpanjangan, prestasi daya saing Malaysia berada pada tahap kritikal. Justeru, perkhidmatan awam berada di bawah tekanan untuk menunjukkan bahawa semua dasar dan program sangat dihargai di mata orang ramai. Penyelidikan ini bertujuan untuk menentukan pemboleh ubah utama yang mempengaruhi keupayaan perkhidmatan awam Malaysia untuk bersaing. Seramai 373 responden daripada 26 kementerian telah diberikan borang soal selidik untuk dilengkapkan bagi mengumpul data. Pemodelan persamaan struktur dilakukan untuk menganalisis hubungan antara pengurusan bakat, modal insan dan daya saing. Hasil analisis menunjukkan terdapat hubungan yang signifikan dan positif antara pengurusan bakat, daya saing dan modal insan dengan modal insan merupakan pengantara separa yang signifikan terhadap hubungan antara pengurusan bakat dan daya saing perkhidmatan awam. Secara keseluruhannya, kajian ini menunjukkan kepentingan pengurusan bakat secara langsung terhadap prestasi kompetitif perkhidmatan awam dan secara tidak langsung melalui modal insan. Keputusan ini dijangka memberi manfaat kepada penggubal dasar dalam membangunkan rangka kerja strategik bagi memastikan perkhidmatan awam Malaysia kekal berdaya saing.

Kata kunci: Daya saing; modal insan; pemodelan persamaan struktur; pengantara; pengurusan bakat

INTRODUCTION

The competitive performance of public service in Malaysia is a major concern. According to the 12th Malaysia Plan (RMK-12) and a 2022 Economic Planning

Unit (EPU), the Malaysian public service ranked 25th in governance and efficiency. This marked a significant decline from its 10th position in the 11th Malaysia Plan (RMK-11). Consequently, there is growing public

distrust regarding the public service's capacity to lead Malaysia towards a developed, high-income nation by 2030. A 2019 World Bank study found that Malaysia's public competitiveness has stagnated since 2014, with a competitiveness index of 0.81 in 2018 and 1.0 in 2019 (World Bank Group 2019). This is substantially lower than the average of 1.01 recorded between 1991 and 2014 (Bajpai & Ibrahim 2019).

The urgent need for reform is underscored by the wide gap between Malaysia's public service competitiveness and that of developed countries, particularly those in the Organisation for Economic Co-operation and Development (OECD). Immediate changes are necessary to meet the ongoing demands for efficiency across all public service activities (Vargas 2017). To achieve a sustainable competitive advantage, new skill sets and enhanced public capacities are essential. Accordingly, the public service must realign its capabilities by formulating new operational objectives and prioritising its competitive capabilities. It is important to prioritize these elements, as competition is dynamic and can evolve, especially as the environment changes (Ahmad & Schroeder 2011; Maingi 2013). Competitive priorities in public service delivery, such as quality, flexibility, cost, innovation, and speed, need to be emphasised (Azmi & Suradi 2019; Gallardo-Gallardo, Thunnissen & Scullion 2019).

To maintain the dynamic nature of these dimensions, public services require strategic resource management (Economic Planning Unit 2015; Ghosh, Kumuthadevi & Jublee 2016). The knowledge economy has transformed wealth creation (Kolesnichenko, Radyukova & Pakhomov 2019), making it an important factor for growth and competition that all organisations, industries, and governments must address (Barkhordari, Fattahi & Azimi 2018; Hadad 2017). In the modern economy, all economic value is generated, disseminated, produced, and promoted based on knowledge rooted in the talent within organisations (Lopez Leyva & Mungaray-Moctezuma 2017). This development fosters a close relationship between organisations and their talent (Slavković, Babić & Aleksić 2015).

Recognising this close relationship, the public service requires a more strategic resource management framework to effectively identify, develop, and deploy talent resources. Talent management, the most predominant field of resource management today, is considered a strategic approach because it enhances the

role and function of human resources beyond traditional practices (Luna-Arocas & Morley 2015; Meyers et al. 2019). It acts as a coordinator, linking human resource management practices with organisational strategy (Gurbuz, Acar & Yener 2017). Unlike traditional practices, talent management can respond to environmental changes by improving performance, reducing talent attrition, and ensuring the sustainability of organisational competitiveness (Tatoglu, Glaister & Demirbag 2015).

Major studies by Collings and Mellahi (2009), Farndale, Scullion and Sparrow (2010), Lewis and Heckman (2006), and Stahl et al. (2007) have found a positive relationship between talent management and organisational competitiveness. More recent studies by Al Jawali et al. (2021), Kravaritia et al. (2022), Mohamad et al. (2023) and Yildiz and Esmer (2021) share the view that the primary objective of talent management strategy is to enhance organisational competitiveness. According to Ibidunni et al. (2016), talent management is the best approach for achieving long-term competitiveness. Moreover, talent is recognised as a mediating resource that can either strengthen or weaken this relationship due to the existing gap between the two variables (Mulului 2017). Talent, as an intermediary, is used to produce outputs that are assumed to translate into organisational performance (Boon et al. 2018).

According to the Chartered Institute of Personnel and Development (2020), talent management is a systematic process encompassing the attraction, identification, development, deployment, involvement, retention, and placement of individuals valued by the organisation based on their performance, potential, or the ability to fulfil organisational needs. While various instruments are often used in talent management practices, their selection is guided by integration models that align human resource management elements with organisational strategy to cultivate exceptional talent (Kaleem 2019). Moreover, competitive advantage has served as a crucial metric for assessing the competitiveness of public service organisations, forming a cornerstone of operational strategy models.

The value of human capital to an organisation is determined by its distinctive features and how these characteristics contribute to fulfilling its role effectively. This study assesses and measures the strengths and weaknesses of human capital quality using the VRIO framework, which considers value, rarity, inimitability,

and organisational support. VRIO's emphasis on internal resources enables a more in-depth knowledge of human capital potential and its relationship with organisational performance (Slack & Lewis 2018; Widya, Arief & Sahara 2018).

MATERIALS AND METHODS

SAMPLE OF STUDY AND DATA COLLECTION

A study was performed to achieve the primary research objective. Structured questionnaires created using Google Forms were distributed to the respondents, resulting in 373 completed questionnaires. The distribution and collection process transpired over three months, from December 2020 until February 2021. The research method employed was quantitative.

The sample size was determined using the formula of Krejcie and Morgan (1970), which suggests a minimum sample size of 200 for maximum likelihood-based estimation. The study used a probability sampling technique, specifically the stratified random sampling technique, to ensure that the sample represents the population based on the set criteria (Zikmund & Babin 2013). Administrative and diplomatic officers (PTD) from 26 ministries were invited to participate due to their significant roles and contributions to the development and growth of the country.

THE STUDY INSTRUMENT

The questionnaire comprises four sections. Section A collects demographic information about the respondent, including gender, age, level of education, grade position, period of service in the public service, department, field of work, and service cluster. Section B focuses on talent management variables, including identification, development, and deployment. Section C captures details about talent or human capital variables, such as value, rarity, inimitability, and organisation. Finally, Section D addresses competitiveness, encompassing innovation, delivery, flexibility, cost, and quality. All responses were measured using a 7-point Likert scale, ranging from 'strongly disagree' to 'strongly agree' (Table 1).

STRUCTURAL EQUATION MODELLING

Data analysis was conducted using Statistical Program for Social Sciences (SPSS) version 23 and Structural Equation Modelling (SEM), with the aid of Analysis of

Moment Structures (AMOS) software version 30. SEM is a statistical technique that extends factor analysis and multiple regression analysis, enabling the understanding and identification of causal associations between latent (unobserved) and observed variables. Past studies have demonstrated the versatility of SEM in various applications (Isa et al. 2021; Norani, Hasimah & Zahayu 2022).

Confirmatory factor analysis (CFA) was employed to validate and confirm the variables measuring each factor in the measurement model. CFA assesses the strength of the relationship between indicators and factors, known as factor loadings (Hair et al. 2018; Tabachnick & Fidell 2019). Composite reliability, or Cronbach's alpha exceeding 0.70, indicates the reliability of latent constructs, while average variance extracted (AVE) exceeding 0.5 signifies construct validity. Model fit indices, including the goodness-of-fit index (GFI), comparative fit index (CFI), chi-square/df, and root mean square error of approximation (RMSEA), were evaluated. Generally, GFI, TLI, and CFI above 0.9, or close to 0.9, indicated a good model fit (Hair et al. 2018; Ho 2014). Some researchers suggest that meeting the threshold value for 3 or 4 indices suffices to establish model validity (Hair et al. 2018).

A mediation analysis was conducted to assess the mediating role of human capital, or talent, in the relationship between talent management and competitiveness. Hypotheses testing was carried out to determine the significance and strength of roles played by human capital. Based on the analyses of direct, indirect, and total effects, the nature of the mediator (full, partial, or non-mediator) was determined. According to Baron and Kenny (1986), full mediation occurs when the direct effect of the independent variable on the dependent variable is not significant, while partial mediation is observed when this relationship is significant.

RESULTS AND DISCUSSIONS

The demographic profiles of the 373 respondents are illustrated in Table 2. Slightly more than half of the respondents were female (197 or 52.8 per cent), while the remaining 174 (47.2 per cent) were male. In terms of age, the majority (71.8 per cent) were between 36 and 45 years old, followed by 16.1 per cent aged between 46 and 55 years. The other age groups included 11.5 percent aged between 26 and 35 years old, and 0.5 percent aged 56 years and older.

TABLE 1. Items in questionnaire

Factor	Item and Description
Section A. Talent Management (PB)	
Talent Identification	<p>PB1. believes that identifying a talent is critical in talent management for organisational performance and growth</p> <p>PB2. conducts regular forecasting studies to determine the needs of its talents</p> <p>PB3. conducts a gap analysis to identify the strengths and weaknesses of a talent for business purposes</p> <p>PB4. has established a talent competency framework or matrix at every level of the organisation</p> <p>PB5. consistently reviews and assesses the critical roles and capabilities of a talent to ensure capacity building</p>
Talent Development	<p>PB6. has an appropriate and systematic learning and development strategy</p> <p>PB7. uses learning and development to improve and minimise gaps (i.e., knowledge, skills, and ability) between employees</p> <p>PB8. has various learning and development strategies to foster talent competence (formal and informal)</p> <p>PB9. creates a positive environment and culture to inculcate learning and development in the workplace</p> <p>PB10. has top management that gives full commitment and support to its learning and development strategies</p> <p>PB11. believes that learning and development are key strategic processes to develop the necessary knowledge, skills, and abilities for future roles</p>
Talent Deployment	<p>PB12. believes that all positions need talented employees</p> <p>PB13. identifies people's strengths, capitalises on them, and places them at the right place and time</p> <p>PB14. is able to employ employees who are competent and passionate in doing their job</p> <p>PB15. is able to employ employees who are capable of executing tasks and making decisions fast</p> <p>PB16. has a sufficient pool of talents for contingencies</p> <p>PB17. has an appropriate and systematic framework to employ a pool of talent for leadership and strategic posts</p>
Section B. Talent/Human Capital (MI)	
Value	<p>M1. has employees with a good educational background</p> <p>M2. has employees who are highly skilled</p> <p>M3. has employees with sufficient expertise</p> <p>M4. has employees who received appropriate training</p> <p>M5. has employees with relevant work experiences</p> <p>M6. has employees who are fit to perform tasks and responsibilities</p>
Rareness	<p>M7. has employees who are the best in the industry</p> <p>M8. has employees who are creative</p> <p>M9. has employees who can help improve efficiency</p> <p>M10. has employees who are able to inspire innovation among colleagues</p> <p>M11. has employees who are difficult to replace</p>

Inimitability	M12. has employees who are non-substitutable M13. has employees whose knowledge and abilities can hardly be imitated M14. has employees whose knowledge and abilities are difficult to obtain M15. has employees whose knowledge and abilities are acquired at a high cost
Org. Support	M16. has highly consistent corporate employees and an organisational culture M17. has corporate employees who have harmonious and warm relationships with one another M18. demonstrates good communication between the higher and lower ranking employees M19. has a good compensation structure to motivate employees M20. has employees who are empowered according to their knowledge and abilities M21. supports empowerment policies on the employees' performance of tasks based on their knowledge, skills, and abilities

Section D. Competitiveness (DS)

Innovative	D1. is creative and innovative D2. discovers new ideas and ways for doing things and solving problems D3. develops new working methods at a high-rate performance D4. develops new features in existing services at high-rate performance D5. develops new service technologies at high-rate performance
Delivery	D6. provides fast deliveries and keeps promises on time D7. minimises waiting time between an order and service delivery D8. makes service available and easy to reach D9. promptly handles complaints from clients D10. respects delivery commitment
Flexibility	D11. responds and reacts quickly to detect changes in the marketplace D12. responds and reacts quickly to the customers' needs and wants D13. responds and reacts quickly to the competitors' actions D14. responds and reacts quickly to technological changes D15. rapidly changes structures, policies, regulations, and designs
Cost	D16. uses its available resources optimally without waste D17. increases productivity D18. reduces operating and service costs through process improvement D19. has ways to provide service and operations at a lower cost D20. reduces operating and service costs through automation
Quality	D21. performs things correctly and free of errors D22. creates services that meet customers' needs and exceed their expectations D23. maintains a high level of performance D24. maintains consistent and reliable policies, services, and operational qualities D25. builds and improves the product, and organisational image, and reputation

TABLE 2. Respondents' profile (n = 373)

Demography		Frequency	Percentage
Gender	Male	176	47.2
	Female	197	52.8
Age	26–35 years	43	11.5
	36–45 years	268	71.8
	46–55 years	60	16.1
	Above 56 years	2	0.5
Education level	Bachelor Degree	161	43.2
	Master's Degree	196	52.5
	PhD	16	4.3
Years of Service	5 years and below	10	2.7
	6–10 years	42	11.3
	11–15 years	178	47.7
	16–20 years	131	35.1
	Above 20 years	12	3.2
Service Cluster	PM Dept	101	27.1
	Economy	77	20.6
	Infrastructure	75	20.1
	Social	58	15.5
	Security	62	16.6

Regarding education, most respondents (52.5 per cent) held master's degrees, 43.2 per cent held bachelor's degrees, and 4.3 per cent held doctoral degrees. In terms of length of service, nearly half had served in public service for 11 to 15 years, while one-third had served for 16 to 20 years. The findings also indicate that most respondents served in the Prime Minister's Department Cluster (27.1 per cent), followed by the Economic Cluster (20.6 per cent), the Infrastructure Cluster (20.1 per cent), the Security Cluster (16.6 per cent), and the Social Clusters (15.5 per cent).

CONFIRMATORY FACTOR ANALYSIS

The results of the study indicate that the reliability values for all three constructs exceed the threshold of

≥ 0.6 . Specifically, talent management has a reliability value of 0.855, talent has a reliability of 0.892, and competitiveness has a reliability of 0.966. The AVE values for the three latent constructs also meet the required threshold of at least 0.50, ranging from 0.668 to 0.850, as shown in Table 3.

STRUCTURAL MODEL ANALYSIS

This study hypothesised that talent management and human capital significantly affect organisation competitiveness (Figure 1). The test results show that the structural model meets the model fit index requirements, as shown in Table 4. The model fit indices are: Related Chi-square χ^2/df = 2.665, GFI = 0.715, CFI = 0.907, TLI = 0.902, and RMSEA = 0.067.

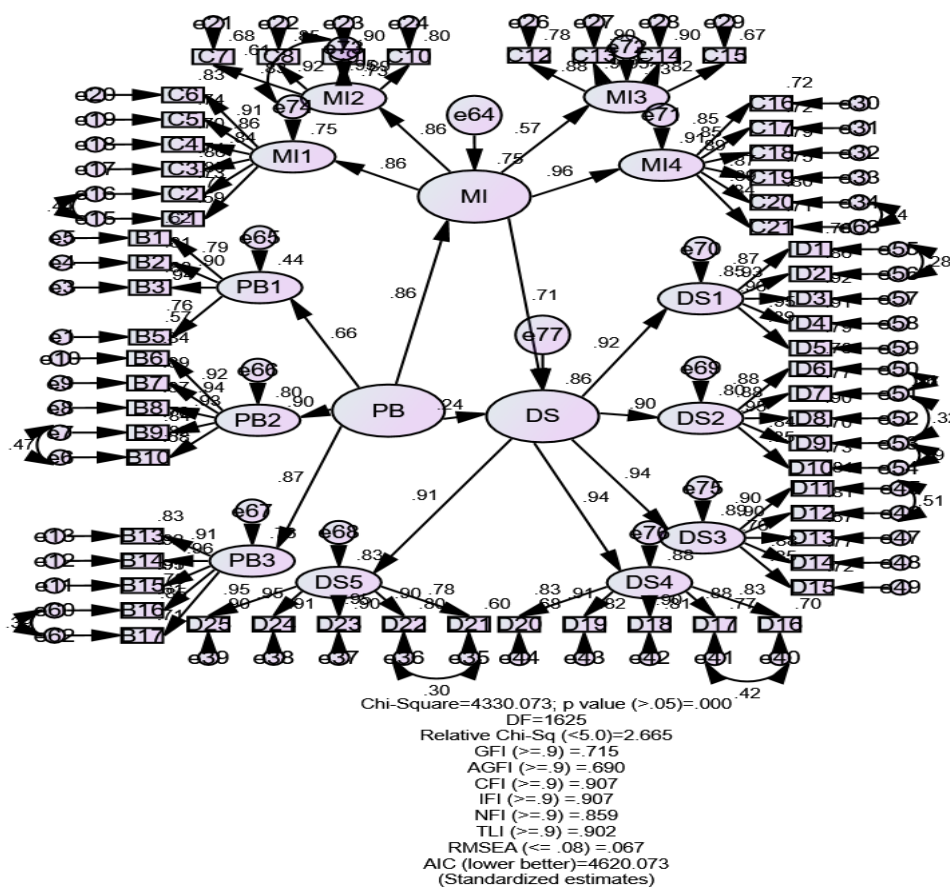


FIGURE 1. Final structural equation model illustrating factors affecting competitiveness

TABLE 4. The goodness-of-fit summary final model

Fit Index	Value
χ^2	4330.073 (<i>p</i> -value < 0.001)
χ^2/df	2.665
GFI	0.715
CFI	0.907
TLI	0.902
RMSEA	0.067

The analysis results indicate that CFI, IFI, and TLI meet the model fit index conditions since they exceed the value of 0.9. The relative value of chi-square is 2.665, which is less than the value of 5. Therefore, the overall

results of this analysis demonstrate that the structural model corresponds to the study data and confirms model acceptance.

Table 5 presents the results of hypothesis testing on the relationships within the structural model. The analysis shows a significant and positive relationship between talent management and public service competitiveness, with $\beta = 0.239$, $t = 9.692$, and $P < 0.001$. This indicates that talent management, through elements of identification, development, and placement of talent, can positively affect the competitiveness of public services in Malaysia. The analysis also shows a significant and positive relationship between talent management and public service talent, with $\beta = 0.865$, $t = 3.091$, $P < 0.05$. This indicates that human capital, through elements of value, rarity, inimitability, and organisation, positively affects the competitiveness of public services in Malaysia. In addition, the results indicate a significant and positive relationship between talent and public service competitiveness,

with $\beta = 0.710$, $t = 8.176$, and $P < 0.001$. This shows that human capital, through elements of value, rarity, inimitability, and organisation, can positively affect the competitiveness of public services in Malaysia.

MEDIATING EFFECTS

The results of the mediation analysis are presented in Figure 2 and Table 6. The analysis showed a significant direct effect of PB (talent management) and DS (competitiveness) with $\beta = 0.239$, $P < 0.001$. When the mediator (human capital) was included, the effect of PB on DS remained significant ($\beta = 0.865 * 0.710 = 0.614$, $P < 0.001$). The total effect of PB on DS was significant ($\beta = 0.239 + 0.614 = 0.853$, $P < 0.001$), indicating that human capital partially mediates the relationship between PB and DS.

TABLE 5. Summary of hypothesis testing results

Relationships between constructs	β	S.E.	t-value	p-value	Results
Talent management Competitiveness	0.239	0.104	9.692	< 0.001	Significant
Talent management Talent	0.865	0.83	3.091	.002	Significant
Talent Competitiveness	0.710	.126	8.176	< 0.001	Significant

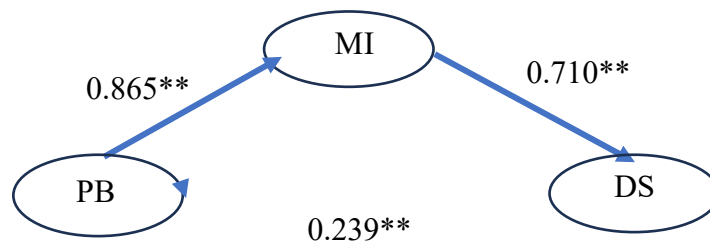


FIGURE 2. Results of mediation analysis

TABLE 6. Results of direct and indirect relationship analysis using AMOS

	PB	MI	DS
Standardised Direct Effect			
MI	.865	.000	.000
DS	.239	.710	.000
Standardised Indirect Effect			
MI	.000	.000	.000
DS	.614	.000	.000

These results confirm that the measurement model and structural model developed align with the study data and demonstrate their reliability. In conclusion, the talent management model met the set criteria when verified through the SEM approach. Further inferential analysis indicates that talent management significantly influences competitiveness in the public service, that talent management significantly influences strategic talent in the public service, and that strategic talent significantly influences the competitiveness of the Malaysian public service.

In today's competitive world, many organisations, especially in the private sector and among multinational companies, recognise the role of talent management in enhancing and sustaining organisational competitiveness. This recognition has helped organisations increase profitability and secure a strong market position (Collings, Mellahi & Cascio 2019; McDonnell et al. 2017). However, the importance of the relationship between talent management and the performance of non-profit or non-economic value-based organisations, including public service organisations, is less highlighted (Collings 2014; Thunnissen 2016). Therefore, this research aims to highlight the importance of talent management on the competitiveness of public service organisations in Malaysia, with human capital serving as a mediator.

LIMITATION OF THE STUDY

This study has several limitations and offers recommendations for future research. First, it focuses on PTD as respondents, which is a small sample compared to the total of 1.7 million civil servants. Second, the concept of talent management is limited to three basic elements. Future studies could expand this to include additional elements such as culture, retention, engagement, career and succession plan, workforce planning, motivation, reward, and compensation. Third, the concept of competitiveness in public service was measured using an operational strategy model that is mostly based on the organisation or manufacturing industry.

Future studies could be improved by including elements more closely related to public services, such as reliability, integrity, creativity, transparency, governance, and structure. These elements are often cited when measuring public service performance. Additionally, this study uses the resource-based view theory to reference talent or strategic human capital in public services. However, the findings show that human capital acts

only as a partial mediator when resource-based elements such as value, rarity, inimitability, and organisational support are used. This suggests exploring other elements to strengthen the role of human capital as a mediator. Suggested elements include core values, piety, and good behaviours, which are highly emphasised by the top management of the Malaysian public service and are even measured and benchmarked by international bodies.

CONCLUSIONS

The study shows that talent management is a strategic resource management approach with specific goals. The goal is to produce competent and high-quality civil servants by integrating various elements of human resource management into a cohesive ecosystem. This model has proven that talent management can enhance the competitiveness of non-profit organisations, such as public services in Malaysia. The findings also highlight that human capital is crucial for achieving competitive performance. The talent or human capital in this study meets the criteria to be considered a strategic resource, supporting the theory by Barney (1995). Additionally, this study contributes to developing operational strategy models in the public service by identifying competitive priorities for public service organisations in Malaysia. It provides a deeper understanding of how these strategies can enhance public service competitiveness. This is particularly noteworthy because the theory is traditionally applied to manufacturing-based organisations or industries to gain competitive advantage. The benefits realised through this approach will allow public services to maintain their relevance in long term by effectively responding to environmental changes.

Practically, the findings can benefit human resource managers, top management, future researchers, and central agencies responsible for policy regulations and implementation of circulars related to human resource practices in the public service. Additionally, change and transformation are necessary as the public service faces pressure to become more efficient and effective and to create better economic value for the progress and well-being of the country. The most effective solution is to develop competitive abilities, which include the ability to respond to current environmental changes. Overall, this study underscores the importance of talent management in improving the competitive performance of public services. The talent represented by civil servants is a vital resource that can significantly enhance the competitive performance of the public service in Malaysia.

REFERENCES

- Ahmad, S. & Schroeder, R.G. 2011. Dimensions of competitive priorities: Are they clear, communicated and consistent? *The Journal of Applied Business Research* 18(1): 77-86.
- Al Jawali, H., Darwish, T.K., Scullion, H. & Haak-Saheem, W. 2021. Talent management in the public sector: Empirical evidence from the emerging economy of Dubai. *International Journal of Human Resource Management* 33(11): 2256-2284.
- Azmi, R. & Suradi, N.R.M. 2019. Innovation capability and organization performance in Malaysian public sector: A conceptual framework. *AIP Conf. Proc.* 2111: 020016.
- Bajpai, R. & Ibrahim, A.M. 2019. Perkhidmatan awam tonggak kemakmuran bersama. *Berita Harian*. <https://www.bharian.com.my/rencana/muka10/2019/07/584654/perkhidmatan-awam-tonggak-kemakmuran-bersama> Accessed on 03 January 2020.
- Barkhordari, S., Fattahi, M. & Azimi, N.A. 2018. The impact of knowledge-based economy on growth performance: Evidence from MENA countries. *Journal of the Knowledge Economy* 10: 1168-1182.
- Barney, J.B. 1995. Looking inside for competitive advantage. *Academy Management Executive* 9(4): 49-55.
- Baron, R.M. & Kenny, D.A. 1986. The moderator-mediator variable distinction in social the moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology* 51(6): 1173-1182.
- Boon, C., Eckardt, R., Lepak, D.P. & Boselie, P. 2018. Integrating strategic human capital and strategic human resource management. *International Journal of Human Resource Management* 29(1): 34-67.
- Chartered Institute of Personnel and Development. 2020. *Talent Management*. London: Chartered Institute and Development.
- Collings, D.G. 2014. Integrating global mobility and global talent management: Exploring the challenges and strategic opportunities. *Journal of World Business* 49(2): 253-261.
- Collings, D.G. & Mellahi, K. 2009. Strategic talent management: A review and research agenda. *Human Resource Management Review* 19(4): 304-313.
- Collings, D.G., Mellahi, K. & Cascio, W.F. 2019. Global talent management and performance in multinational enterprises: A multilevel Perspective. *Journal of Management* 45(2): 540-566.
- Economic Planning Unit. 2015. *Eleventh Malaysia Plan 2016-2020: Anchoring Growth on People*. Putrajaya: Economic Planning Unit.
- Farndale, E., Scullion, H. & Sparrow, P. 2010. The role of the corporate HR function in global talent management. *Journal of World Business* 45(2): 161-168.
- Gallardo-Gallardo, E., Thunnissen, M. & Scullion, H. 2019. Talent management: Context matters. *The International Journal of Human Resource Management* 31(4): 457-473.
- Ghosh, B., Kumuthadevi, K. & Jublee, D. 2016. Linkage among competitiveness, competitive advantage and competitive priority of apparel export firms at Tirupur. *International Journal of Management Research & Review* 6(8): 1012-1029.
- Gurbuz, F.G., Acar, P. & Yener, M.I. 2017. Development and validation of a talent management measurement instrument. *Pressacademia* 6(3): 233-245.
- Hadad, S. 2017. Knowledge economy: Characteristics and dimensions. *Management Dynamics in the Knowledge Economy* 5(2): 203-225.
- Hair, J.F., Babin, B.J., Anderson, R.E. & Black, W.C. 2018. *Multivariate Data Analysis*. 8th ed. Uttar Pradesh: Cengage India.
- Ho, R. 2014. *Handbook of Univariate and Multivariate Data Analysis and Interpretation With IBM SPSS. NW*. Milton Park: Taylor & Francis Group.
- Ibidunni, S., Osibanjo, O., Adeniji, A., Salau, O.P. & Falola, H. 2016. Talent retention and organizational performance: A competitive positioning in Nigerian banking sector. *Periodica Polytechnica Social and Management Sciences* 24(1): 1-13.
- Isa, S.N.I., Ishak, I., Ab Rahman, A., Mohd Saat, N.Z., Che Din, N., Lubis, S.H., Mohd Ismail, M.F. & Mohd Suradi, N.R. 2021. Quality of life among caregivers of children with special needs in Kelantan, Malaysia: The importance of psychosocial mediators. *Malays. J. Med. Sci.* 2021(2):128-141.
- Kaleem, M. 2019. The influence of talent management on the performance of employees in public sector institutions of the UAE. *Public Administration Research* 8(2): 8-23.
- Kolesnichenko, E.A., Radyukova, Y.Y. & Pakhomov, N.N. 2019. The role and importance of knowledge economy as a platform for formation of industry 4.0. *Studies in Systems, Decision and Control* 169: 73-82.
- Kravaritia, F., Tasoulis, K., Scullion, H. & Khaled, M.A. 2022. Talent management and performance in the public sector: Role of organizational and line managerial support for development. *The International Journal of Human Resource Management* 34(9): 1782-1807.
- Krejcie, R.V. & Morgan, D.A. 1970. Determining sample size for research activities. *Educational and Psychological Measurement* 30(8): 607-610.
- Lewis, R. & Heckman, R. 2006. Talent management: A critical review. *Human Resource Management Review* 16(2): 139-154.
- Lopez Leyva, S. & Mungaray-Moctezuma, A.B. 2017. Knowledge-based economy as a foundation for the economic development of countries. *Management Dynamics in the Knowledge Economy* 5(4): 481-501.

- Luna-Arocas, R. & Morley, M.J. 2015. Talent management, talent mindset competency and job performance: The mediating role of job satisfaction. *European J. of International Management* 9(1): 28-51.
- Maingi, D.K. 2013. Operations competitive priorities and performance of multinational corporation in Kenya. Masters Project School of Business, Univ. of Nairobi (Unpublished).
- Mcdonnell, A., Collings, D.G., Mellahi, K. & Schuler, R. 2017. Talent management: A systematic review and future prospects. *European J. International Management* 11(1): 86-128.
- Meyers, M.C., Van Woerkom, M., Paauwe, J. & Dries, N. 2019. HR managers' talent philosophies: Prevalence and relationships with perceived talent management practices. *International Journal of Human Resource Management* 31(4): 562-588.
- Mohamad, S.I., Mohd Suradi, N.R., Zamzuri, Z.H. & Mohd Ramli, S.N. 2023. Talent management and public service competitiveness in Malaysia. *Jurnal Pengurusan* 69: 03.
- Mulului, P.S. 2017. Review on talent management, competitive advantage and organizational performance: A research agenda. *Research Journal's of Human Resource* 5(1): 1-8.
- Norani Amit, Hasimah Sapiri & Zahayu Md Yusof. 2022. Factors affecting housing price in Malaysia using structural equation modeling approach. *Sains Malaysiana* 51(12): 4161-4173.
- Slack, L. & Lewis, M. 2018. *Operation Strategy*. 5th edition. India: Pearson.
- Slavković, M., Babić, V. & Aleksić, V.S. 2015. Talent management: Opportunities and limitations for Serbian organizations. *TEME: Casopis Za Drustvene Nauke* 39(2): 361-379.
- Stahl, G., Björkman, I., Farndale, E., Morris, S.S., Paauwe, J., Stiles, P. & Wright, P. 2007. *Global Talent Management: How Leading Multinationals Build and Sustain Their Talent Pipeline*. INSEAD Working Papers Collection No. 2007/34/OB. Fontainebleau, France.
- Tabachnick, B.G. & Fidell, L.S. 2019. *Using Multivariate Statistics*. 7th ed. New York: Pearson.
- Tatoglu, E., Glaister, A.J. & Demirbag, M. 2015. Talent management motives and practices in an emerging market. *Journal of World Business* 51(2): 278-293.
- Thunnissen, M. 2016. Talent management: For what, how and how well? An empirical exploration of talent management in practice. *Employee Relations* 38(1): 57-72.
- Unit Perancang Ekonomi (EPU) 2023. *Kajian Separuh Penggal Rancangan Malaysia ke 12 2021-2025, Malaysia Madani: Sejahtera, Kemampanan dan Berpendapatan Tinggi*. Kuala Lumpur: Percetakan Nasional Berhad (PNB).
- Vargas, J. 2017. Bases for Organizational Competitiveness: Organizational Competitiveness Status Report in Hungary. *Journal of International Scientific Publications* 4: 9-15.
- Widya Ariyani, Arief Daryanto & Sahara. 2018. Operationalization of internal analysis using the VRIO Framework: Development of scale for resource and capabilities organization (Case study: XYZ company animal feed business unit). *Asian Business Research Journal* 3(1): 9-14.
- World Bank Group. 2019. *Malaysia Economic Monitor: Re-energizing the Public Service*.
- Yildiz, R.Ö. & Esmer, S. 2021. Talent management related concepts and debates in container shipping industry by an emerging market perspective. *Journal of Shipping and Trade* 6: 6.
- Zikmund, W.C., Babin, B.J., Carr, J.C. & Griffin, M. 2013. *Business Research Methods*. Boston: Cengage Learning Custom Publishing.

*Corresponding author; email: idzuan@kuskop.gov.my