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Digital Talent Management: A Position Paper and Research Agenda

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ABSTRACT

Digital economy presents a distinct evolution from traditional "pre-digital" industries. Business now can be run from anywhere and at any time, leading to new market segments and business processes. Digital transformation has become the focus of organizations all over the world in recent years where "born-digital" organizations have emerged to compete with their pre-digital counterparts. Among the challenges for pre-digital organizations include finding the talent with the right skills to support digital transformation. Although it is generally agreed that digital talent would provide competitive advantage to organizations in digital economy; there is a yet consensus on what constitutes digital talent, leading to various interpretations of what it is and what it does. This paper puts forth a notion of using competency models to manage digital talent. Digital talent can be viewed as a blend of individual, organizational and industrial competencies. Individual competency refers to the personal traits of a talent (soft skills) whilst organizational competency refers to hard skills and usually specific to a particular job. Industrial competency refers to a set of competencies that is shared by organizations in the same industry. Although individual and organizational competencies have been identified by organizations for decades, industrial competency has become more profound in digital economy especially in supporting digital transformation strategies. In addition, research agenda for digital talent is presented including competency identification, development of digital talent model and framework, and development of digital talent support tools.

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1.0 Introduction

The current world's economy is in an era that is underpinned by data, information, services, and new business models. Digital economy presents a distinct evolution from the traditional "pre-digital" industries, where business now can be run from anywhere and at any time, leading to new market segments and business processes. Digital transformation has become the focus of organizations all over the world [1]. Organizations have to re-define current business models and processes and view technology as means to stay competitive [2].

"Born-digital" organizations have surfaced to become a fierce competitor to pre-digital organizations. The latter need to increase competitiveness and catch up with born-digital organizations without being disrupted [3]. Among the challenges for pre-digital organizations in digital transformation include finding the talent with the right skills or "*digital talent*". The recruitment of digital talent is challenging because of unbalanced supply and demand; and unfamiliarity with such talent [4].

Digital talent is worth USD 100 trillion worldwide [5], but only a third of the jobs requiring digital talent can be fulfilled [6]. Although it is generally agreed that digital talent would provide competitive advantage to organizations in digital economy; there is a yet consensus on what constitutes digital talent [7], [8], leading to various interpretations of what it is and what it does [9]. As such, organizations are often left with the dilemma of how to manage digital talent [10], [11].

In this position paper, the authors put forth a notion of using competency models for managing digital talent. Competencies such as critical thinking, creativity, communication, analytical skills are in high demand in digital economy [9] and can be used to manage digital talent effectively.

2.0 Digital talent

The meaning of "digital talent" varies across organizations and industries [12]. It has been referred to as "employees with IT-related knowledge and skills" [4], "professionals in the digital content industry" [10], "talent required by AI and the knowledge industry" [13], "professionals who form insights and knowledge in specific areas and apply them to the digital field" [14].

Due to its varying meaning, there is yet set of specific "skills" associated with digital talent. It has been referred to as "a combination of hard digital skills and soft digital skills" [15]; "hard skills, soft skills and contextual skills" [16]; "digital skills, human skills and business skills" [10]; "a broad knowledge in different domains" [17]; and "cross-cultural and inter-generational interaction skills" [18]. Some organisations have given up the search for suitable talents especially for IT-related positions [4].

3.0 Competency

Competency can be defined as "*the capability to apply knowledge, skills, and abilities (KSAs) to perform specific tasks in the workplace*". A competency model is a collection of KSAs that define performance in the workplace. Competency models have been widely used for defining and assessing competencies. These models represent a key component for recruitment, appraisal, and development by the *Human Resource Department* (HRD).

Competency models can be developed for specific jobs, groups, organizations, and industries. Competency modelling started in the 1970s and since then, the numbers of models have grown and categorized based on industry. Some of these models are presented below:

3.1 Behavioural Competency

Behavioural competency [19]–[21] focuses on behaviours, attitudes, and personal traits of the talent. It is also known as soft skills and distinguishes a talent from the hiring pool. Initially, it was used to predict how successful a talent will be at the job they are applying for. However, it can also be applied to talents at all levels and not restricted to job positions in the organizations.

3.2 Occupational Competency

Occupational Competency [22]–[24] describes competency as "knowledge, skills and attitudes", distinguishing outstanding talent in a given job. It defines performance in the workplace and designs standards for occupational credentials such as certification. It focuses on personal, interpersonal and systems thinking skills.

3.3 Labor Competency

Labor Competency [25]–[27] serves as a basis for training policies and regulating the labour market. It refers to competency as a combination of "aptitudes and attitudes" and measured based on a group of talents, as opposed to individual talent. This model is mostly used in the education, hospitality and engineering industries; and focuses on the aspects of knowledge, capability, skills, attitude and behaviour.

3.4 Leadership Competency

Leadership competency [28]–[30] represents a set of knowledge, skills, and abilities for effective leadership in an organization. It provides a structured framework for defining, identifying and developing key skills and behaviours for the organization's next generation of leaders.

3.5 Organizational Competency

Organizational competency [31]–[33] can be viewed as the organization's strategic strength. It is a set of competencies that defines what the organization does best and how it expects it to be accomplished. It entails expected behaviours, skills and attitudes that contributes to the performance of the organization. Most organizations define up to 25 competencies outlining how employees are expected to act as a team, and common traits that every employee must possess in order to succeed.

3.6 Core Competency

Core competency [34]–[36] is a combination of resources and skills that distinguish an organization from its competitors. It defines the organization's competitive strength, brand reputation, and marketing strategy. Core competency is unique to individual organization and cannot be replicated easily.

3.7 Functional Competency

Functional competency [37]–[39] is defined as the "knowledge, skills and personal character of a talent in carrying out responsibilities in a given job or position". It defines the minimum level of accepted performance for a specific task.

Although a complete list of competency models is out the scope of this paper, it is observed that the majority of competency models can be categorized into two: individual and organizational. For example, behavioural, occupational, and leadership competencies are more related to individual talents whilst organizational and core competencies are more related to organizational talents. As such, other models that are not listed can be divided into either one of these two categories.

4.0 Conceptual Model

This paper puts forth a notion of using competency models for managing digital talent. Digital talent can be viewed as a blend of *individual*, *organizational* and *industrial* competencies as illustrated in Figure 1.

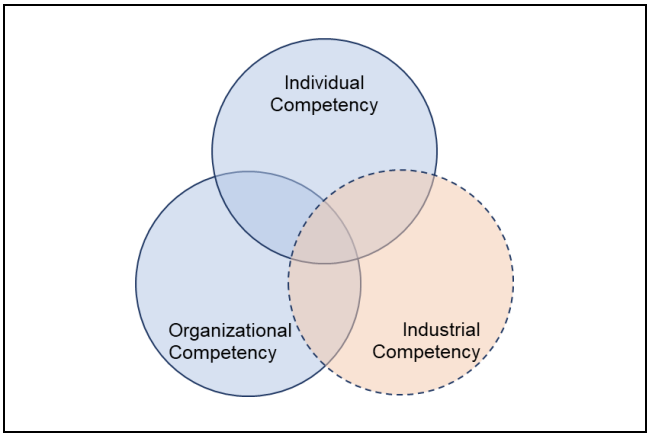

Figure 1: Digital Talent Composition

Individual competency refers to the personal traits of the talent and could be regarded as *soft skills*. Organizational competency refers to *hard skills* and usually specific to a particular job. Hard skills can be obtained from formal education or on the-job-training. Soft skills are less defined and not restricted to a specific job or role.

Industrial competency refers to a set of competencies that is shared by organizations in the same industry. Examples include the *Bureau of Labor Statistics Core Competencies* for measuring labor market activity; and the *American Association of Engineering Societies Competency* for advancing the practice of engineering.

Although individual and organizational competencies have been used by HRDs for decades, industrial competency has become more profound in digital economy especially in supporting digital transformation strategies. There are some overlapping between individual and organizational competencies with industrial competencies. Organizations should identify which competencies should be listed under industrial competencies to minimizes changes to the organization should changes in the industry occur (for example changes to licensing or certification requirements).

5.0 Research agenda

Research agenda for digital talent include the identification of digital competency, development of model and framework, and design and development of support tools.

5.1 Digital Talent Competency and Related Metrics

There is a need for organizations to re-visit and re-identify individual, organizational and industrial especially in digital economy. Cross-industry data would give a better picture of digital talent and how it can be measured. HRDs can play an important role by outlining digital talent criteria and assessment methods. In a study that investigates the relationship between recruitment and digital transformation [4], it is revealed that digital talent triggers change in the organization in through adapting measures and processes; developing new self-understanding; and bridging function. Digital talent should be defined by the organization based on its strategic goals [40], [41].

5.2 Digital Talent Management Model and Framework

Another direction of research is the development of a new digital talent management models and frameworks. These would entail the relationships between different competencies and how organizations can utilize them in their business environment. Existing models found in literature include the view of digital talent as “T-shaped professionals” where KSAs enable faster adaptation

and better communication skills [42]; and "Learning Agility" that views the willingness to learn and adapting to changing environment as the key competency in digital talent development [18].

5.3 Digital Talent Tools

There are numerous commercial digital talent systems based on industry for example the *financial*, *healthcare* and *manufacturing* industries, in addition to proprietary systems. On a larger scale, Taiwan has developed an intelligent *Talent Development System* using blockchain technology to analyse performance, learning history, and soft skill data [43], [44]. Competency report includes, among other things, proficiency in the domain area, creativity, communication, and problem-solving skills. The system supports analysis and competency model development to determine effective training strategies for talents across different domains.

6.0 Conclusion

This paper has put forth an idea of using competency models to manage digital talent. Digital talent can be viewed as a blend of individual, organizational and industrial competencies. Individual competency refers to the personal traits of a talent (soft skills) whilst organizational competency refers to hard skills and usually specific to a particular job. Industrial competency refers to a set of competencies that is shared by organizations in the same industry. Although individual and organizational competencies have been identified by organizations for decades, industrial competency has become more profound in digital economy especially in supporting digital transformation strategies. Organizations should identify which competencies should be listed under industrial competencies to support digital transformation strategies. Research agenda for digital talent include competency identification, development of digital talent model and framework, and development of digital talent support tools.

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