Drivers to improve talent management in the age of COVID-19: the case of UK construction industry

Recovering from COVID: Responsible Management and Reshaping the Economy, 35th British Academy of Management Conference, the 31st August - 3rd September, Lancaster University Management School, United Kingdom.

Drivers to improve talent management in the age of COVID-19: The case of UK construction industry

Mark Stride[1], Suresh Renukappa[2], and Subashini Suresh[2]

[1]Manager, Prime Plc, Worcester, United Kingdom

[2]Faculty of Science and Engineering,
University of Wolverhampton, Wolverhampton,
England, United Kingdom.

Mark.stride@primeplc.com
suresh.renukappa@wlv.ac.uk
s.subashini@wlv.ac.uk

- **Summary**

The UK built environment is constantly challenged with talent management issues that comprises of a multitude of individual areas effecting the construction industry and burdening many job roles including skilled labour, Architects, Engineers and Project Managers to build a huge housing programme, High Speed rail 2 (HS2), smart cities and many other key national projects. However, without the skilled labour, there will be subsequent implications including delays, rising costs and now the Coronavirus pandemic and the UK recession will inflate these factors further. The object of this review is to understand the key drivers to improve the talent management in the construction industry and therefore a critical review of the construction industry has been completed to understand how improvements can be made. Scopus and UK Government publications have been peer-reviewed and reported the drivers to improve talent management in the construction industry. The Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines were used to select eligible articles. After the full screening, 53 articles that met the criteria were analysed and used to identify 9 key drivers to improve talent management in the construction industry. The identified drivers to improve talent management are women in the workplace, intersectionality, young adults, disabled workers, employer responsibility management, aging workforce, retaining talent, industry 4.0 and construction sustainability. This identified that further research is required into each of these areas to allow the sector to improve the recruitment and retainment of employees.

Keywords: Talent management, COVID-19, construction industry, industry 4.0, and employer responsibility management

- **Track 10: Human Resource Management**

- **Word Count (excluding tables and references): 7547**

Introduction

The construction industry is currently suffering from talent management issues, that has meant that the sector is suffering delays, rising costs and a lack of innovation that is prohibiting the construction industry from maximising its potential. The Farmer Review 'Modernise or Die' (2016) explains that there are many reasons for this including; issues with the workforce size,

demographics, low productivity, poor industry image, pricing models and inflating costs, dysfunctional training models, a lack of investment in innovation, a poor culture, discrimination, intersectionality and mental health and wellbeing. Therefore, companies have a wide scope of areas to improve talent management and Taftie *et al.,* (2017) explains that global changes have caused issues within businesses and companies that need to develop their management systems to maintain economic value and gain sustainable competitive advantage. Further to this, there are also human resource issues, and Taftie *et al.,* (2017) explains that businesses are shoehorning unqualified current employees into positions, to save on costs and not training the individuals appropriately which is a strategy that is highly unproductive and costs companies in the long term.

Aboagye-Nimo *et al.,* (2019) believes that the industry still suffers the 'man's world' reputation where health and safety standards are not taken seriously, women are not welcome, 'foreigners' do the unpopular jobs and apprentices make the tea, a reputation that the sector has historically earnt. Giles (2020), a Director at Work Advance explains that there are 5 megatrends to reshape the future which are social and demographic change, politics and government, globalisation and economics, technological advances and environmental change and further to this the UK Government quoted in Construction 2025 (2013), that companies must increase capability of the workforce. The industry faces a pressing need for a capable workforce that can deliver transformational change in the next decade. As the wider economy emerges from recession, construction firms must be able to recruit, retain and develop skilled, hard-working people in enough numbers to meet the increasing demand for construction. Nevertheless, in 2020, there are still many articles and journals such as Women in the Workplace (2020), All Parties Parliamentary Group (APPG) (2020) and The Farmer Review (2016), that argue against this point, disputing that there are still negative workplaces effecting moral, discrimination against race, gender, disabilities and religion within both the educational sector and the workplace.

It is argued that women could have a significant impact within the construction sector by offering greater perspectives and new ideas. However, Barnes (2019) from the APPG found that women only make up 13% of the construction industry, due to the gender pay gap, bullying, discrimination, and family commitments. The APPG (2019), explain that intersectionality is prevalent in most industries including the construction sector, where the sectors discriminative abuse of the Black, Asian and Minority Ethnic (BAME) society, deters them from joining the industry. This reduces staff levels due to employees leaving the sector through retirement and career changes and therefore the industry loses valuable knowledge and experience due to a lack of recruitment. This forces the sector to fall further behind programme, deters the industry from advancing digitally and isn't becoming as diverse as it desperately needs to be.

The UK Government (2020), revealed that there are over 7.7 million people of working age in the UK that are disabled or have detrimental health conditions but office workspaces are not adapted to allow them to work in a regular workplace. The Construction Industry Training Board (CITB) (2018), explained that there are increasing talent management issues as the aging workforce are continually leaving the industry. They further explained that approximately 48,000 over-50s leave the industry each year and plans need to be formed to retain older workers for a longer period and how they can mentor a new generation of younger workers.

Collectively the construction sector must invest in Industry 4.0 to help improve productivity and efficiency within the workplace whilst reducing waste. However, to do this, organisations will need to reskill and develop employees to use new equipment and software, however, The UK Government's Construction 2025 (2013), and The Farmer Review (2016) feel that the new digital era will encourage a new generation of young workers to join the industry.

COVID-19 has added a new dimension for both employers and employees, changing how organisations are ran and how employees have to work. Organisations are now having to allow flexible and remote working whilst using agile working methods to allow businesses to continue. However, this is having an impact on the industry both positively and negatively. Whilst organisations have found new mechanisms to work successfully, employees are also losing jobs, increasing mental health issues and increasing long term health and safety risks. Therefore, the research question is what are the key drivers for talent management in the construction industry? Therefore, this article aims to critically review the talent management issues within the construction industry including assessing the current talent within the sector and attracting new employees to widen the demographic and help the sector reach its maximum potential.

Methodology

Moher *et al.,* (2015) explains that detailed, well-described protocols can facilitate the understanding and appraisal of the review methods, as well as the detection of modifications to methods and selective reporting in completed reviews. Therefore, a systematic review is used for this paper to review relevant literature guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) statement to answer the question. Scopus was used as the main database to obtain published evidence to help complete this study as it is a robust database, containing a large amount of relevant material that has been used to support this document. Further to this, journals including Government publications, Health and Safety executive (HSE) documents and professional construction bodies have been used to gain a further understanding of how talent management can be improved within the workplace. Therefore, this has evidenced what organisations are currently doing to improve talent management, what the drivers are and where there are research gaps.

Literature search

Initial scoping was conducted by reviewing talent management journal papers to understand the research gaps and what the drivers are to improve talent management. Therefore, by using the following search terms it helped understand the key issues within the talent management subject area are. (“Talent management” OR "skills shortages in the construction industry" OR "women in construction" OR "intersectionality" OR “talent retainment” OR “young adults in the workplace) OR (environmentally efficient workplace) AND ("drivers" OR "benefits") were used to identify relevant electronic databases and journals to be used for the literature search. Following the initial scoping, electronic databases, Gov.UK & Scopus were selected for this literature search. These databases were selected due to the reputation and variety of citations which cover the topic of this review. As different databases focus on different subject areas, inclusion topics were spread as shown in the Table 1 below.

Table 1: Criteria for topic inclusion

Drivers	Scopus	Government Publications	HSE	Construction Bodies (Supporting Evidence)
Women in the workplace	√	√	√	√

Intersectionality	√	√		
Young Adults	√	√		√
Disabled Workers	√	√		
Employers Responsibility Management	√	√	√	√
Aging Workforce	√	√		√
Retaining Talent	√	√		√
Industry 4.0	√	√		
Construction Sustainability	√	√		√

The key words used to search all 3 databases were designed to capture all information concerning talent retainment and skills shortages within the construction industry. During the extraction of articles, an advanced search tool was used to filter and limit articles to only identify the full text, peer reviewed, English language articles published between April 2010 and April 2020 (last 10 years). This is because the construction industry is moving at a fast pace and therefore only the most recent information is beneficial to this study, during this time, major reports have been developed such as, Construction 2025 (2013), The Farmer review (2016) and the United Nations Sustainable Goals (2016), which has given the construction sector greater imputes to develop talent management.

Article screening and selection

Identified articles were then screened for duplicate entries. Because several databases were used, there was a high possibility that some articles would have been published in more than one database. Once the duplicates were discarded, titles and abstracts were screened for eligibility. A full text review was then carried out for the remaining articles to identify the articles that met the pre-defined inclusion/exclusion criteria as shown in Table 2 below:

Table 2: Article inclusion and exclusion criteria

	Inclusion	**Exclusion**
Location	UK,	All other nations apart from when other nations policies were reviewed

Research methods	All research designs thus, qualitative, quantitative and mixed methods	
Setting	Built environment	Non-Built environment apart from intersectionality where all industries in the UK will be reviewed
Types of studies	Article based on true statistics and construction professionals' perspectives.	
Data collection timing	Data collection carried out between January 2010 and April 2020	

As shown in the PRISMA diagram below, the search retrieved 16864 articles and 22 additional records were identified from other sources. All 16864 articles were screened for duplicates using specific software and 1227 duplicates were identified and excluded. Title and abstract screening was conducted on the remaining 15637 articles and 149 potentially eligible articles were selected for the next stage. A full-text review of the remaining 149 remaining articles was then conducted using inclusion and exclusion criteria described in the earlier article screening and selection section and a total of 53 articles were identified as eligible and therefore analysed for this systematic review producing the 9 key drivers.

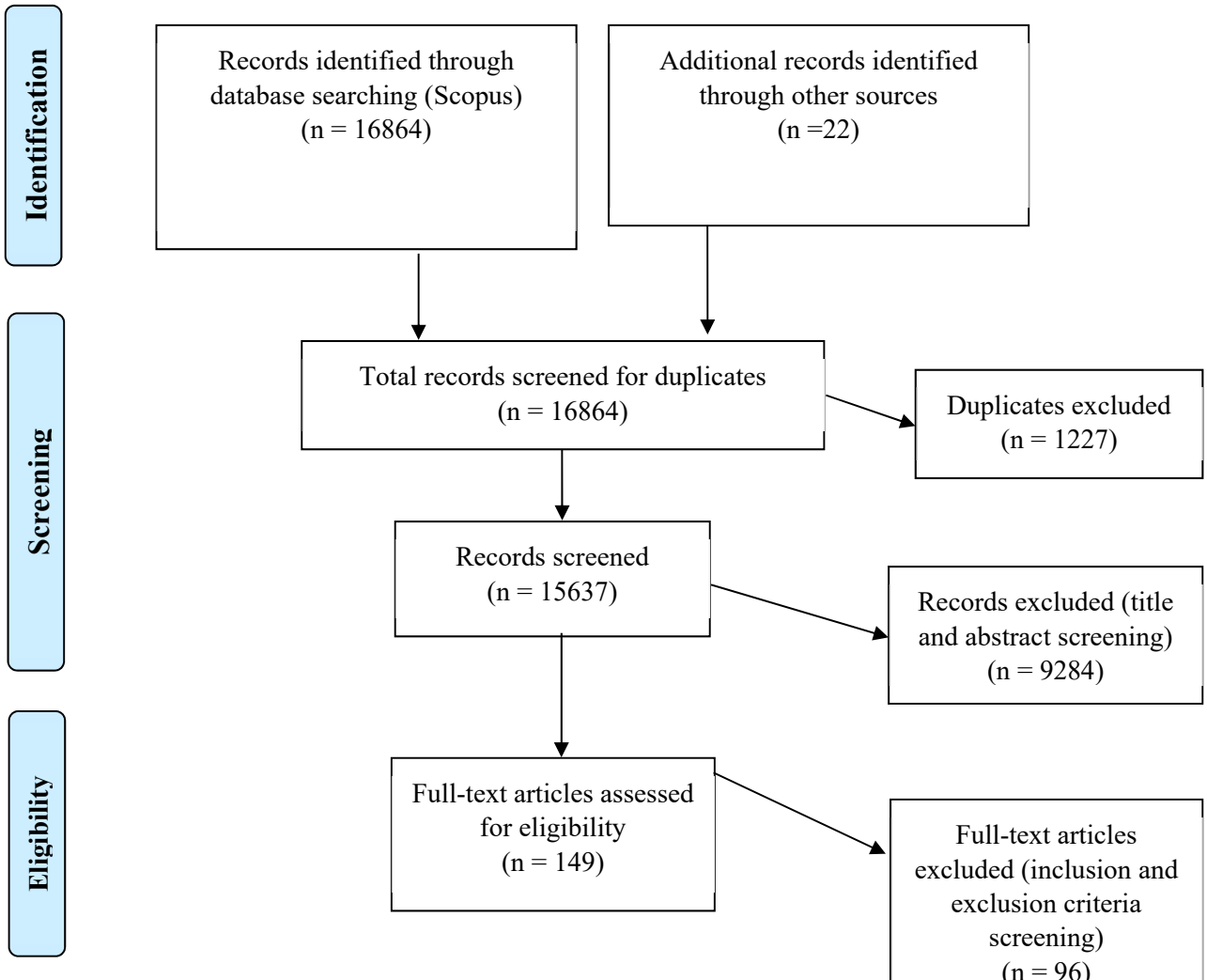

Figure 1: PRISMA article screening process

Findings

After reviewing relevant literature, there are 9 main talent strategy drivers that emerged as illustrated in Table 3 below.

Table 3: Key drivers to improve talent management in the construction industry

Driver	**Sources**	**Description**
1. Women in the workplace	Aboagye-Nimo, Wood and Collison, (2019) Barnes, (2019) Department for Business Innovation and Skills, (2013) Hodnett, (2019) McKinsey, (2020) Toor *et al.,* (2017) WBG, (2020) Williams, P., *et al.,* (2019)	Women only make up 13% of the industry, and it is argued that they are discriminated against and is worsening due to Covid-19
2. Intersectionality	APPG, (2020) Gov.UK, (2017) Khan *et al.,* (2019) McKinsey, (2020) Powell and Sang, (2013)	Multiples of discrimination deterring talented people from gaining senior jobs within the sector that could be worsened due to Covid-19

	Williams *et al.,* (2019)	
3. Young Adults	APPG, (2020) Dawson & Osbourne, (2019) Department for Business Innovation and Skills, (2013) Gov.UK, (2020) Johnson, (2013) Lombardi *et al.,* (2009) Princes Trust (2020)	Young adults are the future employees but are not joining the sector, therefore this is an important driver to improve the skills shortage
4. Disabled Workers	APPG (2020) Gov.Uk (2020) Manley and Graft-Johnson, (2013) McKinsey, (2020) Miralles *et al.,* (2011)	This covers the discrimination shown toward potential candidates both in the educational sector and workplace. Disabled people could improve the diversity in the sector but aren't being given a fair opportunity.
5. Employers Responsibility Management	APPG, (2020) Construction Leadership Council, (CLC) (2020) Construction Youth Trust (CYT), (2019) Gov.UK (2020) HSE, (2013) HSE, (2019) HSE, (2020) Oswald *et al.,* (2019) Otterbach *et al.,* (2019) Luna-Arocas *et al.,* (2020) Pandita,and Ray, (2018) Stevenson and Farmer, (2017). Swailes, (2020)	This section discusses the management responsibilities of employers such as mental health and wellbeing, health and safety and occupational health.
6. Aging Workforce	Eaves *et al.,* (2015) Equality Act (2006) FMI, (2017) Lombardi *et al.,* (2009)	This discusses how valuable the aging workforce is to the construction industry, and the importance to retain the older

	Whysall *et al.,* (2019)	generation to nurture the young generation joining the sector.
7. Retaining Talent	Burhan *et al.,* (2014) Florence T.T. Phua, (2012) Donia *et al.,* (2020) FMI, (2017) Pandita,and Ray, (2018) Sheppard, B., (2020.) The United Nations Guiding Principles (UNGP) (2011)	This explains the importance of retaining and upskilling valuable employees, and how this can be done.
8. Industry 4.0	Department for Business Innovation and Skills, (2013) Fareri *et al.,* (2020) García *et al.,* (2019) Morgan, (2019) Whysall *et al.,* (2019)	This section gives an insight on how labour needs to be upskilled to keep up with the progression of technology within the construction industry
9. Construction Sustainability	Gibbons (2019) Gov.UK (2019) Paille *et al.,* (2020) Zibarras and Coan (2015)	This discusses how companies are under pressure to become more environmentally friendly, and how Human Resource management is vital to empower employees to help make companies more eco-friendly.

1. Women in the workplace

David Barnes (2019), completed an inquiry into 'The Recruitment and Retention of More Women into the Construction Sector', finding that women only occupy 13% of the industries labour force which has not changed for two decades and only 1-2% of site workers employed are females. Aboagye-Nimo *et al.,* (2019), explains that the skills shortage continues to grow, however, the construction industry is still perceived to be masculine, hostile and a dangerous environment that fosters a male only image. Aboagye-Nimo *et al.,* (2019), further confirmed that 40% of the women within the construction industry admitted to being bullied, 30% revealed they were too afraid to make a complaint and a staggering 51% of women alleged they were treated poorly purely because of their gender.

The Department for Business Innovation and Skills (2013), revealed that the talent management of women often displays forms of sexual harassment, seen by male co-workers as a way of reasserting control, refusing to adapt to a culture that allows women to manage teams. In contrary, Aboagye-Nimo *et al.,* (2019), discussed the necessity for many people to be involved in a construction project to ensure a project will be completed, and during the process, a diverse team can only be advantageous improving talent management throughout the sector. However, issues such as sexual

harassment, gender pay gap, the glass ceiling theory, lack of awareness and family commitments deter women from the built environment. This was further confirmed by McKinsey (2020) who explained that "Given the enormous challenges mothers are facing at work and at home, two things should come as no surprise: Many mothers are considering downshifting their career or leaving the workforce". Therefore, Anderson *et al.,* (2019), explains that companies often try to present themselves as gender neutral and mask a 'gendered substructure' whereby often invisible, biased processes perpetuate occupational gender segregation.

Anderson *et al.,* (2019), feels that there is a common theme regarding senior management and the lack of women being able to rise through the hierarchy. Companies appear to have invisible processes where assumptions about men and women, femininity, and masculinity, are embedded and reproduced, and gender inequalities continue and lead to occupational gender segregation and results in gender pay gaps. Supporting this, a recent study by Toor *et al.,* (2017), found that 50% of women felt that there was a gender pay gap, 43% of women did not know and only 7% felt that pay was equal across the industry. However, the Women's Budget Group (WBG) (2020), predicted that COVID-19 could increase gender pay gap by 15%, further explaining that it is an oversight and something the Government should be monitoring. Further to this Hodnett (2019), explains that upon analysis of the top five construction companies in the UK, there is a severe issue with gender inequality where only one company had an equal number of Directors. All companies admitted that it was going to take a while to ensure gender equality was 100% throughout the organisations and further confirmed that there are current issues with unequal bonuses paid to each gender. Further to this Hodnett (2019), found that female respondents explained that they thought they would struggle to gain promotion within the organisations, and the female respondents who supported families and worked part time did not have their opinions taken seriously which both confirmed common themes of the leaky pipe line and glass ceiling theories within organisations. It is evident that women in the construction industry are important bringing new ideas whilst being part of a wider team. Therefore, it is important that the sector improves the talent management of women by removing the stigma attached to them, helping retain the small number that makes up the built environment and attracting more women to join the industry.

This displays the importance of women having equal rights throughout the construction industry. The industry needs an increased diverse workforce, however, to do this, the sector must be more flexible to women and the wider workforce, improving working hours and equal pay. Further to this, women must be shown a pathway to advance within organisations having equal opportunities when more senior roles become available.

2. Intersectionality

Intersectionality is becoming increasing issue throughout the construction industry and The Oxford Dictionary (2021), describes intersectionality as "*The interconnected nature of social categorizations such as race, class, and gender, regarded as creating overlapping and interdependent systems of discrimination or disadvantage"*. Khan *et al.,* (2019), explained that women with ethnic backgrounds attempting to progress their careers are battling with long standing challenges and has been unacceptably slow, despite mounting evidence of the discrimination and disadvantages faced by women and ethnic minorities in many occupational sectors. Powell and Sang (2013), added that a women's experience in the construction industry is bleak and more so with an ethnic background as McKinsey (2020), revealed that black women are twice as likely as white women to hear colleagues express surprise at their language skills or other abilities. Women have been part of the industry for a long period of time and are victims of gimmicky initiatives designed to raise awareness, but argued that there is a reluctance from the construction bodies to

alter the status quo and must play a greater role in promoting equality whilst addressing the relationships between professional norms and cultural norms.

This was further confirmed by the All Parties Parliamentary Group (APPG) (2020), who explained that women are often described as a homogenous group and the assumption fails to recognise the differences between women themselves and the challenges they face in the workplace further detailing that women have different experiences at work that include but are not limited to race, religion, class, disability and sexual orientation. The Inclusivity and Intersectionality paper produced by the APPG revealed that intersections can mean multiple barriers in the workplace that results in employees becoming the minority within the minority. This is evidenced in a study completed by Williams *et al.,* (2019), that found during the 2017/18 academic year there were a total of 15,560 full time UK students in the first year, however, only 3% were Black and further to this the UK Research and Innovation (UKRI) is a group of five councils and the UKRI revealed that the three academic years between 2016-19 there were a total of 19,826 Phd funded studentships award, however, only 245 (1.2%) were awarded to Black or Black mixed students. Baroness McGregor-Smith (2017) found that if BAME talent is fully utilised the UK economy could receive a £24 billion boost. Further to this, in her 'Race in the Workplace' journal, it was found that only 1 in 8 of the working population were made up by BAME representatives and up to 6% are employed in management positions.

The APPG (2020), recommended that the UK Government must make a commitment to improving the quality of education in schools ensuring that a greater understanding of the cultural intersections will be understood without prejudice, allowing for a more diverse workplace to improve and be more innovative. Further to this Baroness McGregor-Smith (2017), explained that the talent management of BAME employees needed to change by changing the culture, improving processes, supporting progression and creating more inclusive workplaces that will encourage more BAME representatives to join the construction industry creating a business as usual attitude.

3. Young adults

In 2013, the UK Government released the Construction 2025 document stating that talent management improvements are required in the construction industry itself and how the construction industry is perceived by the public continuing to explain that industry and Government must work together to inspire young people. The Construction Youth Trust (CYT) (2019), stated that the construction industry represents 10% of the UK employment, but also stated that the industry needs to recruit 31,600 people each year until 2022. 20% of workers are approaching retirement and between 136,000 and 214,000 European Union (EU) workers are expected to leave the industry due to Brexit. The study also revealed that only 6% of young adults felt that the construction industry would be a viable industry as Accounting/Legal/Financial Services, Healthcare/Medicine and IT/Technology attracted over 65% of interest between them. 27% of young adults explained that parents would actively discourage them from joining the sector due to the poor stigma.

This was further evidenced by Dawson and Osbourne (2019), who reported a decline in applications to Bachelors programmes in architecture, building and planning, falling by 14% between 2006 and 2016, however, overall, the national applications to Bachelor's programmes in British universities have increased by 19% over the same time frame. Whilst the Government attempted to improve this by introducing Degree Apprenticeships that were intended to benefit both employers and students, barriers were met due to bringing two different sectors together and employers reported that they are facing confusion about the quality of the work-related experience and mentoring support they are required to provide apprentices. However, Dawson and Osbourne (2019),

confirmed there are benefits to the programme but recommended developing the infrastructure within higher education and employers to allow for the effective delivery of degree apprenticeships.

CYT (2019), explain that the future of the construction industry depends on new youthful recruits offering new skills to use the advanced technology, energy and diverse ideas. Johnson (2013), explained that to recruit Millennials new recruitment techniques need to be used due to the 'generation me, 'I am unique' and 'interested in finding the niche' attitudes. Therefore, the APPG (2020), recommended that the Government must make a commitment to improve the range and quality of career provisions in schools, whilst working with the recruitment industry as a means of ending occupational segregation. Since the APPG has recommended this 'The Princes Trust' publicised that 43% of 16-25 year olds feel 'it will be harder than ever to get a job' as a result of COVID-19, however this presents the construction industry with an opportunity to recruit the next generation.

As a result, communication is key, and Johnson (2013), explains that providing clearer expectations and career development paths, explaining job rules, policies and procedures and providing job training are important but companies must act now. This must be done developing mentoring programmes, publishing goals, employing suitable recruitment managers, achievements and developing a feedback system for young workers to develop. Further to this, it is important that talent management mechanisms are identified to retain experienced workers to help train and develop the next generation of workers who will be given license to further advance the construction industry.

4. Disabled workers

The UK Government (2020), explain that there are over 7.7 million people of working age in the UK that are disabled or have a health conditions but encouraging applications from disabled people can increase the number of high quality candidates, create a diverse workforce and bring additional skills to the workplace. The Government (2020), also explain that the costs of making reasonable adjustments to accommodate disabled workers are often low. However, Miralles *et al.,* (2011) and McKinsey (2020), explain that disabled workers face a range of barriers to employment, despite legislation that is intended to improve workplace accessibility emphasizing adaptations to the workplace, which many employers often find difficult and expensive. However, it is increasingly acknowledged that a more diverse workforce brings an increased liability to achieve informed decision making, advancing the commercial viability and success of a business or organisation.

The APPG (2020), explain that young disabled people frequently struggle to access work experience and access to placements can often reflect gender stereotypes and further strengthening this argument Manley and Graft-Johnson (2013), explain that disabled people remain disadvantaged within the built environment. They also argue that it is paramount for disabled workers to join the sector as greater inclusion of disabled people may give impetus to cultural and attitudinal change. In addition, education plays a critical role in bringing about a transformation that will lead to a more proactive and inclusive ethos in the future.

Whilst Manley and Graft-Johnson (2013), completed their study in to disabled students within the construction industry they found that Built Environment schools have a long way to go to improving the experience for disabled students. They found that there are instances of discrimination where a resistance to the idea of a disabled person working as an architect remains in spite of equality legislation (Equality Act 2010) and this appears to be affecting student recruitment, progression and experience. Therefore, this analysis confirms that if prospective disabled employees cannot

gain experience or academically learn about the industry it is impossible for them to become a full-time employee. Consequently, the APPG (2020), welcomes the Government's commitment to publish a National Strategy for Disabled People in 2020. This should include an employment strategy for disabled people, focusing particularly on women with disabilities, people with neuro-diverse conditions and persons with visual impairments, in line with the Government's pledge to increase the number of disabled people in employment.

5. Employer Responsibility Management

Employer responsibility management is very important within the workplace, ensuring that all members of staff are kept safe and fairly employed. The Health and Safety Executive (HSE) (2020), explain that it is the employer's duty to protect the health, safety and welfare of their employees, effectively controlling risks to injury or health that could arise in the workplace. There are many employment areas that come under the umbrella heading of employer responsibility management such as, mental health and wellbeing, health and safety, occupational health, employee welfare and workplace culture.

Stevenson and Farmer (2017), explain that 300,000 people with long term mental health issues lose their jobs each month and 15% of people within the workplace have symptoms of existing mental health conditions and therefore costs the construction industry approximately £33 – 42 billion. It is argued that firstly the costs are increasing due to the effects of COVID-19 as Public Health England (2020) revealed that 84.2% of the UK public are worried about the effects of COVID-19 and secondly, that if there was a greater investment in to workplace wellbeing, wellbeing costs could be re-invested into the construction industry.

Oswald *et al.,* (2019), explains that another factor is whilst lean construction has improved general health and safety in the construction industry, not enough research has been completed on mental health and therefore lean construction has had a negative effect. The construction industry is particularly vulnerable to mental health issues, as the environment contains many occupational stressors such as: high production pressures, dangerous work, complex decision-making and 'not feeling tough enough', all of which can contribute to poor mental health. In relation to this, the HSE (2013), explain that there are costs for poor health and safety (H&S) at work as millions of days are lost per year due to work related illnesses, thousand die from occupational diseases and several hundred thousand workers are injured at work each year. Further to this the HSE (2019), reported that there were 79,000 workers suffering from work related ill health, there were 54,000 non-fatal injuries and 30 fatalities during the 2018/19 financial year increasing talent management issues further. Consequently, the construction industry suffers from a poor stigma describing it as being dangerous, and therefore the Construction Youth Trust (2019), reports that 27% of young adults' parents would actively discourage their children from joining the construction industry. Unfortunately, this mindset was also confirmed by many current and retired construction workers who would also discourage people from joining the construction industry due to the work-related illnesses associated with the sector such as musculoskeletal disorders, asbestos related diseases and Chronic Obstructive Pulmonary Disease (COPD).

Swailes (2020), explains that employer culture is vitally important to an organisation. It is imperative that senior managers advocate cultures of fairness, allowing time for change and embedding structures, whilst having fair recruitment policies and allowing employees to have the chance to progress. Pandita and Ray (2018), complement this by explaining that this provides positive culture within organisations, not only helping retain talent but providing positive mindsets enabling employees to enjoy their place of work. Luna-Arocas *et al.,* (2020) further explains that

by providing competitive salaries, training and sports and social committees provides a greater mentality and leads to organisations profiting from increased productivity, profitability and sustainable growth which are the aims for many businesses.

Therefore, the APPG (2020), champion the Government to work with different industries to produce and promote mental health guidance for employers which will inevitably profit both employers and employees. This work should also include recognising the causes of mental ill health, including sexism and other forms of discrimination, and running education programmes for employers on how to support employees to provide positive workplaces. Further to this it shows that it is essential to improve H&S awareness within the construction industry, training all new and current workers greater safety strategies, ensuring employees are fulfilling their duties by abiding by health and safety regulations to ensure that they are keeping themselves and colleagues safe. By doing this, it will help remove multiple stigmas attached to the construction industry, simplifying the talent management of current labour and new potential recruits will be further encouraged to join the sector.

6. Aging workforce

In the UK, the Equality Act (2010), rules it is illegal to discriminate against an employee due to their age and this, coupled with the abolition of an official retirement age in the UK, means that accommodating the older worker in the workplace is now more important than ever. Eaves *et al.,* (2015), explains that despite the difficulties that may be faced by ageing and older workers, previous research suggests that remaining in work can have positive effects on health and wellbeing and that an early retirement can lead to the development of unhealthy habits such as smoking, drinking and social isolation. Further to this, research has suggested that older workers are valued within the industry; they are considered to be loyal, reliable, experienced and produce work of a high quality and therefore managing the talent of older workers is vital. There is a high level of respect from younger colleagues, as older workers have spent years learning their trade giving them a vast amount of experience.

Lombardi *et al.,* (2009), explains that the older workforce is considered to hold superior trade related skills in comparison to their younger counterparts. However, there is no research quantifying these skill levels, which may be as a result of changes in the levels of qualifications available to construction workers in recent years. Whysall *et al.,* (2019) explains that historically it has been difficult to persuade senior managers to train and upskill older members of staff. However, Whysall *et al.,* (2019) further explained that talent development mechanisms have developed and organisations are recognising the importance of training older workers due to the fast pace of technology and developing younger workers. In contrary to this, there is also a perception that older people are harder to train as they are ‘stuck in their ways’, and therefore impacts the breeding of younger workers who follow their mentors traits which most importantly includes a negative perception that older workers are perceived as being adverse to health and safety regulations. Nevertheless, FMI (2017), revealed that young employees now feel that a career path is just as important as a salary and want to progress within the company they work for. Therefore, a key method is to utilise both the educational sector by achieving qualifications and accreditations whist working with experienced employees who understand the field of work that they work in subsequently benefiting from hands on experience is vital.

7. Retaining Talent

Phua (2012), explains that Human Resource Management (HRM) plays a pivotal role to attract and retain talent further explaining that apprentices, construction managers and professionals remain a scarce resource and whilst Eastern European workers are migrating to the UK construction industry it still is not enough to plug the gap.

The United Nations Guiding Principles (UNGP) (2011), on Business and Human Rights (UNGP's) were endorsed in 2011 by the Human Rights Council, with the goal of providing a compass to guide organisations towards the respect of human rights in their business operations, as stated in Principle 11 of the UNGPs. Therefore, Donia *et al.,* (2020), explored how companies' policies and procedures impacted their organisations workforce. During this research it was found that when businesses showed greater transparency and allowed staff to help influence and design company policies and procedures it gave employees a greater sense of responsibility and wellbeing improving their workplace attitudes and behaviours.

Donia *et al.,* (2020), also found that the talent management of employees, especially millennials who hold businesses to higher standards tend to feel better about themselves and uphold values that are congruent with their self-image, and therefore experience a greater fit with organisations who meet their desire to be part of a high performance group. Sheppard (2020), explained that many workers around the globe lack key skills, and therefore upskilling in preparation for the changes to come post COVID-19 should be a critical part of response and recovery further explaining that there are four steps workers and businesses can take today to prepare for tomorrow: Accelerate the move to platform, transition to digital/virtual work, assess your skillset and expand it as needed, and plan for the future helping to retain and attract new talent.

Pandita and Ray (2018), explain that is important for organisations to ensure employees feel empowered and provide a healthy workplace by guaranteeing the employees a physical, social and emotional wellbeing. This coincides with Maslow's hierarchy of needs theory. Burnham *et al.,* (2014), explains that it is essential that organisations ensure that all employees physiological and safety needs are prioritised as these are the basic needs of an employee before they concentrate on the psychological and self-fulfilment needs. Research shows that 58% of employees surveyed reported a willingness to accept a 15% pay cut to work for an organisation with similar values to their own. Further to this FMI (2017), explain that organisations with the highest employee retention have committed to rich professional development cultures and have effective performance management processes. But for most firms, performance management is not always used effectively.

FMI (2017), further explained that competitive benefits, training opportunities, challenging job assignments, enjoyable work environments and ongoing performance feedback can be just as important as high salaries. Research on corporate social responsibility has found that both the extent of organisational involvement and employees' attributions of organisations' motives are significantly correlated with employees' attitudes and performance at work. Therefore, it is essential for organisations to understand and implement a culture that complements the employees within the business to help create an organisation where employees want to stay and invest themselves within the business.

8. Industry 4.0

Bernard Marr of Forbes (2018) explains that industry 4.0 is the fourth industrial revolution that is enabling technology to advance further and is a combination of cyber-physical systems, the Internet of Things and the Internet of Systems make Industry 4.0 possible and the smart factory a reality.

This will improve productivity and efficiency within the workforce whilst reducing waste. The UK Government's Construction 2025 (2013), and The Farmer Review (2016), stated that change is required in the construction industry itself and how the construction industry is perceived by the public continuing to explain that industry and Government must work together to inspire young people. There are many positions throughout the construction sector that will always require employees, however, due to the never-ending skills shortages within the sector, Garcia *et al.,* (2019) explains that there is no question that industry 4.0 will have a profound impact on the industry and will disrupt jobs; but the exact consequences on the workforce have not yet been calculated due to the fast pace digitalisation is moving at.

Due to the fast pace Whysall *et al.,* (2019) explains that industry 4.0 has created a significant gap between the current capability of employees and the rapidly evolving requirements, prompting a review of the talent management and development of all employees. It was further explained that new technology is changing the roles of current employees but will attract and new era of tech-savvy workers whilst helping remove the dangerous, dirty and difficult stigma that has been attached to the industry for many decades which was further confirmed by Fareri *et al.,* (2020) explaining that skills-related problems have led to 'bad jobs'. However, this will eradicate complaints from low skilled workers who report that they are stressed and constantly under pressure. New recruits will be automated, leading to an improvement in job satisfaction. Since it is anticipated that the use of robotic systems and onsite automation will start with unsafe and unappealing tasks for workers, there should be a general acceptance from policymaking institutions and labour organisations. The fact that the construction industry is getting ready for the fourth industrial revolution, with many opportunities to innovate, is stimulating and can become attractive to new generations.

The impact of COVID-19 will almost certainly have an impact on the construction industry who will need to adapt their working methods and habits to become more flexible and considering this, Fareri *et al.,* (2020) explains that it is increasingly necessary to design tools and methods to manage talents and skill gaps: the insights are useful for several objectives and they help organisations to maximise their profits and improve HR management strategies. Construction 2025 (2013) and the Farmer Review (2016) , both revealed the challenge facing the industry is to identify and target new recruits for both professionals and skilled trades whilst addressing training and development needs on a more strategic basis. It was further explained that the sector must ensure that apprenticeships, once delivered, are fit for purpose and deliver the skilled workforce required by the sector whilst current employers must have Continuing Professional Development (CDP) strategies in place to upskill workers as the construction industry moves forward. As this is happening, the UK Government pledged that they will work with construction bodies with greater determination of future capability needs, clear routes of entry and clear career progression pathways, exploring the scope to make apprenticeships more flexible, an industry review of the current skills and capability delivery mechanisms and a review of approaches to career planning, training and development with a commitment to rationalise.

Morgan (2019), explains that the adoption of new technologies in architectural, engineering and construction firms drives organisational change insisting that it is driven by planned and emergent processes across all levels within organisations. Further to this The Farmer Review (2016) explains that the construction industry must invest in innovation within the construction industry and upskill the current labour to work more efficiently. Therefore, Fareri *et al.,* (2020) added that a company's understanding of changes taking place is increasingly crucial for the whole society since a more detailed knowledge of skills requirements helps in designing training programs giving the opportunity to upskill and reskill.

It is evident that the construction industry must invest in both innovation and technology, but it is critical that current labour is trained to use new technology appropriately. By investing in new technology, it will help encourage new candidates to join the sector enabling innovation to advance further to help the construction industry to become more efficient and financially stable.

9. Construction Sustainability

Zabarras and Coan (2015) explain that businesses have been coming under increasing economic, political and social pressure to improve their environmental performance revealing that there are many methods that businesses can increase their environmental sustainability and a better use of technology is a great example of efficient talent management. The lockdown period during the COVID-19 pandemic within the UK has meant that many people are now working from home, saving fuel, paper and high cost utility bills whilst using laptops to work by writing and reviewing documents, video conferencing and working remotely. Further to this Serenity Gibbons of Forbes (2019), revealed that it is important to incorporate sustainability into everyday operations and within offices by encouraging recycling, using LED light bulbs, solar panels, sharing lifts to and from work and using local companies.

In October 2019, the UK Government released their 'Helping businesses create a greener, more sustainable future through ICT' that discussed how businesses can become more efficient and create an increased sustainable workforce. However, to do this Paille *et al.,* (2020) explains that companies must fully engage with employees using their human resource (HR) departments by being involved and offering training to gain a greater performance. Further to this Zarras and Coan (2015), explain that one key approach is linking organisational efforts to employee behaviour; many researchers have argued that environmental issues are largely caused by human activity and should therefore be tackled by changing human behaviour. The UK Government, (2019) further explained that there is an increasing need to improve the skills and knowledge to support organisational change, particularly in the changing environment and therefore organisations can develop workforce competencies, capabilities and skills to remain successful in sustainability, through learning and development tailored for ICT personnel.

Zibarras and Coan (2015) explain that there are a multitude of ways that companies can improve the environmental sustainability using HR as the overarching talent management strategy. They further revealed that the employee life cycle is very important as organisations must be able to retain staff who have an openness, agreeableness and conscientiousness to employee green behaviours and therefore recruitment practices can cultivate a greener workforce. Therefore this helps organisations adopt green HR management practices whilst benefiting from attracting a wider pool of high-quality candidates. Organisations can offer rewards to encourage employees to engage in pro-environmental practices, however, education is just as important and therefore successful implementation demands that employees receive information about the standards through introductory training sessions. It is also important for employees to feel empowered and Zibarras and Coan (2015) feel that employees must be treated like stakeholders and therefore new policies must be implemented by managers however without employee involvement the policies are less likely to be successful.

Discussion

There were 53 articles synthesised which included approved journals within the Scopus database, UK Government legalisation, and guidance from professional bodies that developed nine key

drivers including women in the workplace, intersectionality, young adults, disabled workers, employer responsibility management, aging workforce, retaining talent, industry 4.0 and construction sustainability which were analysed and discussed. All nine key drivers are critical to talent management in the construction industry by managing and upskilling the current talent pool, innovation in technology to create an efficient and safer skilled workforce and encourage a new generation of diverse, innovative and creative employees.

Women in construction was mentioned most, but all journals had the same aim to both encourage companies to adapt both physically and culturally to retain and upskill the current workforce, inspire prospective employees to join the construction industry and help organisations to become increasingly sustainable.

The frequency that drivers are discussed in articles does not necessarily mean the driver with the highest frequency is the most important but will help construction leaders and policy makers prioritise and maximise levels of commitment for adopting new strategies to inspire new candidates to join the built environment. All of the drivers are intertwined and all have similar strategies that could be adopted by many organisations, and many of the journals argue that both morally and through legislation explaining that these drivers should already be in place but cultural and biased issues stop this happening.

The data displays that the cultural issues discriminate against women, BAME and disabled candidates, but not only within the workplace, also within the educational sector as many potential candidates are being refused valuable work experience, poor facilities that are not adapted for special requirements, educational grants and enrolment of courses. New strategies need to be recognised and implemented within the workplace, to improve workplace culture, whilst understanding that career progression is just as important as salaries and therefore companies are struggling to retain employees who could be working alongside the older generation of workers. Therefore it is essential talent management strategies to retain and develop the current skilled workers is critical to allow the integration of new workers within the sector as the skills gap is not being reduced, and the young workers are not learning valuable methods of working due to not working with experienced members within the field for long enough periods.

It is also recognised that there is a poor stigma attached to the construction industry, where parents and both current and retired construction workers would not recommend the industry to young adults. However, the impact of industry 4.0 could add a new dynamic to the sector, persuading the new generation to potentially join, however, work needs to be done to support young adults to understand what the construction industry does and how they could build a career within the built environment. Therefore, awareness and a full understanding of these drivers can assist construction policy makers and leaders repair the industries importance of talent management and therefore supporting and adopting these strategies will improve organisational performance.

Conclusion

It is evident that talent management strategies within the construction industry must improve. There are calls for a more diverse workforce bringing new ideas to the built environment widening the door further to women, BAME, disabled and young adults to join the sector which has been affected further by COVID-19. However, many construction proffessionals are concerned that Covid-19 could increase talent management issues throughout the sector where organisations are losing contracts, employees are losing their positions and clients are not investing capital.

Based on the current literature nine key drivers were identified, that could all benefit the construction industry, improving not only the talent management and skills shortage issues but a new diverse workforce and future leaders to inspire new innovation driving the sector forward and complimenting sustainable development goals and multiple Government guidelines. Knowledge and understanding of these drivers greatly assist construction leaders and policy makers to evidence the importance of talent management strategies in order to successfully implement stratagems within the construction world.

Recommendations

A greater workforce is now needed to allow the industry to work under new policies and working conditions due to Covid-19. The industry is now responsible for attracting a new generation of workers and upskilling the current workforce to enable the industry to become more efficient, working to greater standards and enabling greater value for money whilst providing sustainable solutions for many businesses and encouraging Industry 4.0. Therefore, greater initiatives need to be created to develop the current workforce, improve innovation and increase the construction demographic by persuading young adults, women, disabled workers and BAME to join the industry, giving the sector a greater impetus to progress.

Further studies should concentrate on how these drivers could be combined and implementation methods could be developed and fostered by organisations. Although, numerous drivers for adopting new talent management strategies were identified, failure to successfully adopt and deliver expected benefits still exist. It is therefore recommended that future studies investigate and analyse key challenges that the construction industry face when attempting to find, retain, develop and attract talented individuals in the construction workplace.

References

Aboagye-Nimo, E., Wood, H. and Collison, J., (2019). Complexity of women's modern-day challenges in construction. Engineering, Construction and Architectural Management, Available at: <https://www.emerald.com/insight/content/doi/10.1108/ECAM-09-2018-0421/full/html> [Accessed 13 July 2020].

Anderson, P., O'Hagan, A. and Thomson, E., (2019). Bringing positional processes back in: occupational gender segregation in 'non-academic' work. The International Journal of Human Resource Management, [online] pp.1-25. Available at: <https://www.tandfonline.com/doi/abs/10.1080/09585192.2019.1686648?journalCode=rijh20> [Accessed 14 July 2020].

An economic analysis of the construction industry, (2013). [online] Available at: <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/210060/bis-13-958-uk-construction-an-economic-analysis-of-sector.pdf> [Accessed 10 May 2020].

APPG, (2019). Inclusivity and Intersectionality. Toolkit and Annual Report 2019. [online] Available at: <https://connectpa.co.uk/wp-content/uploads/2020/02/Women-and-work-Annual-report-2019-A4.pdf> [Accessed 11 May 2020].

Barnes, D., (2019). The Recruitment and Retention of More Women into the Construction Sector. [online] Available at: <http://file:///C:/Users/mark/Downloads/CIOB-response-to-the-APPG-

EBE-inquiry-into-the-recruitment-and-retention-of-more-women-into-the-construction-sector.pdf> [Accessed 6 November 2020].

Burhan, N., Mohamad, M., Kurniawan, Y. and Sidek, A., (2014). National intelligence, basic human needs, and their effect on economic growth. Intelligence, [online] 44, pp.103-111. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0160289614000397?via%3Dihub> [Accessed 10 June 2020].

CITB, (2018). Fuller Working Lives in Construction. [online] Available at: <https://www.citb.co.uk/documents/research/fuller-working-lives-in-construction.pdf> [Accessed 20 August 2020].

CLC, (2020). Construction Sector - Site Operating Procedures Protecting Your Workforce During Coronavirus (COVID-19). [online] Available at: <https://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2020/07/Site-Operating-Procedures-Version-5.pdf> [Accessed 30 July 2020].

Dawson, S. and Osborne, A., (2019). Re-shaping Built Environment Higher Education: The Impact of Degree Apprenticeships in England. [online] Available at: <https://www.tandfonline.com/doi/abs/10.1080/15578771.2019.1668888?journalCode=uice20> [Accessed 6 November 2020].

Donia, M., Carrasco, S., Seck, S., McCorquodale, R. and Ronen, S., (2020). The Theorized Relationship between Organizational (Non)Compliance with the United Nations Guiding Principles on Human Rights and Desired Employee Workplace Outcomes. Sustainability, 12(5), p.2130.

Eaves, S., Gyi, D. and Gibb, A., (2015). Facilitating Healthy Ageing in Construction: Stakeholder Views. [online] 3. Available at: <https://www.sciencedirect.com/science/article/pii/S2351978915005612> [Accessed 15 June 2020].

Fareri, S., Fantoni, G., Chiarello, F., Coli, E. and Binda, A., (2020). Estimating Industry 4.0 impact on job profiles and skills using text mining. Computers in Industry, [online] 118, p.103222. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0166361519309327?via%3Dihub>

Farmer, M., (2016). The Farmer Reveiw 'Modernise or Die'. [online] Available at: <https://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2016/10/Farmer-Review.pdf> [Accessed 17 August 2020].FMI (2017). Talent Development in the Construction Industry.

García de Soto, B., Agustí-Juan, I., Joss, S. and Hunhevicz, J., (2019). Implications of Construction 4.0 to the workforce and organizational structures. International Journal of Construction Management, [online] pp.1-13. Available at: <https://www.tandfonline.com/doi/abs/10.1080/15623599.2019.1616414?journalCode=tjcm20> [Accessed 6 November 2020].

Gibbons, S., (2019). 3 Ways To Make Sustainability A Part Of Your Business. [online] Forbes. Available at: <https://www.forbes.com/sites/serenitygibbons/2019/02/28/3-ways-to-make-sustainability-a-part-of-your-business/#5b63a8c66370> [Accessed 8 June 2020].

Gov.UK, (2019). Helping businesses create a greener, more sustainable future through ICT, [online] Available at: <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/840765/defra-industry-guide-ict-sustainability.pdf> [Accessed 6 June 2020].

GOV.UK. (2020). Become An Apprentice. [online] Available at: <https://www.gov.uk/apprenticeships-guide> [Accessed 11 May 2020].

HM Government, (2013). Construction 2025. [online] Available at: <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/210099/bis-13-955-construction-2025-industrial-strategy.pdf> [Accessed 19 July 2020].

GOV.UK. (2020). COVID-19 Mental Health Campaign Launches. [online] Available at: <https://www.gov.uk/government/news/COVID-19-mental-health-campaign-launches> [Accessed 29 May 2020].

GOV.UK. (2020). Employing Disabled People And People With Health Conditions. [online] Available at: <https://www.gov.uk/government/publications/employing-disabled-people-and-people-with-health-conditions/employing-disabled-people-and-people-with-health-conditions> [Accessed 9 May 2020].

Gov.Uk, (2017). The McGregor-Smith Review. [online] Available at: <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/594336/race-in-workplace-mcgregor-smith-review.pdf> [Accessed 22 August 2020].

Hodnett, E., (2019). An investigation into the relationship between gender and salary, relating to Quantity Surveyors, University of Wolverhampton, UK.

HSE, (2013). Leading health and safety at work. [online] Available at: <https://www.hse.gov.uk/leadership/checklist.htm> [Accessed 18 August 2020].

HSE (2020). Construction statistics in Great Britain, 2019, 2019. [online] Available at: <https://www.hse.gov.uk/statistics/industry/construction.pdf> [Accessed 11 May 2020].

HSE, (2020). Employer's Responsibilities: Workers' Health And Safety. [online] Hse.gov.uk. Available at: <https://www.hse.gov.uk/workers/employers.htm#:~:text=It%20is%20an%20employer's%20duty,reasonably%20practicable%20to%20achieve%20this.&text=Employers%20must%20consult%20employees%20on%20health%20and%20safety%20issues.> [Accessed 3 September 2020].

Johnson, M., (2013). Attracting Young People into Construction Field Positions. [online] Available at: <https://coaa.org/Documents/About-COAA/Workforce-Shortage/Attracting-Young-People-to-Construction-(AWCI).aspx> [Accessed 21 August 2020].

Khan, M., Lakha, F., Tan, M., Singh, S., Quek, R., Han, E., Tan, S., Haldane, V., Gea-Sánchez, M. and Legido-Quigley, H., (2019). More talk than action: gender and ethnic diversity in leading public health universities. The Lancet, [online] 393(10171), pp.594-600. Available at: <https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)32609-6/fulltext> [Accessed 13 July 2020].

Li, J., Ghosh, R. and Nachmias, S., (2020). In a time of COVID-19 pandemic, stay healthy, connected, productive, and learning: words from the editorial team of HRDI. Human Resource Development International, [online] 23(3), pp.199-207. Available at: <https://www.tandfonline.com/doi/full/10.1080/13678868.2020.1752493> [Accessed 13 July 2020].

Lombardi, D., Verma, S., Brennan, M. and Perry, M., (2009). Factors influencing worker use of personal protective eyewear. Accident Analysis & Prevention, [online] 41(4), pp.755-762. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0001457509000621?via%3Dihub> [Accessed 8 June 2020].

Luna-Arocas, R., Danvila-Del Valle, I. and Lara, F., (2020). Talent management and organizational commitment: the partial mediating role of pay satisfaction. Employee Relations: The International Journal, [online] 42(4), pp.863-881. Available at: <https://www.emerald.com/insight/content/doi/10.1108/ER-11-2019-0429/full/html> [Accessed 12 June 2020].

Manley, S. and Graft-Johnson, A., (2013). Towards inclusion: rethinking architectural education. [online] Available at: <https://www.tandfonline.com/doi/abs/10.1080/01446193.2013.797093> [Accessed 6 November 2020].

Marr, B., 2018. What is Industry 4.0? Here's A Super Easy Explanation For Anyone. [online] Forbes. Available at: <https://www.forbes.com/sites/bernardmarr/2018/09/02/what-is-industry-4-0-heres-a-super-easy-explanation-for-anyone/?sh=22d76f3a9788> [Accessed 28 June 2021].

Miralles, C., Holt, R., Marin-Garcia, J. and Canos-Daros, L., (2011). Universal design of workplaces through the use of Poka-Yokes: Case study and implications. Journal of Industrial Engineering and Management, [online] 4(3). Available at: <http://www.jiem.org/index.php/jiem/article/view/420> [Accessed 10 June 2020].

Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., Shekelle, P. and Stewart, L., (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. Systematic Reviews, 4(1).

Morgan, B., (2019). Organizing for digitalization through mutual constitution: the case of a design firm. Construction Management and Economics, [online] 37(7), pp.400-417. Available at: <https://www.tandfonline.com/doi/full/10.1080/01446193.2018.1538560> [Accessed 10 July 2020].

Oswald, D., Borg, J. and Sherratt, F., (2019). Mental health in the construction industry: a rapid review. [online] Available at: <https://iglc.net/Papers/Details/1742> [Accessed 6 November 2020].

Otterbach, S., Charlwood, A., Fok, Y. and Wooden, M., (2019). Working-time regulation, long hours working, overemployment and mental health. The International Journal of Human Resource Management, [online] pp.1-28. Available at: <https://www.tandfonline.com/doi/abs/10.1080/09585192.2019.1686649?journalCode=rijh20> [Accessed 11 July 2020].

Oed.com. 2021. intersectionality, n. : Oxford English Dictionary. [online] Available at: <https://www.oed.com/view/Entry/429843> [Accessed 3 March 2021].

Paillé, P., Valéau, P. and Renwick, D., (2020). Leveraging green human resource practices to achieve environmental sustainability. Journal of Cleaner Production, [online] 260, p.121137. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0959652620311847?via%3Dihub> [Accessed 9 July 2020].

Pandita, D. and Ray, S., (2018). Talent management and employee engagement – a meta-analysis of their impact on talent retention. Industrial and Commercial Training, [online] 50(4), pp.185-

199. Available at: <https://www.emerald.com/insight/content/doi/10.1108/ICT-09-2017-0073/full/html> [Accessed 11 July 2020].

Phua, F., (2012). Do national cultural differences affect the nature and characteristics of HRM practices? Evidence from Australian and Hong Kong construction firms on remuneration and job autonomy. Construction Management and Economics, 30(7), pp.545-556 [Accessed 24 August 2020]..

Powell, A. and Sang, K., (2013). Equality, diversity and inclusion in the construction industry. Construction Management and Economics, 31(8), pp.795-801 Accessed 24 August 2020]. [Accessed 15 August 2020]..

Sheppard, B., (2020). A 4-Step Guide To Thriving In The Post-COVID-19 Workplace. [online] World Economic Forum. Available at: <https://www.weforum.org/agenda/2020/05/workers-thrive-covid-19-skills/> [Accessed 30 October 2020].

Farmer, P. and Stevenson, D., (2017). Thriving at Work. [online] Available at: <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/658145/thriving-at-work-stevenson-farmer-review.pdf> [Accessed 24 August 2020].

Swailes, S., (2020). Responsible talent management: towards guiding principles. Journal of Organizational Effectiveness: People and Performance, [online] 7(2), pp.221-236. Available at: <https://www.emerald.com/insight/content/doi/10.1108/JOEPP-04-2020-0068/full/html> [Accessed 24 August 2020].

Tafti, M., Mahmoudsalehi, M. and Amiri, M., 2017. Critical success factors, challenges and obstacles in talent management. Industrial and Commercial Training, [online] 49(1), pp.15-21. Available at: <https://www.emerald.com/insight/content/doi/10.1108/ICT-05-2016-0036/full/html> [Accessed 24 August 2020].

Toor, R., Suresh, S. and Renukappa, S., (2017). Factors Affecting the Equality and Diversity of Ethnic Minority Women in the UK Construction Industry: An Empirical Study. [Accessed 22 August 2020]..

United Nations, (2011). Guiding Principles on Business and Human Rights, [online] Available at: <https://www.ohchr.org/documents/publications/guidingprinciplesbusinesshr_en.pdf> [Accessed 24 August 2020].

WBG, (2020). UK Women's Budget Group responds to the Government's COVID-19 'Roadmap',. [online] Available at: <https://wbg.org.uk/wp-content/uploads/2020/05/28-May-update-FINAL.pdf> [Accessed 22 August 2020].

Whysall, Z., Owtram, M. and Brittain, S., (2019). The new talent management challenges of Industry 4.0. Journal of Management Development, [online] 38(2), pp.118-129. Available at: <https://www.emerald.com/insight/content/doi/10.1108/JMD-06-2018-0181/full/html> [Accessed 24 August 2020].

Williams, P., Bath, S., Arday, D. and Lewis, C., (2019). The Broken Pipeline. [online] Available at: <https://leadingroutes.org/mdocs-posts/the-broken-pipeline-barriers-to-black-students-accessing-research-council-funding> [Accessed 24 August 2020].

2020. Women in the Workplace (2020), Corporate America is at a critical crossroads. [online] Available at: <https://wiw-report.s3.amazonaws.com/Women_in_the_Workplace_2020.pdf> [Accessed 29 October 2020].

Zibarras, L. and Coan, P., (2015). HRM practices used to promote pro-environmental behavior: a UK survey. The International Journal of Human Resource Management, [online] 26(16), pp.2121-

2142. Available at: <https://www.tandfonline.com/doi/abs/10.1080/09585192.2014.972429?journalCode=rijh20> [Accessed 22 August 2020].