



RESEARCH ARTICLE

The Challenges of Changing Business Needs For Talent: A Systematic Literature Review

Esayas Teshome Taddese¹, Megersa Wedajo Motuma², Zerihun Ayenew Birbirs³

¹Faculty of Education and Liberal Arts, INTI International University, Nilai, Negeri Sembilan, Malaysia

^{2,3}Department of Management, Jimma University, Jimma, Ethiopia

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ABSTRACT

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The purpose of this paper is to systematically review talent management literatures in today's changing business environment with the aim of summarizing the current academic and practitioners' discourses. This study provides a systematic review of qualitative and theoretical literatures from both academic and practitioners' spheres from 2008 to 2021 and utilized 29 relevant publications that fall within the established criteria. The review highlighted talent management issues in today's environment. Most publications did not employ scientific methods but are a kind of theoretical (positional and literature review) in nature. In those publications, three main themes- challenges, new strategies and new models were explored and possible limitations were discussed. Though new strategies (i.e. mitigation and Contingency strategies) and models (i.e. the CP-TSCM model) have been attempted, they lack appropriate empirical support and most of them had emerged in the practitioners' world and didn't pass through peer review. Thus, we call for more comprehensive research.

***Corresponding Author:**

eteshome75@gmail.com

INTRODUCTION

Talent is becoming recognized as a core competitive asset in business organizations and companies have widely adopted talent management programs and processes in an effort to attract, select, develop, deploy, engage, and retain talented employees who can help achieve business objectives(Silzer & Dowell, 2010).However, organizations in the 21st century at the same time face dynamic and profound change that is unprecedented with the speed, intensity, and frequency of change ascending rapidly to produce operating environments with volatility, uncertainty, complexity, and ambiguity(Rimita et al., 2020). This means the era of stability where employers needed to guarantee stable jobs, jobs for life; and where employees were expected to be loyal towards the organization and recognize the firm's hierarchy, expect to retire from the company they first started to work with was replaced by an era of rapid changes and turbulence (Hatun, 2010).

Scholars are claiming technological, demographic and globalization change as the main drivers for these changes. As noted by Claus (2019), globalization has changed the national ways of doing things to the more unified global ways of working together across nations. Technology (automation, Artificial intelligence, robotics, sensors, and data) alongside increasing global mobility and expanding workforce diversity (Why sall et al., 2019), create a constantly changing, challenging and complex environment in which organizations must compete to attract and retain key talent. Morgan (2019)also contended that newbehaviors(shaped by social media and web), Millennial workforce (new attitudes, expectations and ways of working) and mobility(work anytime, anywhere and on any device) as trends shaping the future of work. Specifically Sousa & Rocha (2019) argued that though emerging technologies transform business, it demands new skills to manage and creating a challenge

in the fields of talent management. In support of Sousa & Rocha argument, Balog & Demidova (2021) contended that since digitization causes the general job cuts and the need for continuous upgrading of competencies, workforces are challenged by the need to acquire new knowledge, improve their professional qualifications and comprehensive personal development throughout their lives. These trends resulted in skills gap and skill mismatch, or a difficulty in filling jobs due to lack of talent possessing the skills needed in today's uncertainty and rapidly changing environment (Bessen, 2014; Cappelli, 2015).

Since these radically shifting contexts for the workforce, the workplace, and the world of work not limited to technology, but encompasses society and demographics as well, business and HR leaders can no longer continue to operate according to old paradigms and must now embrace new ways of thinking about their companies, their talent, and their role in global social issues (Deloitte, 2017).

Putting all the above premises together, Makarius & Srinivasan (2017) claimed that managing talent in today's economy continues to be a topic of interest for employers who face significant challenges dealing with the uncertainty of the supply and demand of talent in organizations as employers compete for the best employees and have to accommodate an ever-changing workforce. Thus, the challenge of managing uncertainty in demand for skills and competencies as well as uncertainty in having a labor supply that can meet changing needs has become an important issue currently. In this regard, Evans et al. (2019) contended the need to reexamine our thoughts about the nature of work, the nature of the workforce and the workplace environment, the environment outside the workplace that impacts work.

From academic to non-academic literature, interest and research in management of talent in 21st century ever changing environment have been escalating over the past decade. Yet limited published efforts have been made to summarize and review this body of research.

Thus, the purpose of this review is to summarize and present the dominant themes or issues in current literature regarding today's changing world of work, the challenges and the strategies or models matching business needs for talents from both practitioners and academics perspectives. Though research in the changing world of work and workforce has rapidly increased in the last two decades, there are still certain research questions remaining which the review intends to address through the following research questions. The following research questions guided the study:

1. How is the overall change in the world of work has been perceived in academic and none academic spheres?
2. What are the dominant challenges discussed in academic and practice-oriented publications?
3. What strategies and models have been proposed to tackle the challenges?

In line with the above questions, it must be noted that this study wasn't designed in any country context and only summarized the previous findings and discourses on changing the world of work and talent management challenges and suggests gaps and new avenues for research. The paper relies on previous scholarly publications and real-world evidence on the subject. It has to be noted also that though TM encompasses talent attraction and acquisition practices (i.e. enhancing employer's image and talent pool management); Talent development practices (i.e. competence training, developmental mentoring and coaching and career management) and Talent retention management (i.e. Succession planning/management, compensation and rewards management and creation of supportive work climate) (Tarique & Schuler, 2010), this systematic review is not treating each TM practices one by one but looking in to the insights available in literatures regarding the 21st century changing trends and impacts brought by those changes on talent management field.

In the following sections, the paper first offers a discussion on the evolution of talent and talent management over time, with the purpose of shedding light on contemporary usage of the concept different approaches to the conceptualization of talent within the world of work. We then move on to discuss the evolution of industrial revolution and its implication in the world of work. Then after, we identify the main dominant discourses in the field based on the developed questions. Finally, the paper concludes by looking forward to the possible future directions aimed at developing the talent management approaches that consider the uncertainty in supply and demand of required talent.

2. Theoretical review

The purpose of this section is to give a brief overview on the evolution of talent and talent management and the dominant approaches, and to provide some background understanding on how industrial revolution linked to talent management.

2.1. Evolution of Talent and its concepts

Slight overview of some perspectives and concepts of talent is necessary because scholars argue that it determines how talent management would be conceptualized. According to Thunnissen et al(2013)without a consensus on the meaning of 'talent', talent management research cannot be advanced.

As indicated in Gallardo-Gallardo et al(2013),Barab &Plucker claimed the rarely precise meaning of talent, probably because there are widely held implicit theories about what talent is. So, it appears that talent can mean whatever a business leader or writer wants it to mean, since everyone has his or her own idea of what the construction does and does not encompass (Ulrich & Smallwood, 2012) though many different definitions of talent can be found in the academic human resource management (HRM) literature. Inrecent HR Mliterature, variations in the meanings of talent can be observed. For instance ,Silzer & Dowell(2010)had defined talent as “ the entire employee population or a pool of employees who are exceptional in their skills and abilities .”Further, Ulrich & Smallwood, (2012)equated Talent with competence. From the definitions, the first and the second one put talent as entire employee population, which conceptualizes talent as people while the third one refers to an individual's ability and capability, which conceptualizes talent as characteristics of people.

After examining the concept of talent in literatures, Yildiz &Esmer(2021) summarizes four main well-established comparative trend of approaches as follows:

Object vs. subject; innate vs. acquired; input vs. output; transferable vs. context dependent. Object vs. subject approach is regarded to the classification between; talent as employees (subject approach) and talent as characteristics of employees (object approach).In case of Innate vs. acquired approach, classification is about talent as a natural ability that cannot be taught(innate)and talent as a combination of distinct competencies that each employee can accumulate (acquired approach). Input vs. output perspective classifies talent as an effort, ambition, interest and values of an employee (inputs) and as an employee's performance and achievement (outputs). Finally, transferable vs. context-dependent view classifies talent as conditional on its environment (context-dependent) and the one that can be demonstrated by talented people regardless of the working environment (transferable).

2.2. Evolution of Talent management

The firms that dominated the early days of industrial production had no talent management issues but came out with the rise of large corporations in the 1950s(Cappelli & Keller, 2014). Motivated by a significant shortage of suitable candidates to replace retiring managers emergence and development of the idea of talent management occurred in the 1980s in the USA but its popularity was at the end of the 1990s following the “the war for talent” coined in the report of McKinsey & Company(Wójcik, 2018).Since then, the term talent management is becoming more widely used but without having a single, clear definition(Cappelli & Keller, 2014; Lewis & Heckman, 2006). As cited in Silzer & Dowell(2010), Lewis and Heckman found a variety of definitions for talent management as a process, as an outcome, and as a specific decision which adds to the confusion. One comprehensive definition worth cited given by (Hatum, 2010) is “ talent management is a strategic activity aligned with the firm's business strategy that aims to attract, develop, and keep capable workforces at every level of the organization.”

Internal development was the norm back in the 1950s, and every management development practice that seems novel today was commonplace in those years collapsed in the 1970s because it could not address the increasing uncertainties of the marketplace(Cappelli, 2008a, 2013). Cappelli also noted that “the abrupt downturn of the early 1980s which resulted in professional downsizing and the reorganization shorten the chain of command and removed many practices and staffs that developed talent”.

Though companies were based on the pool of laid-off talent for external employment, through the early 1990s as anoption to old-style development, but as the economy grows continuously ,

nevertheless, companies progressively hired talent away from the rivals, making retention difficulties, and creating external employment unreliable at the end of the 1990s (Silzer & Dowell, 2010). At that time, the business environment had gone through a significant expansion with falling trade barriers and the globalization of business which absorbed the supply of available talent. Businesses recognized they were drawing the attention of skillful applicants and missing skillful workforces to rivals at the equal ratio. Thus, companies back to return to the practices of the 1950s and create long-term succession plans that attempt to map out careers years into the future". Keller & Cappelli (2014) have also put clearly the evolution of talent management as follows:

Over the past century, organizations have alternatively met their need for talent primarily through external hiring (late 1800s up to World War I), internal development (World War I until the Great Depression), external hiring again (post-World War II), internal development again (organizational-man model of the 1950s and 1960s), and back to external hiring today. Neither approach provides a sufficient means for meeting an organization's talent needs in an uncertain and rapidly changing environment.

Today there is a need for putting in place larger talent pools of well-equipped, trained managers who welcome learning, mobility, and change (Mahapatra & Dash, 2022). To challenge the impact of uncertainty, (Cappelli, 2008b) proposed, supply-chain management which is important to balance the make (i.e. internal hiring) vs. buy (i.e. external hiring) decisions.

2.3. Industrial Revolution

Why the issue of industrial revolution is worth discussing is that it is the paradigm shifts at each stage that governed how talent and talent management are conceptualized and determine the talent and skills required in a company. Technological advancements have been changing the way industry functions since the inception of industry itself (Shamim et al., 2016 cited in Rana & Sharma (2019). Paradigm shifts in industry have come to be referred to as "industrial revolutions" (Rana & Sharma, 2019). All industrial transformation has been made through the automation and digitization of labor activities and professions (Kofler et al., 2020, 26). Today, the world has already witnessed three industrial revolutions in the past that stemmed from major technological breakthroughs over the past three century (Balog & Demidova, 2021; Cappelli, 2008a; Sivathanu & Pillai, 2018; Why sall et al., 2019). Noted by Balog & Demidova (2021), "the invention of the steam engine in the second half of the 18th century and its large-scale introduction in industrial production and transport marked the transition from manual to machine production, which became known as the first industrial revolution". The period from 1870 to 1914 witnessed the second industrial revolution, which ushered in rapid development resulting from electrification and mass production (Chang & Yeh, 2018; Kofler et al., 2020; Rana & Sharma, 2019). The third industrial revolution occurred in the 1980s because of the extensive diffusion of digital technology (Claus, 2019). Personal computers, the internet, automation and robotics of technological processes that were developed and technology replaced the labor force for cognitive and manual non-routine activities through the use of IT and electronics in the production process (Balog & Demidova, 2021; Kofler et al., 2020). Now we are in new industry age known as fourth industry or commonly known as industry 4.0. Industry 4.0 refers to the application of automation and data exchange to manufacturing technologies and is intended to strengthen intellectual development in industry (Chang & Yeh, 2018; Kofler et al., 2020). As noted by Claus, 2019; Rana & Sharma (2019), "initiated by socio-economic, political and technological changes such as demography, technology, and globalization, industry 4.0 represents the smart business and smart factory revolution digital transformation in current business processes, substituting physical business operations with digital computer arrangements". Hecklau et al (2016) further noted that "it is about digitization of the entire value chain resulting in interconnection of people, objects and systems through real time data exchange; then products, machines and processes are equipped with artificial intelligence and get enabled to adapt to spontaneous changes of the environment independently".

The relevance of this part in connection with discussion regarding the evolution of talent management is that the identified age of digital advancement, each revolution transformed the workforce and workplaces. As described by Claus (2019) the connection between talent management evolution and industrial revolution,

In the first industrial revolution, the concern was what employees needed to have to be able to work and in the 2nd one, its focus was on “productivity” of the employee and the necessary things to perform well and quicker. In the 3rd revolution (knowledge age), employers focused on employee “engagement” and making employees happy so they could perform better and be more productive while in the 4th revolution, is about the worker know-how and crafting organizations where members need to reveal and contribute. The 4th revolution is paving the way for a more progressive talent management in the future.

Some industrial revolutions are disruptive, shifting the role of HR and affecting the current talent management paradigm (Claus, 2019) leading to automation and the removal of outmoded occupations, but has generated occupations not known before. Studies generally tend to assume that technologies further develop current roles in the working world and allow new roles to emerge (Kofler et al., 2020). Technology reshapes every job, transforms the workforce for instance, the growth of alternative work arrangements with implication on employees forcing to engage in lifelong learning and shape their own career path (Deloitte, 2017). Elaborating the positive side of these disruptive technologies, he stated that after making important reviews, he puts its merits as:

information technology has increased the intensity of the learning process and made it more interesting and accessible; Artificial intelligence technologies will enhance the individualization of educational process according to the personal characteristics of each student; mass online courses serve as an additional learning opportunity for students; digital hubs promote personal skills and knowledge, digital literacy, e-commerce and business mentoring, thus providing a powerful tool for rural community and business development; it enables also to overcome territorial and time barriers, creating an opportunity for flexible and non-standard forms of employment carried out remotely.

However, digitalization does not only create new opportunities and enhance human capital quality, but also has negative effects. Frustration has been here that robotics and AI technology automate tasks, and displace human beings altogether to cut costs, decline of employment in routine intensive occupations i.e. occupations consist of tasks which follow a detailed and specific course of actions so that they could be easily performed by complex algorithms (Karacay, 2018; Deloitte, 2017).

It should be noted that both negative and positive trends brought by current digital transformation have created great challenges to organizations. Especially, the speed of technological change brought about by Industry 4.0 had created a significant gap between current capability of employees and the rapidly evolving requirements of their roles, prompting a need to consider new and more effective approaches to talent development (Why Sall et al., 2019) which could be the juncture with talent management. Frankiewicz & Chamorro-Premuzic (2020) asserted that “digital transformation is less about technology and more about people because you can pretty much buy any technology, but your ability to adapt to an even more digital future depends on developing the next generation of skills.”

Thus, this review is researching and presenting the issues discussed in literature regarding management of talent in the era of changing business world where change in the workplace is at its fast pace and with great uncertainty.

3. METHODOLOGY

This research followed a systematic literature review approach on talent needs for changing business environment. Reviewing systematically literatures is a process with the purpose of synthesizing and disseminating scientific output by reducing the bias via comprehensive exploration of published materials (Tranfield et al., 2003). It retrieves, appraises and summarizes all the available evidence on a specific topic of enquiry. Specific keywords like ‘Talent needs’ AND ‘Future of work’, ‘Talent needs’ AND ‘changing world of work’, ‘21st century work’ AND ‘skill shortage OR Mismatch’, ‘Digital disruption’ AND ‘talent’. The search was carried out with inclusion criteria (such as studies published from 2008 to 2021, quantitative, qualitative and theoretical studies, if journals, peer-reviewed journals) and exclusion criteria (such as studies not written in English, public media, editorials, working paper, communication papers, short notes and book reviews). Initially, to access publications related to topics we used Google scholar then moved to searching of relevant databases (including Emeralds, SAGE, science direct and JSTOR) and publishers’ sites to explore recent magazines. These databases were chosen because they are assumed to be giving access to a broad variety of academic journals and any publications. Besides, in addition to the query in search

databases, we used the reference lists of the assembled publications to gather interesting documents that did not appear in our search in the databases or anywhere. As opposed to many systematic literature reviews, this review was not limited to sources that are peer-reviewed journals and those with academic perspective. It includes Magazines published in university (e.g. Harvard business review and Deloitte insights) and Magazines released from business and consulting firms (e.g. McKissey&company and BCG). These magazines are usually the sources of new calls for new perspectives from real-world experiences as the issues in concern are a recent phenomenon within the field of talent management. To the best of my knowledge, I didn't find any publications that propose new ways of managing talent that could fit today's changing world of work prior to Deloitte's insight and Cappelli's "talent management for 21st century" which were published in Harvard business Review in 2008 and 2009 with very insightful argument and many appeared in the list of most cited publications or in other reference lists though it is not a peer reviewed article. Thus, books, conference papers and Magazine articles were not excluded.

Then, only publications released within 2008 to 2021; and whose content entirely focused on talent and future of work or talent management for 21st century and related concepts and indicated in the title, abstract and keywords were selected. In total 29 literatures were used for analysis after removing duplicates using ZOTERO software (see appendix-1 for details). The publications were analyzed in two categories. First, the general characteristics (i.e. distribution per specified variables) of the publications were assessed. The literature sources, year of publication, orientation (Academic or practitioners), methods adopted (qualitative or quantitative or mixed); and nature (whether it had a conceptual nature or was based on empirical research) were assessed. The subsequent section was focused on analyses of the publications based on the established questions. The results of these analyses will be discussed in the next sections.

4. RESULTS

In this section, we present the results of 29 systematically reviewed relevant publications in two sub-sections. The first sub-section depicts the descriptive nature of the selected papers while the second section presents the main themes of the papers based on the research questions.

4. 1. Descriptive

Distribution based on literature sources

As we indicated in previous sections, many scholarly works including books, journal articles and magazines were included to get a full reflection from both academic and real world spheres regarding the challenges organizations encountered, strategies implemented and proposed and new models or approaches developed in dealing with 21st century uncertain business environment.

[Insert Figure 1 here]

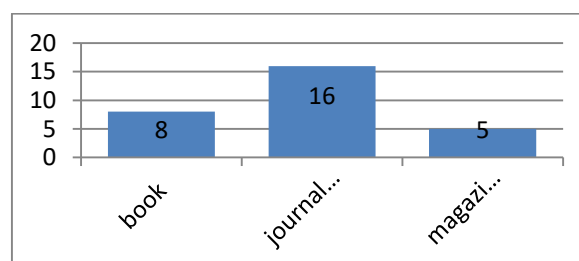


Figure 1: Classification based on literature sources

As indicated in figure 1 about (55%, 16 out of 29) are journal articles with both conceptual and empirical nature while book and book sections took second place with about 28% (8 out of 29) focused on concepts, magazine articles stood in 3rd places with real-world reflection and call up on academicians to focus on research directed to solving the problem of TM due to an ever-changing and uncertain world of work.

Distribution based on year of publication

The objective of this section was to categorize the literature surveyed according to publication or reported year and know the year wise trends. Figure 2 allocates the year-wise publication of papers that found a maximum of 5 papers in the year 2018, and no paper was published or reported in 2009, 2011, 2012 & 2015.

Though it's difficult to capture the trends due to irregular variations, 2018 and 2019 are those years where academic and or non-academic papers came out with the focus on challenges to manage talent due to changing business needs attributed to the changing world of work mainly due to digital transformation. Leaving the exceptions, it can be seen the interest on this issue is increasing from 2008 to 2019. This has been confirmed by (Mahapatra & Dash, 2022; Pagan-Castaño et al., 2022).

METHODS ADOPTED

It is customary to see that literature in any field focused on both quantitative and qualitative studies or mixed methods. However, with the exception of some magazines with unspecified methods, it has been found in this review that only qualitative methods were employed. As it can be seen in the figure 3, almost 45% (13 out of 29) of the paper without any specified methodology are from either books or Magazine articles mainly under practitioner-literature. Empirical papers categorized under qualitative methods based on in-depth interviews comprised only about 27.5% (8 out of 29) and theoretical papers with the purpose of concept development and literature review account for about 24%.

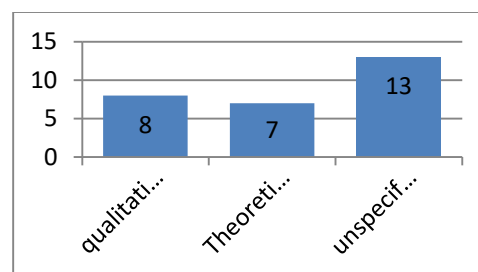


Figure 3: Classification based on Methods

The reasons might be due to underdeveloped conceptualization of the changes because the effects of demographic, globalization and technology changes on workplace and workforce have been drawn the attention of scholars very recently. Scholars in field (e.g. Collings et al., 2015; Collings & Mellahi, 2013) considered TM as one of the academic fields which is characterized by a lack of theoretical frameworks. It has to be noted also from the figure that few percentage of empirical research means the issue in concern was not yet given due attention from scientific communities. This can be confirmed from some scholars like (Gallardo-Gallardo et al., 2015; Sparrow & Makram, 2015; Tarique & Schuler, 2010) who claimed talent management in general as an ill-defined concept, lacking rigor and adequate empirical studies. Under such conditions, mostly qualitative study, especially exploratory research is used where the purpose is to build new concepts and model.

LITERATURES` ORIENTATIONS

Even though the contribution of papers written from practitioners` perspectives (7 out of 22) is not underestimated, 22 out of 29 (76 %) were academic oriented papers.

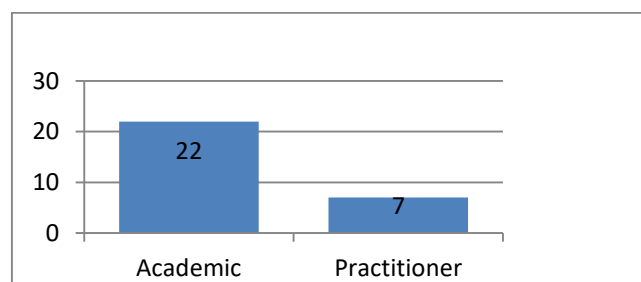


Figure 4: Classification based on Literature Orientation

Initiated by magazines published by universities` press (e.g. Cappelli, 2008b, 2013) and business and consultancy companies (e.g. Bersi, 2017; Deloitte, 2017), studies have been engaged in developing

conceptual frame-work and models such as TSCM, and CP-TSCM. These have been developed by scholars in the field(e.g. Cappelli, 2009a; Keller & Cappelli, 2014; Makarius & Srinivasan, 2017).

Regions

The purpose of this section was to identify the regions where the concern for challenges in managing talent in changing business world has been came to attention and the regions where respondents, companies and researchers were based during preparation of report.This will enable us to see if the concern given to this issue is universal or specifically in some regions. The regions were identified by looking at the respondent's country (e.g.in empirical paper), while in the review paper; it was identified through the country of affiliation of the corresponding author and the institutions' country of origin.

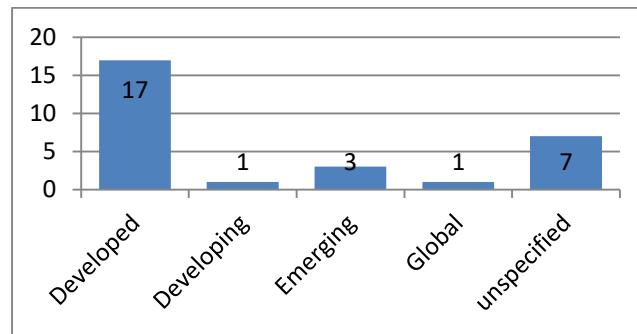


Figure 5: Region-wise Classification

As shown in figure-5 about 59% of publications (17 out of 29) were in developed regions while 24% (7 out of 29) were in unspecified regions which assumed to be books and book sections. So it can be said that the issue of managing talent in uncertain business environment seems to be emerged and explored in developed country consistent with(Collings et al., 2015; McDonnell et al., 2017) who accused TM as a field in general being developed regions-centric.

4.2. Dominant themes

Theme 1: The Drivers and challenges of changing business needs for talent

This part is to review and present the main concern of literatures regarding the feature and challenges of today's changing world of work that calls companies for new way of managing talent. Out of 29 paper (Journal articles, books, book-sections and magazine), 16 of these are focusing on in sighting into 21st century's drivers of changes, the feature of today's business environment in relation to digital transformation, changing demographic and globalization, and the challenges those trends have generated to organizations.

In most of the literatures, the discussions are starting with claiming on the drivers of changes in workplace which intern brought about the challenge in obtaining talented and skilled workforces. Globalization, global demographic, economic trends and technology changes are the most discussed topics on change derivers. Scholars believe that, globalization continues to be a significant driver of change to both the nature of work and workforce skill requirements (Rotatori et al., 2021; Whysall et al., 2019). Globalization enables access to diverse, lower cost labor and supply chains by off shoring or outsourcing a large share of productive activity. Due to an ongoing globalization process, companies have to cope with reduced time-to-market, shorter product lifecycles; and the shift of customer expectations towards a higher level of customization and flexibility creating markets that is volatile and heterogeneous(Hecklau et al., 2016).

Kofler et al (2020) considered technology and demographic change as the major trends influencing the present and future of work. Sivathanu & Pillai (2018) have observed the changes in employee generations joining the organizations is inevitable, and it is expected that by 2020, half of the workforce will comprise millennial or Gen Y (born between 1980 and 2000) employees who have grown in the era of internet, social media, and smart phones and have different expectations from their employers such as anytime-anywhere collaboration, instant feedback, open culture, and data-driven decisions. Supporting this reality, (Kofler et al., 2020) has observed the demographic changes such as the aging and shrinking of industrialized societies and youth bulges and growing populations

in emerging markets which challenges national labor markets. He added his concern that in industrialized economies people are becoming older which leads to populations shrinking with a subsequent decrease in the working population. Herbert (2016) suggested that the changing make-up of the global workforce means that companies have to embrace new tactics to engage and retain talent since Good pay, vacations and benefits are no longer enough now. According to BCG's "Twelve Forces That Will Radically Change How Organizations Work " Cited in Bhalla et al.(2018), a new demographic mix, skill imbalances, and shifting geopolitical and economic power; diversity and inclusion, individualism and entrepreneurship, and well-being and purpose has changed the supply for Talent.

The ongoing automation, digitization and Artificial Intelligence (AI) have had an impact on work practices since its inception(Hecklau et al., 2016; Kofler et al., 2020).Further described by Sivathanu & Pillai (2018),supported by internet of things, these technologies undergoing rapid changes are enabling physical things to connect to the digital world, resulting in the production of a massive quantity of concurrent companyrecords. Among major trends influencing the present and future of work and workforce in which majority of literatures are concerned with is the impact of industry 4.0.From his own work and others`, Why sall et al.(2019) demonstrated that the fourth industrial revolution changes the business environments and skills, resulted in a constantly changing, challenging and complex environment one of which the change in the nature of work significantly, calling for different skill-sets. What makes fourth industry so unique than the previous revolution? In this phase of industry, the flood of Internet, mobile technologies, artificial intelligence, big data, robotics, nanotechnology, business analytics and other disruptive technological phenomena(Brem& Voigt, 2009) cited in Karacay (2018)are potentially causing profound changes in organizations and society (Deloitte,2017). He argued that Real time data exchange between machines and materials, gradually more autonomous production systems, and additive manufacturing techniques has been possible.The emerging cognitive technologies like machine learning (ML) and natural language processing (NLP) are increasingly being used to supplement human work activity(Rotatori et al., 2021).

All these transformations bring about creation of new sectors like data science, creation of new business models such as platforms, creation of new types of companies such as cloud computing providers; and initiation of new organizational roles like social media account managers(Karacay, 2018; Morgan, 2014). As stated by Sousa & Rocha(2019),the internet has changed the music industry, tourism, trade and services and the digital assumed considerable importance in all economic activities and the causes for emergence of new services such as e-tourism, e health, e-marketing, and digital learning, among others. Further, careers and learning turns towards "always-on" learning experiences, talent acquisition enter the cognitive recruiter,- cognitive technologies is radically transforming recruiting (Deloitte,2017)are also some other important trends.

Scholars in the surveyed literatures are not only concerned by the kind of digital transformation and trends emerged from its change but also concerned with the current and potential impacts in the world of work. Sousa & Rocha (2019) argued that though these emerging technologies transform business, it demands new skills to manage and create a challenge in the fields of talent management. World Economic Forum as cited in Karacay (2018)predicted that more than hard ones, soft-skills including people management, coordinating with others, emotional intelligence, and negotiation would become very important both for success of companies and individual employees. In their review of relevant studies, (Balog & Demidova, 2021)identified the concern for new skills that require for creativity, self-control and critical thinking of individuals that are forced to operate in an increasingly uncertain environment. Similarly, quoting the report on the year 2020's predictions of World Economic Forum(Karacay, 2018) stated that future workforce is expected to have mostly cognitive abilities systems skills , and complex problem solving skills; in addition basic skills for information and communication technologies (ICT) who can analyze Big Data, make coding, develop applications, and manage complex database networks.In his study on executive from UAE and India, (Vasudevan et al. 2024; Nair, 2019) furtheridentified that organizations demand for soft digital skills such as troubleshooting, learning skills, customer centricity, collaboration, and goal-centric thinking. He noted not only the new skill sets but also the gap between employees' digital talent and the organizational needs and that this gap increases daily with the introduction and adoption of new technology.

Concerns in the selected literature were not only the trends, and the new talent required with new set of skills in this digital era but also the unpredictable changes which have created uncertainty in talent management both from talent supply and demand perspectives perhaps the most important parts of the topic. Many scholars agreed that the rapid change in technological landscape has complicated firms' abilities to anticipate which skills and abilities they will need, and in which amounts, in order to meet future demand. As pointed out by Keller & Cappelli (2014), uncertainty from supply-side arises from the difficulty in predicting skills and competences needed in the future due to rapid change in this sector and also comes from the difficulty in predicting employee turnover. Quoting the works of Fisher, 1997 Keller & Cappelli argued also that uncertainty on the demand side arises from changes in a firm's competitive environment such as industry deregulation, increased global competition and the increasing influence of institutional investors and financial markets as well as consumer demands that forces companies to shorten the development time on new products.

BCG's report (Bhalla et al., 2018) has indicated the forces that could brought about changes in the demand for Talent arises from automation, big data and advanced analytics, and access to information and ideas; simplicity in complexity, agility and innovation, and new customer strategies while changes in the supply for Talent arises from a new demographic mix, skill imbalances and etc. As noted by Castellano (2014), the new structural shift in the labor market due to transformation of developed world economies from 20th century industrial-based economies to 21st century knowledge-based economies, the demand for highly skilled labor is expected to increase significantly over the next decade but challenged by uncertain planning, organizational challenges (such as new competency, flatter structure,...) changing needs and values of workers, desire for flexibility, managing diverse workforce and global workforce and challenges managing multiple sources of talent and etc.

Theme 2: Strategies to manage changing business needs for talent

In this part, we try to review the most important strategies that are suggested in the selected literature. About 14 professional and academic literatures are focused on what should be done to cope up with the 21st centuries talent management challenge characterized by digital disruption, a global and demographic change that causes uncertainty in managing both supply and demand of best talent and required skills.

As discussed in previous section, organizations are grappling with myriad of people issues such as multi-generational workforce, work-life balance, and enhanced mobility and changing digital job descriptions alongside with today's Advanced technologies (i.e. in an age of automation, robotics, and artificial intelligence) (Bhalla et al., 2018.; Rana & Sharma, 2019). Noted in Deloitte review (Bersin, 2017), the trends (i.e. pressures toward longer life times, shorter tenure, master new technologies) emerged from these facts can't be reversed. Mahapatra & Dash (2022) suggested that Identifying, developing and retaining top talent whose strategic importance is critical for competitive advantage emerges as a critical focus area. But how this is possible in this ever-changing business environment? If we accept the fact that people need to continuously learn and re skill for instance, how do we make that happen?

In case of talent identification, Fernández-Aráoz (2014) argued that talent identification based on intelligence and then competency was right in previous decades but now it is irrelevant because technological evolution and industry convergence had made jobs much more complex. He added that what makes someone successful in a particular role today might not be tomorrow if the competitive environment shifts, the company's strategy changes, or he or she must cooperate with or engage with diverse kinds of teams. So, the issue must be identifying if someone has likely possessed the capacity to acquire and learn the newly required skills rather than focusing on assessment to assure if they have employees with the right skills and competencies. Given the impact of three forces—globalization, demographics and digital transformation that contributes for senior talent ever scarcity in the years to come, he proposed strategy (though not empirically verified) to spot potential, effectively retain people who have it, and create development programs to help the best get better:

The first is selecting the person with motivation (i.e. fierce commitment to excel in the pursuit of unselfish goals), the second is the person with curiosity (i.e. a penchant for seeking out new experiences, knowledge, and candid feedback and openness to learning and change), the third is a

person who is insightful (i.e. the ability to gather and make sense of information that suggests new possibilities) the forth one a person with full Engagement(a knack for using emotion and logic to communicate a persuasive vision and connect with people) and finally a person with great determination. While Fernández-Aráoz focused on single part of talent management, (Rama chandaran, et al. 2024; Karacay, 2018) go a little bit further. He argued that while attracting, recruiting and developing new talent needed is one thing, re-skilling current employees (i.e. developing ‘a digital workforce’) through training programs for the requirements of digital economy given the constant shift in workforce dynamics is also another important thing. He added further that since skill set requirement especially Industry 4.0 requires soft-skills more than core hard-skills, creating future workforce should involve developing a future workforce that is capable of acclimatizing quickly, and performing creatively .Similarly, though lacks detail,(Bersi,2017) suggested that to support people’s re skilling, organizations can adopt an active program re-education, and career development through redesign their learning organizations, rethink their job models.

With similar notion, some advocates for re skilling and up- skilling people so that they are better equipped to adjust to change in more ambivalent and uncertain future(Frankiewicz & Chamorro-Premuzic, 2020). He proposed the following strategies that help in realizing companies demand for the require talent. The first one is to put people first (i.e. to reskill and upskill our workforce) because technological disruption is not only led to automation and the elimination of outdated jobs, it has also created new jobs where augmentation and humans and technology is required. The second is to focus on soft skills as digital transformation is more about people rather than technology, the key technological skills is more of soft skills. The third one is to drive change from the top since in-demand skills such as software engineering exist, yet the key is to find the people who can manage is more important. Finally, to make sure you’re acting on data insights since a much bigger competitive advantage is to have skills to harness valuable data.

Different from the above proposed strategies, Keller & Cap pelli (2014) have developed four strategies based on the supply chain approaches. Their argument is that uncertainty regarding the supply and demand of human capital has effectively eliminated most organizations’ ability to accurately forecast their future human-capital needs and plan for the future and neither ofthe approach relying exclusively on external hiring to meet human capital needs nor relying almost exclusively on internal development effective in today’s competitive environment. Thus, they proposed four approaches which enable to answer the questions:“How do firms ensure a sufficient supply of human capital when both demand and supply are both uncertain? What is the different human-capital sourcing strategies available to firms, and when should each be used?”The best answer is based on the extent to which the available sourcing strategies ensure the reliability and responsiveness of the supply chain. Keller &Cappelli, 2014, demonstrated two types of strategies (mitigation and contingency) that can ensure reliability and responsiveness. Reliability in context of talent management is having the skills and capabilities on hand necessary to get jobs done while responsiveness is the ability to quickly adjust human resource kind to fluctuating naturein demand along with the capability to setup different abilities as required. Reliability and responsiveness problems arise from supply-chain disruptions. Supply-chain disruptions can be minimized by following two approached (Mitigation tactics VS Contingency tactics) as suggested by Tomlin(2006) cited in Keller & Cappelli (2014).

[Insert Table 2 here]

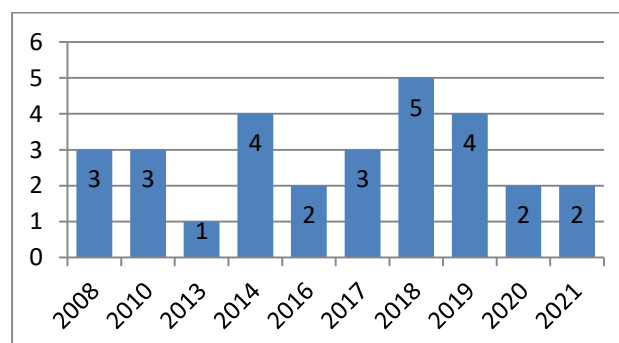


Figure 2: Year-wise Classification

Mitigation strategies or tactics comprise the organizations' initiatives that took place prior to possible difficulties. Contingency strategies or tactics organizations' initiatives took place only at the time of occurrences of actual problems. When combined, the two dimensions of supply-chain effectiveness (reliability and responsiveness) with the two approaches to dealing with supply-chain disruptions (mitigation and contingency) reveals four distinct sourcing strategies (Table 1) (Keller & Cappelli, 2014).

The central focus here is to minimizing the mismatch costs associated with the oversupply or undersupply of human capital is the central concern of a supply-chain approach to talent management.

Theme 3: New models to manage changing business needs for talent

Today, uncertainty in demand for skills and competencies as well as uncertainty in having a labor supply that can meet changing needs has become important issues. Employers complaining that they are facing skill mismatch in employment. One way to resolve the skills mismatch within the talent management process is to ensure that the supply (i.e. the incoming workforce) meets the demands and skills requirement of the labor market. Based on Cappelli (2009) and Keller & Cappelli (2014), Makarius & Srinivasan(2017) have developed more comprehensive approach to managing the flow of talent from suppliers to employers which they named it a collaborative model for TSCM management (specifically, the CP-TSCM model) that delineates the relationship between employers and talent suppliers.



Figure 6: The collaborative planning for talent supply chain management (CP-TSCM) model (Makarius & Srinivasan, 2017)

This is the improvement made on talent supply management (TSCM). CP-TSCM model is based on the framework of collaborative, planning, forecasting, and replenishment (CPFR) approach used in SCM which has strategy and planning, demand and supply management, execution, and analysis phases as shown in the figure-6.below(Makarius & Srinivasan, 2017).

The central concept in the model as explained by the authors is the collaboration between companies or employers and suppliers, which could be academic institutions or any suppliers of talent to the organization enhances the supply of required talent. As cited in in Makarius & Srinivasan(2017),Kraljic (1983) explained the necessity of using supply chain concepts as" when there is supply scarcity for certain items and sources of supply are constrained, there is a greater need for firms to enter into strategic relationships with suppliers" which can be adopted for talent management also.

Another important model which was developed by Hatum (2010) in his book "next generation talent management" focus on the integration of all talent management dimensions (i.e. attracting, developing and retention) inculcating employee value proposition (EVP). As stated by Hatum, EVP reviews the expectation of workers that should be obtained (i.e., exchange) for the effort they put to the work. He argued that many companies consider talent management to be a linear process in which attraction, development, and retention are distinct. While others focus only on attracting and retaining people, but overlook the critical process of development. But often these companies find that a lack of connections between these different areas makes poorly aligned with the firm's overall business strategy.

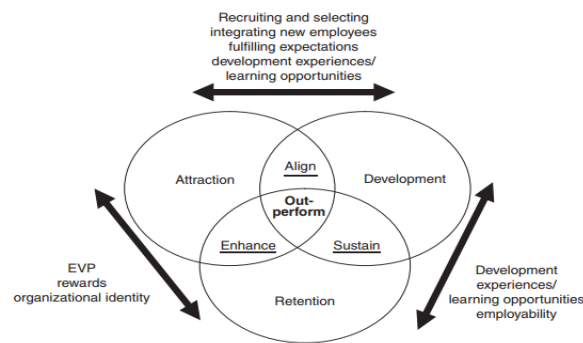


Figure 7. A dynamic model of talent management (Hatsum, 2010)

As shown in figure 7, Hatsum argued that for a talent management strategy to be successful, it should be treated as a process in which attraction, development, and retention are all interrelated because their coordinated interaction is critical for the coherence of the entire process, and hence for the performance of the firm though each dimension has its own particular features. He labeled the interaction between each as,

align' (the connection between attraction and development) refers to the ability of a firm to support a strategy by orienting an organization's people, practices, and processes; 'Sustain', or the connection between development and retention; and 'Enhance', or the connection between attraction and retention, refers to the ability of organizations to boost both attraction and retention via values and activities that enhance the desirability of working and staying with the company. Finally, 'out-perform', or the area in which attraction, development, and retention all overlap, refers to the ability of a firm to deliver a holistic talent management strategy that supports the overall business strategy and, in turn, allows the firm to achieve a strong performance in the market.

LIMITATIONS, DISCUSSION AND FUTURE RESEARCH DIRECTIONS

The purpose of this systematic review is to explore the main concern of academics and practitioners oriented literatures regarding the current issues in changing business environment in terms of technology, globalization and demographic trends that shaped the workplace and workforce, and in turn demanding new way of managing talent. The literatures identified were focused on talent management in 21st century spinning in three central themes: challenges, strategies proposed and models developed in dealing with those issues. Even though the challenges organizations facing today can't be denied, most literatures were discussing this in the context of developed country with the exception of few papers such as Balog & Demidova (2021); Nair(2019); and Rimita et al.(2020) which were based in emerging and developing countries. Since the challenges due to changing trends mainly specific to regions in focus(Collings et al., 2015), future research should consider the stage of technological advancement and the extent of globalization in specific country so that strategies would be customized accordingly. Regarding strategies suggested (e.g.Fernández-Aráoz's talent spotting; Frankiewicz& Chamorro-Premuzic's reskilling and up- skilling) much of the strategies are not more than mere proposal and lacks empirical evidence to verify if the outcomes are positive or negative. Besides, there is no framework on how to implement those strategies. However, Keller & Cappelli have developed four strategies (Just-in-time back-up, Outsourcing, Building Internal capacity and Building Inventory) to deal with uncertainty in supply and demand of talent based on the supply chain approaches even though it lacks empirical evidence. Thus, researchers' attention should be directed towards empirically verifying the outcomes of those strategies and also searching for alternative ones.

The review came with awareness creation of the new model development in dealing with uncertainty of talent supply and demand. The first model is developed by Hatumin 2010 focusing on the integration of all talent management dimensions (i.e. attracting, developing and retention) inculcating employee value proposition (EVP). The recent model, the CP-TSCM model (figure 6) developed by Makarius & Srinivasan delineates the relationship between employers and talent suppliers. Notwithstanding that both models have proved the recent development in this field, the absence of empirical evidence on factors that enhance or hinder the relationship between the elements in the model forced me to call up on the future research to engage in evaluating and

improving the models. The absence of research that has tested the proposed models means that we have limited understanding of the issues.

CONCLUSIONS AND IMPLICATIONS

Based on the synthesized evidences, the challenges organizations are facing today with respect to managing talent in ever-changing business environment has drawn the attention of scholars in the field and directed them from traditional talent management view to new talent management under certainty. However, both conceptual and empirical research in the field of talent management under new world of work is very limited in practitioners and academic world though attempts have been made to suggest new strategies and develop new models that fit the world of uncertainty. The findings from this systematic review facilitate practitioners and researchers by gaining insightful study and analyzing the status of research on new talent management challenges. However, this study is limited with few peers reviewed literatures that may raise quality issues, and the findings should be used very cautiously. Overall, this study makes significant contributions by providing a summary academic and non-academic discourse in current talent management challenges that would draw the attention of future researchers.

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