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A Review of Digital Talent Systems for Malaysian Industries

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KEYWORDS

Digital Talent
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ABSTRACT

Digital talent is a USD 100 trillion industry but only one third of jobs requiring digital talent can be fulfilled. Organizations are often left with the dilemma on how to manage digital talent. Digital talent management influences the recruiting, training, development, and restructuring strategies of the organization. Malaysia has recognized the importance of digital talent as early as 2015 by outlining human capital development as one of the six cores in the 11th Malaysian Plan. The Malaysian industry employs 36% of the labour force and accounts more than one third of the country's GDP. This paper presents a review of 50 commercial Digital Talent Systems (DTS) to identify the availability and suitability of current DTS for managing digital talent in Malaysia. Results indicate that digital talent is recognized throughout the world and no longer confined to a specific country or region. DTS is used in the Financial, Healthcare, Manufacturing, Education, Information and Communication Technology, Consultation, Hospitality, Customer Services, Logistics, Food and Beverages, Engineering, Consumer Goods, Construction, Utilities, e-Commerce, Automotive, Agriculture, and Transportation industries. Major features of DTS include Assessment, Interview, Tracking, Reporting, Analytics, and Hiring modules. Criteria used for assessing talents include General Skills, Cognitive Skills, Digital Skills, Aptitude, Personality, Management Skills, Agility, and Technical Skills. Although current DTS can accommodate most industries in Malaysia, there is yet a suitable DTS for the Environment and Tourism industries. In addition, current DTS lacks industry-specific assessments, especially for Malaysia.

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1.0 Introduction

"*Digital Talent*" can be traced back to 2011 when MIT and Capgemini undertook a three-year study on digital transformation programs [1]. Digital talent is a USD 100 trillion industry [2] but only one third of jobs requiring digital talent can be fulfilled [3].

Malaysia has recognized the importance of digital talent as early as 2015 by outlining human capital development as one of the six cores in the 11th Malaysian Plan [4] and re-emphasized it in the mid-term review in 2018 [5]. The industrial sector accounts over a third of Malaysia's GDP, and employs 36% of the labour force.

Although it is generally agreed that digital talent would provide competitive advantage to business organizations in this era of digital economy; there is a yet consensus on what constitutes "digital talent management" [6], [7], leading to various interpretations of what it is and what it does [8]. Organizations are often left with the dilemma on how to manage digital talent [9], [10], affecting its recruiting, development, and restructuring strategies [11]. Digital talent is an issue for governments, researchers, and organizations alike [8]. This paper aims to identify the suitability of current commercial *Digital Talent Systems* (DTS) for managing digital talent in Malaysia.

2.0 Methodology

Google search engine was used to obtain a list of commercial DTS based on the keyword "*digital talent hiring system*". Systems without third party ratings such as *Capterra* and *Saasworthy* were not included. The total list of system was limited to 50 and presented in table 1.

Table 1: List of Digital Talent Systems Analyzed

1. Accendo - TalentPulse
2. Adaface
3. Applied
4. Aspiring Minds
5. AssessFirst
6. Athena Quotient
7. Berke
8. Big Biller
9. bryq
10. Cangrade
11. CODILITY
12. Crelate
13. ESKILL
14. Evalart
15. Freshteam
16. Great People Inside
17. GreenHouse
18. HACKERRANK
19. Harver
20. HireVue
21. HR Avatar
22. iCIMS
23. iMOCHA
24. JOBVITE
25. Lytmus
26. Manatal
27. Mettl
28. Modern Hire
29. Owiwi
30. PLUM
31. Predictive Index
32. Prevue HR
33. Pymetrics
34. Recruitee
35. RecruitLab
36. Select International
37. Skillsarena
38. Softfactors
39. Spark Hire
40. TalentLyft
41. Talview
42. TestDome
43. TestGorilla
44. The Talent Games
45. ThriveMap
46. Toggl Hire
47. Vervoe
48. Wonscore
49. Workday
50. Zoho Recruit

3.0 Results and Discussion

3.1 Country of Origin

More than half of the DTS analyzed were from North America (56%) while the rest were from Europe (26%), Asia (14%), South America (2%) and Australia (2%) as illustrated in figure 1.

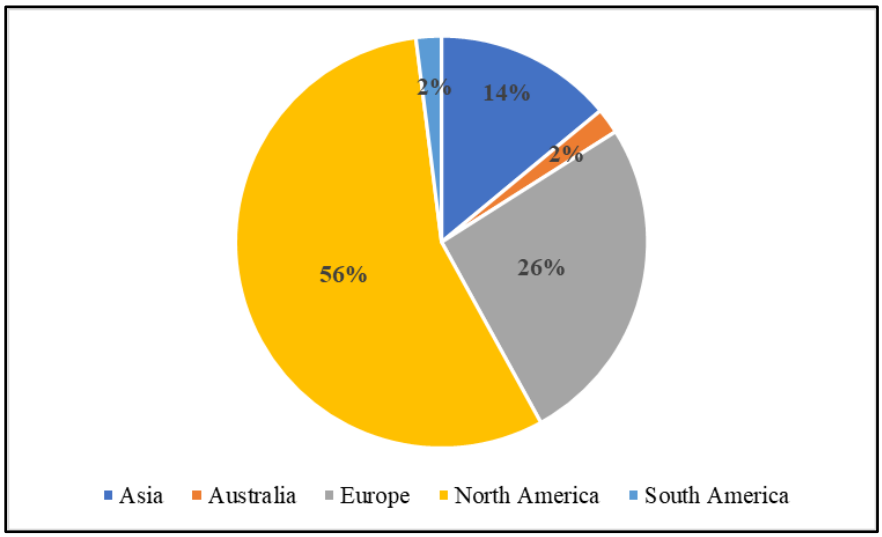

Figure 1: Country of Origin

This indicates that the importance of digital talent is recognized throughout the world and no longer confined to a specific country or region. This finding is also supported by a wealth of digital talent literature, reporting works across America [12], [13], Europe [12], Australia [14], UAE [15], Germany [16], and India [15].

3.2 Industry

DTS are mainly used in the *Financial* (25%), *Healthcare* (11%) and *Manufacturing* (11%) industries as illustrated in figure 2. DTS are also found the *Education* (8.8%), *Information and Communication Technology* (6.6%), *Consultation* (5.9%), *Hospitality* (5.1%), *Customer Services* (4.4%), *Logistics* (3.7%), *Food and Beverages* (2.9%), *Engineering* (2.2%), *Consumer Goods* (2.2%), *Construction* (2.2%), *Utilities* (1.5%), *e-Commerce* (1.5%), *Automotive* (1.5%), *Agriculture* (0.7%), and *Transportation* (0.7%) industries.

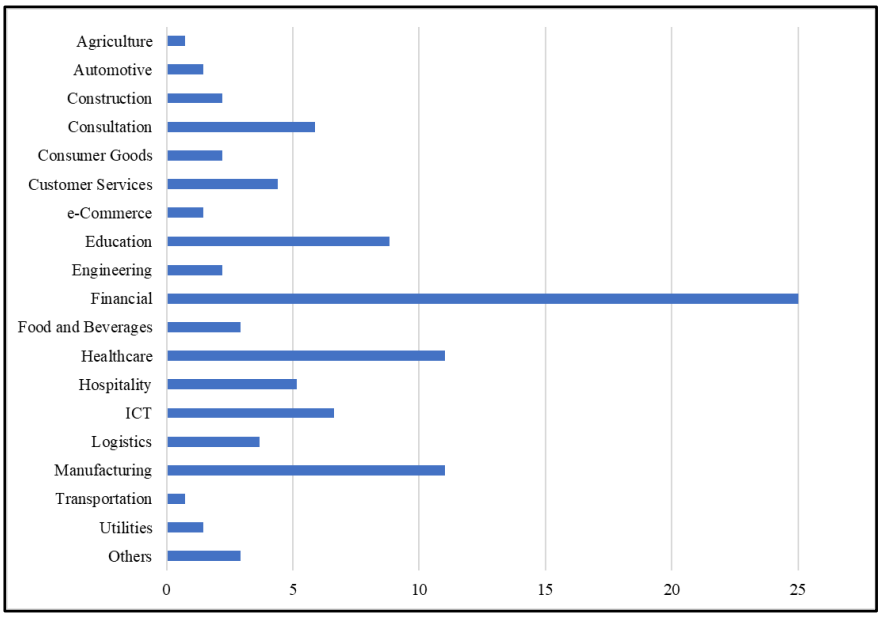

Figure 2: Digital Talent Systems Based on Industry

It is interesting to note that there is only a small number of DTS (less than 5%) used in the e-*Commerce* and *Information and Communication Technology* industries considering the importance of these industries to digital economy. In addition, we had expected to see a higher percentage of DTS in the *Manufacturing* industry as we are currently in IR 4.0.

It is expected that number and percentage would change in the near future as organizational digital transformation progresses. In some industries such as *Finance* and *Manufacturing*, "born-digital" organizations have emerged to compete with traditional, pre-digital organizations [16]. Hence, digital transformation is much needed by the latter to increase competitiveness and levelling the field [17].

3.3 Major Features

Major features in DTS analyzed include *Assessment* (62%), *Interview* (30%), *Tracking* (22%), *Reporting* (22%), *Analytics* (16%) and *Hiring* (4%) modules as illustrated in figure 3.

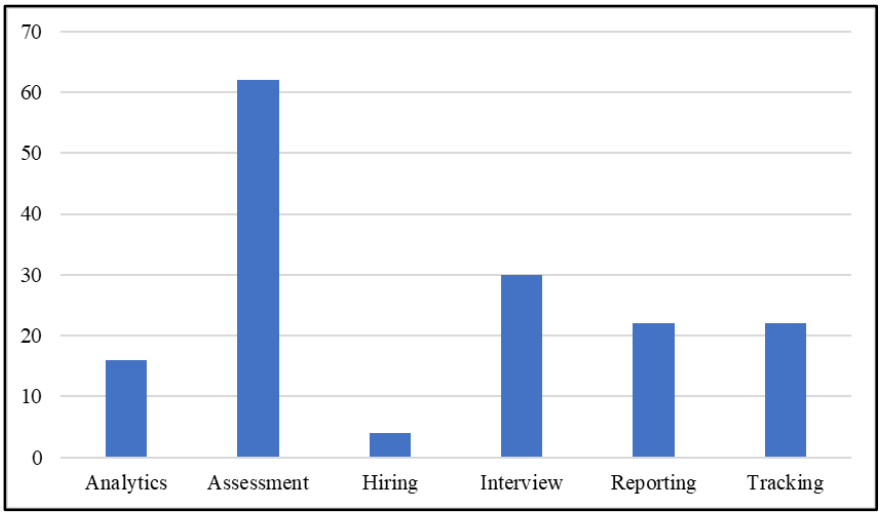

Figure 3: Major Features in Digital Talent Systems

Traditional features of a computerized talent management system such as *interviewing* and *tracking* are prevalent in DTS, however the emphasis on assessment has increased (62%). Most DTS have a wide array of approaches and criteria to assess talents. Coupled with analytics, organizations now have a better picture of the talent's suitability in the organization. It is expected that new assessment approaches such as gamification [18], animation [19], and job-specific training [20] would be incorporated in the future with the use of more profound AI techniques.

3.4 Assessment Criteria

Criteria for assessing talents include *General* skills (21.7%), *Cognitive* skills (16.7%), *Digital* skills (16.7%), *Aptitude* (11.7%), *Personality* (10.0%), *Management Skills* (6.7%), *Agility* (8.3%), *Technical Skills* (5.0%), dan *Others* (3.3%) as illustrated in figure 4.

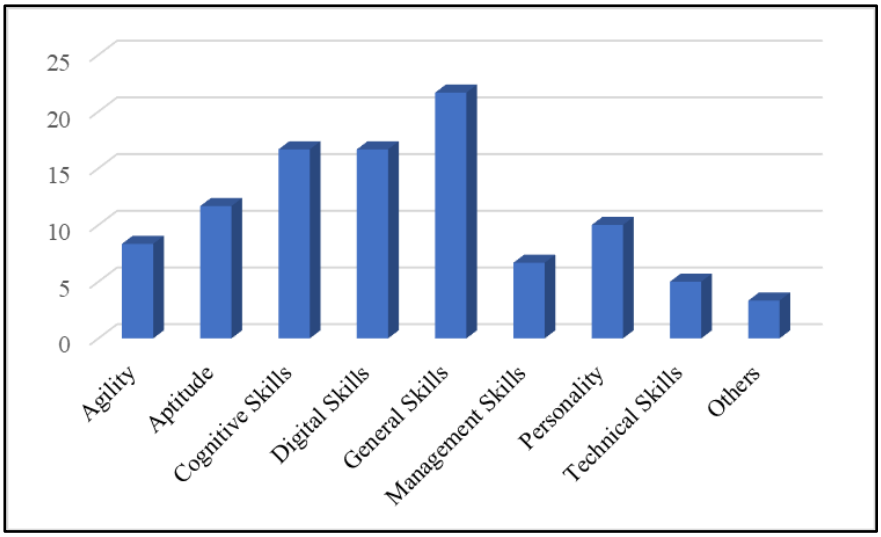

Figure 4: Talent Assessment Criteria

Most DTS emphasize on general and cognitive skills as opposed to digital skills. Surprisingly, only a few DTS assess *agility* and *technical skills*; skills that are crucial in digital economy and digital transformation implementation. It is anticipated that assessment criteria would expand to meet industry-specific competency requirements such as education [12], accounting [18], animation [19], and medical [20].

4.0 Digital Talent Systems and the Malaysian Industry

The Malaysian economy is among the largest in Southeast Asia and ranked 36th in the world. It has a dense knowledge-based industries and adopts latest technology for manufacturing and digital economy, making it the 27th most competitive economy in the world [21]. Malaysia's industry accounts for more than a third of its GDP and can be broadly categorized into two namely manufacturing and services. In total, there are 25 industries in Malaysia as stipulated by the Ministry of International Trade and Industry (table 2).

Table 2: List of Malaysian Industries

MANUFACTURING SECTOR	SERVICES SECTOR
1. Aerospace	1. Legal
2. Automotive	2. Accounting, Auditing, Bookkeeping & Taxation
3. Cement	3. Architectural
4. Chemical and Petrochemical	4. Engineering
5. Electrical and Electronics	5. Communication
6. Food	6. Construction & Related Engineering
7. Iron Steel	7. Distribution
8. Machinery and Equipment	8. Education
9. Medical Devices	9. Environment
10. Pharmaceutical	10. Health Related & Social Services
11. Rubber Industry	11. Tourism & Related Travel
12. Textile Apparel and Footwear	12. Transport
13. Wood Based	

4.1 Industry

Almost all DTS analyzed can be used by Malaysian industries, subject to minor revisions. For example, DTS for specific industries such as *Cement* and *Rubber* might be different as these industries are more peculiar to Malaysia, and would require a more refined DTS. There are also numerous DTS for the services sector including *Construction*, *Education*, *Healthcare* and *Transportation* and partial DTS for the *Legal*, *Accounting*, *Architectural*, *Engineering*, *Communication* and *Distribution* industries. However, there are no specific DTS for the *Environment* and *Tourism* industries.

Malaysia aims to become a sustainable nation and is looking into green technology. The National Policy on the Environment was established to increase the quality of life through sound and sustainable environment development. In addition, Tourism a dynamic economic industry in Malaysia, with regards to GDP contribution, employment opportunities and foreign exchange. This industry is labour-intensive with links to other industries including Education and Health. Tourism is the third largest contributor GDP with RM86.14 billion recorded in 2019. Clearly, there is a need for a new category of DTS to accommodate Malaysian industries.

4.2 Assessment Criteria

Generally, the assessment criteria in existing DTS could support the identification and selection of suitable talents, however, it lacks industry-specific assessment, especially in the context of Malaysia. As digital talent is viewed differently by organizations and industries, therefore there is no generic skill set. Digital talent is a blend of individual traits, organizational skills and industry-specific skills as illustrated in figure 5.

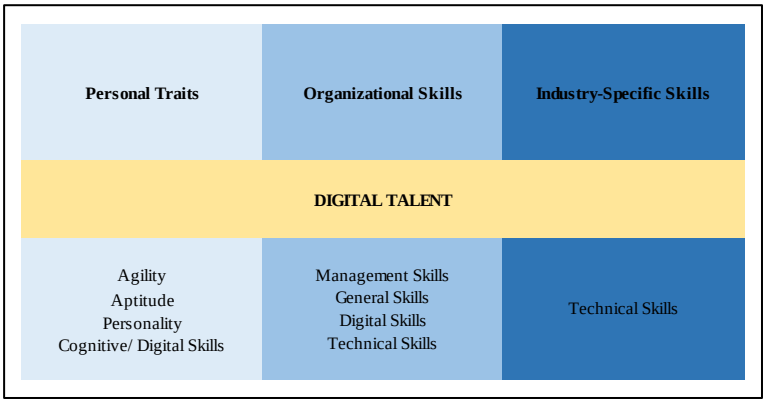

Figure 5: Composition of Digital Talent

For example, the *Chemical and Petrochemical* industry is overseen by a number of agencies including the Department of Occupational Safety and Health; the Pesticide Board, Department of Environment; and the Ministry of Health. Each with specific requirements for handling hazardous chemicals, use of substance, pesticides, health assessments and the use of poison. Another example is the *Construction and Related Engineering* industry under the services sector. This industry is regulated among others, by the Quantity Surveyors Act, Architects Act, and Registration of Engineers Act. Each with specific requirements for the professionals in these fields. Therefore, there is a need to expand current assessment criteria in DTS to include industry-specific skills especially for Malaysian industries.

5.0 Conclusion

This paper has presented a review of commercial DTS to identify its suitability for Malaysian industries. A total of 50 DTS were reviewed and results indicate that digital talent is recognized throughout the world and no longer confined to a specific country or region. DTS are mainly used in the *Financial*, *Healthcare* and *Manufacturing* industries although the composition is expected to change as organizational digital transformation progresses.

Major features in DTS include *Assessment*, *Interview*, *Tracking* and *Reporting* modules. It is expected that new assessment approaches would be incorporated in the future including gamification and job-specific training with the use of more profound AI techniques. Criteria used for assessing talents include *General Skills*, *Cognitive Skills* and *Digital Skills*. It is anticipated that these criteria would expand to meet industry-specific competency requirements such as education and medical.

Although current DTS systems can accommodate most industries in Malaysia, there is yet a suitable DTS for the *Environment* and *Tourism* industries, prompting the need for a new category of DTS. In addition, current DTS lacks industry-specific assessment, highlighting the need for expanding current assessment criteria for Malaysian industries.

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