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It's a Woman's World: Exploring the Role of Female Qualities in the Evolving 21st Century Workplace

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Abstract

As the Fourth Industrial Revolution (4IR/Industry 4.0) continues to be realised through technological advances and social shifts, it has become evident that the future job market remains unpredictable and will continuously evolve. To accommodate the inevitable changes future generations will experience, teaching and learning environments are adapting their approaches. Instead of purely focusing on hard skills, the importance of conveying soft skills is increasingly recognised. Pedagogical experts have pulled the 4 C's into focus as important 21st-century skills: critical thinking, creativity, communication, and collaboration. The connection between these soft skills, lateral, right-brain thinking, and female qualities is often drawn. This study's methodology explored and synthesised literature across various fields to map key concepts, establish new connections, and explore whether women may inherently possess skills aligned with future workplace demands shaped by the Fourth Industrial Revolution. Digital native characteristics are examined through Generational Theory, highlighting the benefits that soft skills will have for future generations. Additionally, literature on 21st-century skills is examined, and the differences between left and right brain characteristics are analysed to assess the importance of right-brain thinking in future workplaces. Lastly, gender-related qualities are evaluated to determine whether women may have an advantage in the evolving job market. By connecting these perspectives, the study aims to evaluate whether or not women may have the upper hand in the future working world. The study finds no concrete evidence that women inherently possess superior traits for future workplace demands, though the 4IR's emphasis on soft skills and inclusivity could enhance female participation. However, challenges like the lack of role models and digital echo chambers may still impede progress.

Keywords: Generational Theory, Industry 4.0, Soft Skills, 4 C's, Female Qualities

1. Introduction

Technological development has always been inextricably linked to social change. Throughout the Industrial Revolutions the way in which societies function has shifted and alongside this it has impacted the role women have played in the working world. The First

and Second Industrial Revolutions which leveraged the power of steam (mid-eighteenth century) and then electricity (late nineteenth century) (Schwarb, 2017), which shifted societies from being predominantly agrarian to becoming industrial and capitalist (Ferrari, 2017, Schwarb, 2017). This shift separated workplaces from home environments along with an increased differentiation between gender roles. While men now carried the responsibility for securing household income by working in public spaces, women became characterised for maintaining households and raising children in the privatised and isolated space of their homes (Cohen, 1984, p. 292, Dean & East, 2019, p.20). The Third Industrial Revolution (mid-twentieth century) brought with it the introduction of digital technology which shifted society again from being predominantly production based to becoming more service orientated (Ferrari, 2017). This change introduced today's knowledge-based economy, where growth and development are driven by the generation and productive use of knowledge and information rather than traditional agricultural and industrial production (Robert, 2009). In this economy, intellectual capabilities and innovation form key economic drivers (Robert, 2009). Knowledge-based economies are commonly intertwined with the global economy, as the international trade of services and information has become prevalent. Through globalisation, soft skills have also become an increasingly valuable competitive advantage (Cobo 2013), and as the skillsets needed within the knowledge-based economy have shifted from being physical to intellectual, women have become increasingly competitive in the workplace.

Feminist movements have played a crucial role in advocating for women's education and professional opportunities, leading to greater gender diversity in many fields (Place, 2023). As digital technology and globalisation reshaped the job market, women have seized opportunities in service-oriented and knowledge-intensive industries, breaking traditional gender norms and contributing significantly to economic growth. This shift has been bolstered by feminist advocacy for policies such as equal pay, maternity leave, and anti-discrimination laws, which have helped create a more inclusive and equitable work environment (Place, 2023). Despite these advancements, women still face significant challenges in the workplace. The gender pay gap remains a pervasive issue, with women earning less than men for comparable work, highlighting persistent economic disparities (Kronberg, 2020). Glass ceilings also limit women's career progression, particularly in leadership and executive roles, where they are underrepresented (Kronberg, 2020). Additionally, women often encounter bias and discrimination, leading to unequal opportunities for promotion and professional development (Kronberg, 2020). Work-life balance remains a critical challenge, as women disproportionately shoulder caregiving responsibilities, which can impact their career advancement (Collins, 2019).

As the 21st century unfolds and we enter the Fourth Industrial Revolution (4IR) that is described as the merging of digital, biological and physical spheres (Schwarb, 2017), it is important to consider how the resulting societal shifts will impact challenges and opportunities for women in the workplace. While challenges for women in the workplace still exist, this paper aims to investigate whether women may be gaining the upper hand within the working world as technology evolves and accelerates the emphasis placed on soft skills within the workplace. As a result, the research question in this study is: *Do female qualities have the upper hand in the 21st century?*

In order to unpack this question, the study begins by exploring Generational Theory to understand how the social characteristics and behaviours of different generations may influence future workplace dynamics. Next, it delves into the evolving demands of the 21st-century workplace, particularly in the context of the Fourth Industrial Revolution, to identify the skills that will be most valued in the coming years. The analysis then shifts to the

cognitive distinctions between the left and right brain hemispheres, emphasising how right-brain qualities such as creativity, empathy, and holistic thinking may become increasingly important. Finally, the paper examines the inherent characteristics often associated with women, assessing how these traits might align with the identified future workplace skills. By integrating insights from these diverse fields, the study seeks to determine whether women may possess qualities that position them advantageously in the evolving work environment.

2. Methodology

This paper is framed within the socio-technical paradigm that proposes that technological advancement and social development are intrinsically intertwined (Sony & Naik, 2020). Through this lens, this study focuses on how technological advancements and the emergence of knowledge-based economies have influenced social structures particularly for women in the workplace. To undergo this investigation, this study is underpinned by feminist theory as a means of providing insight into the gendered dimension of soft skills and the future job market. Feminism is described as "questioning norms, power structures, and ideologies," (Place, 2023, p.4) and is often defined as "a political movement to end sexism and sexist oppression" (hooks, 1984). However, Place also describes feminism as not having a fixed definition but rather as being "self-critical" and adapting to change as needed (2023, p.4). This perspective is particularly relevant as it allows for a critical examination of how changes in technology and society reshape the roles of women. By understanding these dynamics through a feminist lens, the evolving nature of gender roles can be better examined. In this paper, the terms *men* and *women* are used to refer to the different genders in relationship to their sex. This is not done to disregard gender identity, but to acknowledge that differences in how their experiences of the workplace are influenced by societal perceptions of gender.

The research reviewed literature from varying fields in order to map key concepts related to defined areas with the aim of establishing new connections between fields of research in order to generate new knowledge. The study is framed by Generational Theory, which examines how the social characteristics of generations can be defined. Following on from that, the study examines literature on 21st century skills and how they have evolved due to the 4IR. Furthermore, literature on the difference between the left and right hemispheres of the brain is reviewed, establishing the benefits the laterally-thinking right brain offers. Before evaluating the link between these fields of theory, the paper evaluates literature on female characteristics. The literature review involved searching academic databases like Google Scholar and JSTOR using key terms such as "Fourth Industrial Revolution," "Generational Theory," "soft skills," "emotional intelligence," "female qualities," and "gender bias in the workplace." Additionally, foundational texts by key authors in these fields, including Strauss and Howe (1997) on Generational Theory, Ian McGilchrist (2009) on left and right brain divide, and Harari (2021) on 21st-century workplace dynamics, were consulted. The selected literature focused on studies that examined the impact of the 4IR on workplace dynamics, gender differences in soft skills, and generational shifts in workplace behaviour. The selection criteria for the literature prioritise relevance to emotional intelligence and gender differences, emphasising empirical studies and interdisciplinary approaches that enrich the discussion. Works that explore generational contexts and current societal issues are included to ensure contemporary relevance, while those with robust methodologies enhance the overall credibility of the findings. These studies were analysed through a socio-technical and feminist lens, with data extracted by coding thematic content and summarising key findings. This study takes a global viewpoint, but it is important to note that many of the reviewed

studies are conducted within developed, Western societies. While the paper is framed within the context of a global information economy, it must be noted that the results cannot be generalised and may differ significantly, particularly in developing countries.

3. Literature Review

3.1 Generational Theory

Mannheim (1952) defines generations as a social occurrence where an age group adopts a shared identity based on shared historical experiences, location and cultural knowledge. Based on his establishment of the generational concept, Strauss and Howe (1997) developed Generation Theory in their book *The Fourth Turning*. Based on US history, Generational Theory maps the occurrence of generational cycles that happen roughly every 80 years, based on the length of a long human life (Strauss & Howe, 1997). A cycle consists of four phases, each lasting roughly 20 years, the length of a generation (Strauss & Howe, 1997). These phases are described as turnings and repeatedly take place in the order of a *high*, an *awakening*, an *unravelling*, and a *crisis* (Strauss & Howe, 1997). During these turnings, the generations are characterised by archetypes and hold certain shared characteristics that can be repeatedly observed in each cycle (Strauss & Howe, 1997).

According to Strauss and Howe, the last major crisis began in 1929 and peaked with WWII, leading to the four generations existing today (1997). After a crisis, a high period follows, marked by strong institutions and weak individualism, with fair wealth distribution and technological advances (Strauss & Howe, 1997). The 'Boomers' grew up during this post-crisis high, embodying the prophet archetype, and are now elders in a new crisis. The second turning, an awakening, sees institutions attacked and a shift towards personal and spiritual autonomy, with Generation X growing up during this time as nomadic archetypes. The third turning, or unravelling, features weak institutions and rising individualism. Millennials, the hero archetype, grew up protected and optimistic during this period and are now confident mid-lifers. Strauss and Howe's book predicted the next crisis between 2008 and 2028 (1997), which has included events like the 2008 financial crash, the COVID-19 pandemic, several wars and global conflicts. The current crisis, the fourth turning or 'winter', sees Generation Z (Gen Z), the artist archetype, growing up overprotected while adults manage the crisis (Strauss & Howe, 1997). Though Generational Theory is based on U.S. history, this current crisis is a global phenomenon. While the connectivity current generations experience through technological advances grants them the benefits of being the most globally connected generation in history, the knowledge economy also exposes them to a troubling world of "dysfunctional politics, global terrorism, economic uncertainty, social inequality, corporate corruption, and environmental crises," (Fluents, 2014, p.670).

Generations are known to transmit the knowledge they accumulate from social and cultural experience to following generations, who accept information they find relevant and replace outdated practices with ones that are more relevant to their time and contexts (Beaven, 2014, p.70). While this has been common practice in the past, the rapid increase of technological advances has changed the amount of information that is transmitted from one generation to another. Reith (2005, p.323) suggests that technology has disrupted the traditional dynamic of parents as teachers and children as students, reversing these roles since younger generations now have a better grasp of technical devices than their predecessors. Globalisation and the information age have accelerated this shift, creating a "globalised, digitalised and multicultural world," (Magano, et al., 2020, p.1). These effects have resulted in Millennials and Gen Zs, as digital natives, possessing characteristics that both align with

the archetypes of Generational Theory but also traits that have emerged because of the rapid advancement in technology.

Strauss and Howe outline characteristics of the Millennial generation claiming that the constant use of digital devices has made them productive and efficient (2002). They list creativity, passion and productivity as key Millennial traits, along with their access to information through technology having influenced their openness to political and economic viewpoints (Strauss & Howe, 2000). Howe argues that Gen Zs are intellectually flexible, community driven and interested in generating political change from inside a system (2023). Magano et al. describe Gen Z as "creative, efficient users of technology, multitaskers and individualistic," while also responding well to "challenges, customised work and […] global perspectives" (2020, p.2).

Millennials and Gen Zs have also been criticised for having weak mentality and values, being overly sensitive, quitting and being resentful (Fluents, 2014). Beuerlein criticises younger generations for having a "Gen Z brain" and lacking intellectual curiosity (Bauerlein, 2008). However, Fluents challenges this view, arguing that it fails to consider how educational systems have not adapted to change, continuing to focus on "teaching to the test," and often confusing intelligence with simple memorisation of facts (2014, p. 675). He warns that "we must carefully avoid the 'pedagogy of the cult,' that is, our tendency to teach them the way we were taught," (Fluents, 2014, p.671).

By gaining an insight into the characteristics of digital natives, one can better understand the qualities they bring to the workplace into the 21st century. Generational Theory highlights the evolving characteristics of Millennials and Gen Z, who are increasingly aligned with the demands of the 21st-century workplace due to their adaptability, technological proficiency, and openness to change. These generational traits, influenced by the 4IR, may offer women, particularly in younger generations, a potential advantage in navigating and thriving in the rapidly changing work environment. Due to this rapid evolution, it becomes increasingly important to consider how pedagogical approaches need to change to accommodate the resulting effects of the 4IR.

3.2 4IR and 21st Century Skills

The historian, Harari, studies the evolution of humanity and in his book *21 Lessons for the 21st Century* he unpacks to possibilities of what humanity will be faced with in the future while making recommendations on how the predicted changes should be addressed (2019). Harari defines history as the study of change and explains that particularly as we experience rapid technological advancement, the only constant is change (Harari, 2019). As the 4IR unfolds, the future job market becomes increasingly unpredictable and while the future has always been unpredictable, Harari claims that doing so today is more difficult than ever (Harari, 2019). Many jobs that exist today will become obsolete, while jobs we cannot even imagine yet will be created (Harari, 2019). It is predicted that it will become the norm for people to change careers multiple times during their lives (Harari, 2019). Harari elaborates that in a world where we are inundated with information, the last thing teachers should be doing is providing students with more information (2019). This begs the question, what skillsets ought to be taught to future generations to prepare them for uncertainty and rapid change?

Greenstein defines 21st century skills as metacognitive skills such as thinking critically and creatively alongside communicating and collaborating with others (2012). These skillsets have been widely adopted and are commonly referred to as the 4 Cs (critical thinking, creativity, communication, collaboration). Santoso et al. elaborate on what is contained

within each of these skills, underlining what makes them a critical advantage in today's working world (2019, p.12). Critical thinking aids in relevant problem identification and problem solving by developing appropriate solutions (Santoso, Nurwati, & Apsari, 2019, p.12). Creativity enables the use of novel and innovative approaches to problem solving (Santoso, Nurwati, & Apsari, 2019, p.12). Communication allows for the transmission of ideas, knowledge and thinking, and includes listening, writing and public speaking skills (Santoso, Nurwati, & Apsari, 2019, p.12). Lastly, collaboration skills are vital for effectively working with others by respecting diversity within a team, as well as making decisions necessary for achieving common goals (Santoso, Nurwati, & Apsari, 2019, p.12).

According to the World Economic Forum, the skillsets that will be demanded most in the future job market are soft skills (2023). Their list of the top 10 skills are categorised into cognitive skills, self-efficiency, working with others and management skills (World Economic Forum, 2023). LaFrance describes soft skills as interpersonal and intrapersonal abilities related to behavioural development, encompassing traits such as self-confidence, flexibility, honesty, and self-integrity (2016). Further examples of soft skills are emotional self-regulation, the ability to accept advice, time management and positive thinking, as well as being able to build relationships with others and work within a team (Santoso, Nurwati, & Apsari, 2019, p.11). In the age of automation and artificial intelligence, soft skills will be the biggest strength of the Millennial generation and Santoso et al. claim that this generation has already become accustomed to possessing a multitude of soft skills including change management, communication skills, and teamwork (2019, p. 10).

These 21st-century skills align closely with the evolving demands of the workplace and set the stage for understanding how cognitive abilities, specifically those linked to the right brain, contribute to navigating the complexities of the 4IR. The subsequent section on the left and right brain divide will further explore how these cognitive traits, often associated with creative and intuitive thinking, may play a significant role in shaping future workplace success, particularly for women. By linking Harari's insights with the growing emphasis on soft skills, we can better understand the potential advantages these abilities offer in the context of the 4IR and how they might influence gender dynamics in the workplace.

3.3 Right Brain Is Always Right

Our brain is divided into two halves that have evolved for different purposes. Santoso et al. explain that hard skills, which encompass technical and academic capabilities are related to IQ and are left brain dominant skills, whereas soft skills that are linked to EQ are skills both needed in the working environment and our everyday lives and are led by our right brain (2019, p.11). While the right brain has been described as 'creative' and the left as 'logical', McGilchrist (2009) challenges these interpretations as outdated and incorrect. From an evolutionary perspective our left brain oversees acquiring things we are already certain we need such as food or a mate, and our right brain is in charge of remaining observational of our environment to protect us from unexpected predators (McGilchrist, 2009). In general, McGilchrist categorises our left brain as analytical, fragmented, unambiguous and unaware of the need for the right brain, convinced it can go along (2009). In contrast to this our right brain is observational, integrative, acknowledges complexity and can hold multiple viewpoints at once, and therefore realises the need for both hemispheres (McGilchrist, 2009). McGilchrist accuses our current Western culture of suffering from left brain ideology where we seek singular truths and where ambiguity is viewed as a sign of an error or intellectual confusion (2009). He urges for a shift in perspective and for us to view ourselves as existing within a broader context and in relationship to others, a more right-brained approach (McGilchrist, 2009).

As the world becomes increasingly globalised through the 4IR, the right brain has certain qualities that strongly align with the necessary 21st century skills. Problem solving abilities have been linked to the right brain as it carries the ability to gather new information and present an array of possible solutions (McGilchrist, 2009). The left hemisphere does become relevant in selecting a best fitting single solution, but the right hemisphere still possesses better integrative qualities while having the ability for complex pattern recognition (McGilchrist, 2009). The right brain is also responsible for gathering new information and is activated when we enter into new experiences, which is only taken over by the left brain once they become familiar (McGilchrist, 2009). As the world we live in will continue to rapidly change and evolve, the ability to adapt becomes increasingly relevant. The right hemisphere is also responsible for intuition, and McGilchrist explains that problem solving, judgement and deduction skills are easier when they are undertaken intuitively (2009), further emphasising the increasing importance of valuing right brain abilities. Our right brain is responsible for perceiving misalignments with previous assumptions one may have had (McGilchrist, 2009), which is again useful in evaluating and filtering through new information. Interestingly, the right brain is also responsible to comprehending humour as it can understand and connect multiple contexts as well as implied meaning.

By linking the cognitive strengths of the right brain to the necessary skills in the 4IR, we can better understand how these traits might advantage women in the workplace, particularly given the commonly held belief that women excel in emotional intelligence. The subsequent section on female emotional intelligence will explore this connection further, examining whether the inherent emotional and intuitive strengths often attributed to women can indeed be leveraged in the future workforce to address the challenges and opportunities presented by the 4IR.

3.4 Female Qualities

There is a prevailing perception that women are more right brained, favouring lateral thinking and creativity, and are naturally equipped with superior soft skills compared to men. This belief suggests that women may have the upper in hand areas requiring emotional intelligence, empathy, communication, and collaboration. Such views also imply that women are better at holistic and integrative thinking, often seen as more intuitive and nurturing in their professional and personal interactions. With right brain characteristics and soft skills becoming increasingly relevant in the 21st century, it is worth evaluating if women do in fact possess these qualities and if they may be advantageous in future workplaces.

The difference in emotional intelligence between males and females has been evaluated in a multitude of studies and while it is commonly believed that women possess higher emotional intelligence than men, studies have had varying outcomes. There are many studies that support the idea that women have a higher level of emotional intelligence than men (Wing & Love, 2001, Singh, 2002, Mandell & Pherwani, 2003). However, in contrast to that, there are studies that identify males and the sex with higher emotional intelligence (Chu, 2002, Ahmad, Bangash, & Khan, 2009). Ahmad et al. claim that men and women are emotionally intelligent in different ways (2009). While women are generally more aware of their emotions, are more empathetic and possess better interpersonal skills, men are on average more confident, optimistic, adaptable and handle stress better (Ahmad, Bangash, & Khan, 2009). Alongside this, men have been observed to be more assertive and independent (Shahzad & Bagum, 2012). Given the varying findings, female characteristics cannot be generalised and the results remain inconclusive, prompting further exploration into whether

qualities typically associated with women may indeed offer an advantage in the context of 21st-century workplace demands.

4. Findings and Discussion

The literature reviewed provides a multi-faceted understanding of the evolving workplace dynamics in the 21st century, particularly through the lenses of Generational Theory, the Fourth Industrial Revolution (4IR) and 21st-century skills, and the left and right brain divide. While these fields have traditionally been studied in isolation, linking them offers a more comprehensive view of how skillsets associated with particular generations, technological advancements, and cognitive tendencies converge to address the research question: *Do female qualities have the upper hand in the 21st century?* Generational Theory, for instance, highlights the adaptability, technological proficiency, and openness to change exhibited by Millennials and Gen Z, traits that align closely with the demands of the modern workplace. By considering these generational traits, we gain insight into the shifting skillsets that may favour qualities often associated with women, such as emotional intelligence and collaboration, which are essential for future success.

The left/right brain theory further emphasises the importance of right-brain characteristics, such as problem-solving, intuition, and adaptability, which are increasingly crucial for navigating the uncertainties of the 4IR. Right-brain attributes are associated with holistic and integrative thinking, creativity, and emotional intelligence, all of which support the skills critical to the 21st-century workplace: critical thinking, creativity, communication, and collaboration. This suggests a growing demand for cognitive and emotional attributes typically linked with the right brain and traditionally associated with female qualities. These findings underline the need to explore how these qualities align with modern workplace expectations, offering a valuable perspective on whether they provide an advantage in the current era. Further unpacking and linking these fields will provide a richer understanding of their combined impact and highlight potential gaps where more research is needed to fully realise their implications.

In the context of gender, there is a prevailing belief that women, often perceived as more right-brained, may be naturally better equipped with the soft skills increasingly valued in the modern workplace. This alignment with right-brain attributes such as creativity, emotional intelligence, and collaboration appears particularly relevant in the 21st century, where these abilities intersect with technological advancements and the demand for human-centric skills like adaptability and interpersonal communication. However, while women are frequently associated with higher emotional intelligence and empathy, studies on emotional intelligence yield mixed results. Some research supports the notion that women excel in empathy, interpersonal communication, and emotional awareness, yet other studies indicate that men may demonstrate greater strengths in areas like stress management, confidence, and adaptability, all of which are proven to be necessary for workplace success. These findings suggest that although right-brain characteristics are desirable, they cannot be exclusively attributed to one gender, underscoring the nuanced and varied nature of soft skills. This complexity outlines that one cannot assume females have a definitive advantage in the in the 21st-century workplace, leaving the research question unanswered based on the current literature.

4.1 Implications

While some connections can be drawn between female qualities and skills that are described as necessary in the 21st century, there is no concrete evidence of women having significant characteristics that are better for future workplace demands. It is, however, worth evaluating how the global shift that the 4IR is causing may benefit female participation in the working world.

Generational theory suggests that future generations will be more focused on collective individuality rather than individual differences. Due to the access to information digital natives have, they have shown increased openness to multiple political and economic viewpoints. This shift fosters horizontal knowledge transfer and less discrimination, making it less likely for women to be gatekept or subjected to bias (Fluents, 2014, p. 674). Generational role reversal also indicates that stereotypes may not be as easily passed down to subsequent generations. This shift holds the potential for gender to be regarded as less significant in the future working world. The combination of hard and soft skills will be essential, but emphasising soft skills could create more opportunities for women in the workplace. In the context of the Fourth Industrial Revolution and the knowledge economy, access to information could further support this progressive feminist shift.

While the information age may come with opportunities, it is important to be aware of the challenges it may cause as well. The lack of role models that the generational role reversal has caused also has negative effects, which have been flagged as especially problematic for young men. While depression and loneliness rates have increased in this demographic (Steen, Ori, Wardenaar, & van Loo, 2022), so has "network misogyny" and online attacks on women (Banet-Weiser & Miltner, 2016). The ambiguity of abundant information contributes to questioning identity and values, leading to decision fatigue and lethargy, which may be causing the despondence and lack of intellectual curiosity Gen Z are criticised for. Additionally, digital echo chambers can limit the diversification of information, reinforcing existing beliefs and further dividing society.

Given these considerations, it is important to consider an appropriate approach in addressing these challenges. Emphasising collective skills aligns well with the anticipated post-crisis era, where common goals, community, and collaboration will become essential. This shift towards a more right-brained approach will help people to exist in a broader context and in relationship to others, promoting inclusivity. It is also important to consider the intentional inclusion of 21st century skills in pedagogical approaches and work environments in preparation for the collaborative nature of the next turning.

4.2 Recommendations

The findings in this study have significant implications for policy, practice, and future research on women's roles in the 21st-century workplace. As workplaces continue to evolve with the Fourth Industrial Revolution (4IR), policymakers and organisational leaders should prioritise the development of soft skills, such as emotional intelligence, adaptability, and collaborative problem-solving, which are often associated with female qualities. By designing policies that specifically encourage and support the cultivation of these skills across the workforce, organisations can encourage an environment that values diverse cognitive and emotional strengths. Additionally, initiatives focused on gender equity should aim to position women to capitalise on the opportunities presented by the 4IR, aligning policies with skills that are increasingly critical to the modern workplace.

From a practical standpoint, organisations should integrate these findings into skills management and leadership development programs by placing greater emphasis on soft skills

throughout recruitment, training, and promotion processes. By doing so, organisations can build balanced and inclusive teams that are better equipped to navigate the challenges of the 21st century. Moreover, policies that support flexible work environments can foster creativity, lateral thinking, and right-brain skills, enabling female employees to leverage their strengths in adaptability and collaboration. These practices contribute not only to gender equity but also to a culture that embraces the qualities needed in the face of 4IR-driven transformations.

Future research should address the limitations identified in the current literature, particularly by examining how female qualities may offer potential advantages in the context of 4IR workplace skills. This includes conducting longitudinal studies to explore how gender differences in emotional intelligence and soft skills impact career progression and adaptability to technological changes. Additionally, interdisciplinary research can provide a more nuanced understanding of how these qualities manifest across various industry sectors and cultural contexts, while considering the generational perspectives of female employees. Building a comprehensive body of knowledge around these dynamics will equip policymakers and organisational leaders with insights necessary to support a diverse and resilient workforce that is well-prepared for the demands of the 21st-century workplace.

5. Conclusion

As the Fourth Industrial Revolution shifts our societies to becoming more service orientated and the global knowledge-economy grows, new opportunities open for women in the workplace. While women still experience significant challenges such as the gender pay gap, glass ceilings and bias, there is potential for female advancement as 21st century skills are brought into focus. As we experience rapid change and technological advancement, the emphasis on learning hard skills falls away and an emphasis on inter- and intrapersonal skills such as the 4Cs (critical thinking, creativity, communication, collaboration) is brought into focus. Generational Theory brings into focus the characteristics that digital native generations possess and reaffirms that soft skills will become more important as we move further into a knowledge-based and global society. Furthermore, right-brain characteristics such as problem solving, intuition and dealing with change will be beneficial in the future. While there is a widely held belief that women possess better soft skills and are more right brained, this remains unproven in scientific research. However, the social shifts brought about by the 4IR may be beneficial for women in the workplace, as collective individuality becomes more emphasised, gender becomes less relevant, and stereotypes and biases become less prevalent.

The literature reveals a gap in empirical studies directly linking female qualities to 4IR workplace demands, underscoring the need for future research to explore this relationship more rigorously. Such research could provide critical insights into whether and how female attributes align with the evolving demands of the 4IR workplace, informing policies and practices aimed at reducing gender disparities. The social shifts induced by the 4IR, particularly the growing emphasis on collective individuality and the diminishing relevance of gender, hold promise for reducing stereotypes and biases that have historically limited women's progress. Policymakers and organisational leaders should consider these dynamics when designing initiatives to support gender equity in the workplace, ensuring that women are well-positioned to capitalise on the opportunities presented by the 4IR. Future research should focus on addressing the limitations identified in current literature, specifically by investigating the potential advantages of female qualities in relation to emerging 4IR workplace skills, to build a more comprehensive understanding of the gendered implications of this technological revolution.

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