Gender Inequality in Digital Transformation: Evidence from Business Process Management Industry in Sri Lanka

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Abstract

This research examines whether gender inequality exists in Leadership Style, Organizational Culture, and Digital Competence of digital transformation of the Business Process Management (BPM) industry. Data were collected from 507 employees of 40 Sri Lankan BPM companies through a web-based survey. Mann-Whitney U test with descriptive statistics provided evidence to strengthen the findings. The findings confirmed that gender inequality exists in Leadership Style, Organizational Culture, and Digital Competence of digital transformation in the BPM industry in Sri Lanka. This research contributes to "Acker's Theory of Gendered Organizations" by identifying areas that reproduce gender inequality in the new digital economy workplace. This study recommends controlling if not eradicating the gender inequality through proper Human Resource (HR) policies and procedures since it may hinder organizational performance. Digital workplace will improve employee retention, satisfaction, and productivity.

Keywords: Business Process Management, Gender Inequality, Leadership Style, Organizational Culture, Digital Competence

1. Introduction

This research is branched out from Sri Lanka's Business Process Outsourcing (BPO) industry which is now being called the Business Process Management (BPM)

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industry. BPM involves using a third party service provider to contract operations and responsibilities of a specific business segment, process or function of the business organization. Increased local and international competition has forced BPM service providers to incorporate Digital Transformation elements such as Artificial Intelligence (AI), automation, data analytics and mobile technologies in their service offerings (Nair et al., 2019).

World Health Organization (2011) defines gender as the social construct of multidimensional nature characterizing men, women, girls, and boys. There are different sets of rules, customs, norms, and practices associated with being a man, woman, girl or boy. Gender norms and religious beliefs in many societies threaten or prevent women's rights to mobility and employment. While women account for nearly half of the world's working age population, gender inequality is a critical social and economic challenge for women to achieve their full economic potential (Ram et al., 2022).

Intense worldwide attention has been directed toward the economic aspects of the gender inequality issue. In developing countries, females are far behind than men in achieving education, health, political, social and job opportunities compared to developed countries (World Bank, 2012). Studies on globalization and gender equality have shown that long-term globalization is able to reduce gender inequality through institutional change (Potrafke & Ursprung, 2012). According to Naveed et al. (2022), International Monetary Fund has shown that in developing countries, increasing integration of trade, economics, and Information and Communications Technology (ICT) has reduced gender inequality. Gender inequality can impact the nation's global standing in the export of goods and services with high female employment.

Wajcman (2010) states that technology is conceptualized as both a source and a consequence of gender relations. According to Ceia et al. (2021), various research findings highlight that women's lack of access to digital technologies and ICT are the key reasons why gender inequalities persist in today's technology-driven world. Women may face barriers to joining online networks due to infrastructure, economic, political, and social factors or it may be due to a lack of digital competence. These issues contribute to a digital gender divide impacting women's potential to use digital technologies for social, civic, and economic purposes compounding gender inequality.

Sri Lanka is very much lagging behind the comparable Asian countries in BPM revenue and market share while the Sri Lankan government envisions setting up BPM centers in all key cities and to develop them to deliver US $ 3 Billion in revenues by 2025 (ICT Agency of Sri Lanka, 2022).

With the development of the BPM industry in Asia during the 1990s, the industry and its' female workforce experienced remarkable growth. According to a survey report released by the National Association of Software and Services Companies

(NASSCOM) and PwC in India in 2016, one out of three people joining the IT-BPM industry was a female. International Labor Organization working paper published in December 2016 highlights that according to the Philippines Statistics Authority more than 55% of the workers in the BPM sector are females. This may be because of the larger population of call center employees in the Philippines. June 2021 study report by Sri Lanka Association of Software and Services Companies (SLASSCOM) shows that 49% of Sri Lankan BPM employees are females which are mostly in line with the data from world BPM leaders.

Asian Development Bank Technical Assistance Consultants' report published in 2019 highlights that based on their primary research, most corporate executives agree that women are comparatively more sincere and dedicated in their work and possess better language and communication skills contributing to the competitiveness of the ICT/BPM industry. The report further states that socio-cultural barriers such as patriarchal society, gender stereotypes, perception about longer working hours in the ICT/BPM industry, the prevalence of anti-women myths in the male-dominated environment, lack of sufficient awareness of female role models in the industry, the difficulty of women to achieve work-life balance and stress of working in shifts hinder female participation in the industry.

After reviewing over 400 publications, the author discovered that leadership style, organizational culture, and digital competence are the most common critical success factors affecting digital transformation. Technology may be at the core of digital transformation, but successful digital transformation requires excellent leadership, supportive culture, and new business processes (Heavin & Power, 2018). Digital competence can be leveraged by orchestrating corporate culture and leadership in a digital context to establish a digital organization (Saputra & Saputra., 2020). According to Bass et al. (1996), several studies have found the existence of significant gender differences in leadership style when measured by the ratings provided by direct reports and other co-workers.

There is substantial previous research in theoretically diverse areas of digital transformation. But gender inequality in digital transformation is a topic with limited empirical research demonstrating specific gendered assumptions presented in a seemingly gender-neutral digital environment. This study is very significant since it contributes to the literature on digital transformation by exploring a timely issue with a global perspective. It addresses the need to examine the relationship between gendered organizational factors in the influences of gender inequality as a key driver of organizational performance which has been neglected in the previous studies exposing an important research gap that needs to be investigated. The current study addresses this gap by analyzing gender inequality in critical success factors of digital transformation.

The main objective of this study is to assess whether gender inequality is embedded in leadership style, organization culture, and digital competence in the digital transformation process and hence impacting the development of the BPM industry.

2. Literature Review

The literature review section is organized with definitions and extant literature on key research areas and the theoretical perspectives of the research.

2.1. Gender Inequality

Presser and Hermsen (1996) define gender inequality as gender differences in access to scarce and valued material and non-material resources. The author argues, gender inequality also refers to the lesser recognition and lower pay received by female employees compared to their male colleagues for the same job.

The glass ceiling is a concept first originated by the Wall Street Journal in 1986 to describe invisible barriers faced by women and minorities in the workplace. Those invisible barriers could have originated in organizational culture, expectations, and everyday practices unintentionally favoring men over women. Though women have proved their ability to perform at top levels, the barriers underpinning the glass ceiling block many from reaching top positions in organizations (Scholarios & Taylor, 2011). More often it is heard that it is less obvious in organizations to give equal value to men's and women's contributions or that organizations are seen as equally attractive by both parties. Ellemers (2014) argues that when it comes to gender differences in career development and organizational success, work organizations tend to favor male over female employees. One may think that this is unlikely since laws establish equal rights for men and women in the workplace and insist on gender-neutral care for workers. However, it is still possible that organizational decision-makers may differ in their expectations, benefits, and priorities toward men and women (Ellemers, 2014). Larsson and Viitaoja (2019) argue that gender inequality is a global issue that cannot be addressed by legislation alone, but changing modes of business practices and conventions while facilitating the use of ICT is a real and present an opportunity to overturn the challenges of gender inequalities.

HR-related decision-making is also open to personal biases of organizational decision-makers where discrimination against women can occur. Organizational culture adds to gender inequalities as culture restricts peoples' strategic actions and ideas regarding what is possible (Swidler, 1986). Organizational climates too can contribute to gender inequalities. Organizational members' shared perceptions of formal and informal procedures, practices, and routines belong to organizational climate (Schneider et al., 2011).

2.2. Digital Transformation

In very simplest terms, Digital Transformation is the outcome of innovation applied to solve problems through the use of Information and Communication Technology (ICT). Digital transformation is the use of digital technologies to radically improve the company's performance (Bekkhus, 2016; Westerman et al., 2014). Digital transformation aims to change business operations, processes and services by integrating new technologies into strategic processes (Matt et al., 2015; Hess et al., 2016). Digital transformation is not only about technology (Kane et al., 2015) but needs to focus on employee factors together with shifts in organizational strategy, structure, and process (Hess et al., 2016). While digital transformation offers vast opportunities for societies and nations, the benefits of digital transformation are currently not balanced between genders, and societal groups, and access, use, and ownership of digital tools are not gender-neutral (Women U.N., 2005). Hurdles to access, affordability, lack of education, lack of technical competence as well as inherent biases and socio-cultural norms that lead to digital exclusion are some of the root causes of the digital gender divide (Korupp & Szydlik, 2005; Cooper, 2006; Hilbert, 2011; OECD, 2015).

2.3. Critical Success Factors of Digital Transformation

2.3.1. Leadership Style (LS)

Toduk (2014) defines the leadership style needed in this era of the digital economy as the ability to innovate, digital skills, strong networks, collaboration, participatory engagements, and vision. Since this definition is very much aligned with digital transformation, it is adopted as the operational definition of leadership style for this study (as cited in Yucebalkan, 2018).

Allio (2015) argues that leaders should be able to make an impact and display their ability to adopt a strategy that will positively influence the digital transformation process than limiting it to long-term success. Gender bias can compromise the lawfulness and creativity of the leadership style as the focus moves away from effectiveness to favorability (Coaxum-Young, 2017). Whilst leadership style is a critical success factor for digital transformation, it is important to examine if there is gender inequality in organizational leadership style as perceived by the employees.

2.3.2. Organizational Culture (OC)

Culture contains the organization's purpose, beliefs, legends, rituals, values, norms, and language. Kane et al. (2015) argue that to drive the digital transformation process, the use of digital technology is not enough, but it needs supporting culture and digital competence. Workplace culture exhibits many discriminatory aspects and does not create an environment for all individuals to have an equal chance to succeed (Wicks

& Bradshow, 1999). In spite of the relatively rapid increase in the number of women working in traditionally male-dominated professions, high gender discrimination rates (Freeman, 2000; Tan, 2008), and the separation of women's and man's work into digital labor and technical expertise (Conor et al., 2015; Duffy, 2016) continue to exist.

According to the World Economic Forum (2021) "organizations with a strong digital culture use digital tools and data-powered insights to drive decisions and customer-centricity, while innovating and collaborating across the organization". This definition is adopted as the operational definition for the organization culture.

2.3.3. Digital Competence (DC)

Digital competence involves the confident and critical use of ICT for employment, learning, self-development, and socializing (European Commission, 2007; Janssen et al., 2013). In this definition, it appears that digital competence relates not only to technical skills but also relates to many aspects of life such as work, leisure, communication, confidence, and critical attitude as well (Janssen et al., 2013). This definition is taken as the operational definition for this study. The second digital divide or digital gap is the dearth of digital competence (Palomares-Ruiz et al., 2020) and it is one of the variables frequently correlated with gender (Fernandez et al., 2011; Rokenes & Krumsvik, 2014; Grande-de-Prado et al., 2020). Casillas et al. (2017) state that there are differences in digital competence according to gender.

2.4. Digital Gender Divide

There is a disparity between women's and men's access to Information Technology in social, cultural, political, and economic domains (Cooper, 2006; Cooper & Weaver, 2003; Hilbert, 2011). There are many root causes for gender-based digital exclusion. Limited access to digital tools by way of affordability or allocation, lack of proficiency and/or education and deficiency in technological literacy, inherent gender biases, and socio-cultural norms are the most eminent reasons (OECD, 2018). According to the report of UNDP (2021) on gender equality in digitalization, despite digital technologies being a powerful driver of gender equality, because of social and gender norms and deep-rooted gender stereotypes, digital gender inequality still exists. Gender inequality or gender bias is taken place due to the unfair differences in the way how men and women are treated in a particular domain (Masiero & Aaltonen, 2020). Gender imbalance in the IT industry and its perception by female and male employees can be found in the literature on various information systems (Trauth, 2002; Trauth & Howcrft, 2006).

Mariscal et al. (2018) highlight that to enhance productivity and social development, women must be made partners in digital transformation. If the existing gender gap in digital inclusion is not properly addressed, it will lead to gender inequalities in other

areas such as inequalities in labor markets and less financial inclusion of women (Mariscal et al., 2018). Digitally excluded women will lack digital competence which is a crucial skill in the digital society depriving chances for a woman to find a well-paid job. The inability to access and inferior competency in using digital technologies will lead to a wider gender pay gap. New financial technologies use data analytics and algorithms to evaluate the risk factor and trustworthiness of customers' digital transaction records when granting loans, leases, and various other financial facilities. Mariscal et al. (2018) further argue that digitally excluded women lacking digital transaction records or data capital and unable to prove their creditworthiness and are deprived of financial inclusion. Especially in underdeveloped and developing countries, poverty and socio-cultural norms affecting women's educational opportunities and the influence of gender stereotypes on the use of technologies are the key reasons for the digital gender divide and parental ignorance in those societies prevent girls' opportunities for career choices in science and technology fields (Mariscal et al., 2018).

Artificial Intelligence (AI) is demonstrated to widen the gender gap and is more of a burden than a protection for women (Hilale, 2021). But on the other hand, AI is considered a critical tool in digital transformation and it is growing exponentially. AI is primarily led by men and hence gender inequality is prominent. Today, women account for only 12% of the people working in AI worldwide (Hilale, 2021; Lewis et al., 2021).

Intelligence demonstrated by machines through AI is mainly about algorithms, data inputs, and outputs. When data input to algorithms is based on today's world which is already biased, AI reinforces the existing bias against women contributing to more inequalities (Hilale, 2021).

Many industrial applications have been built by men without thinking that women are part of the user community. Original versions of popular health-tracking applications and devices had not included women checking their menstrual cycles though it is a fundamental component of women's health (Eveleth, 2014; Hilale, 2021). Female employees in colder countries feel cold inside offices especially during summer because the algorithm which regulates office temperature was defined in the 60s for the average male wearing a suit inside the office (Hilale, 2021). Wall and Schellmann (2021) highlight that the algorithm of the employment platform LinkedIn has been gender-biased, as it would reveal high-income jobs more frequently to men than women.

UN Secretary-General's Policy Brief: The Impact of COVID-19 on Women (2020) states that data trends suggest gender inequality in the digital domain to be highly widespread across countries (as cited in Alam et al., 2022). This digital gender inequality is an impediment to the development of any organization and hence it calls for the management to explore the root causes and take remedial actions.

There is a lack of empirical research on the effect of gender on digital technologies (Alam et al., 2022; Lopez-Nicolas et al., 2020; Pergelova et al., 2019). According to previous studies, research related to women's use of digital technologies is largely ignored (Dy et al., 2017; Katharina et al., 2017).

2.5. Theoretical Perspectives

To explain gender inequality at work, sociology researchers use John Acker's (1990) theory of gendered organizations. Acker argued that gender inequality is persistent because it is built into the structure of work organizations and organizations can never truly be gender neutral whereas they are gendered in their very nature (as cited in Williams et al., 2012).

Gendered organizations theory incorporates gender-based challenges experienced by women in modern organizations to refine and recommend the best approaches to address issues related to gender inequality (Acker, 2012).

Adapting a gendered perspective in organizational analysis shed light on the bias, discrimination, oppression, and inequality created by male dominance and patriarchy in the workplace (Acker, 2006). Acker further suggested that it is critical to integrate gender as an analytic category to understand organizational culture and process.

In view of the above, for this study, gender is used as an analytic category to investigate the leadership style, organizational culture, and digital competence of the digital transformation process. However, the BPM industry is more employee-friendly by providing female employees with the same designations, pay scales, and benefits as their male colleagues, facilitating open culture, inclusive work environments, and access to networking, career development, and training opportunities. But there is a lack of empirical research in the area of gender inequality in digital transformation which would enable reliable verification of Acker's Gendered Organizations Theory in the context of digital transformation which is a significant gap that will be covered by this research.

Based on the literature review, the following hypotheses have been developed.

2.6. Hypotheses Development

H1: There is no significant difference between male and female employees' perceptions in relation to leadership style.

H2: There is no significant difference between male and female employees' perceptions in relation to organizational culture.

H3: There is no significant difference between male and female employees' perceptions in relation to digital competence.

2.7. Operationalization of the Research Variables

Leadership style is measured through eight indicators adopted from Fisk (2002) and Yucebalkan (2018) namely, 1). Creating strong networks 2). Willingness to take risks 3). Having digital skills 4). Practicing open communication 5). Promoting innovation 6). Active collaboration 7). Digital vision and 8). Engagement of others. Accordingly, eight survey questions were developed in line with these eight indicators.
Organizational culture is measured through eight indicators adopted from Borkovich et al. (2015) such as 1). Delegation over control 2). Risk-taking 3). Collaboration 4). Customer centricity 5). Digital initiatives 6). Learning 7). Data-driven decisions 8). More action and less planning. Accordingly, eight survey questions were developed in line with these eight indicators.
Digital competence is measured through eight indicators adopted from Janssen et al. (2013) and Murawski and Bick (2017): 1).Information processing 2). Communication 3). Content creation 4). Safety 5). Problem-solving 6). Legal and ethical behavior 7). Use of new technologies and 8). Digital teamwork. Accordingly, eight survey questions were developed in line with these eight indicators.
The intention is to measure employee perceptions and hence questions were to be answered on a 5-point Likert scale and participants were asked to rate on a scale of 1 to 5, 1 representing "strongly agree" and 5 representing "strongly disagree". The Likert scale is an interval scale (Sekaran & Bougie, 2010) designed to examine how strongly subjects agree or disagree with statements in the questionnaire. The developed questionnaire was reviewed by 4 industry experts to remove researcher bias and a pilot test was done to examine the reliability.

3. Methodology

The researcher adopts positivist approach by developing three hypotheses to investigate the relationship between critical success factors and gender using a survey questionnaire. Surveys are the most used tools to obtain employee feelings, perceptions, and attitudes toward any subject matter (Waal, 2014).
For the present study, the researcher has chosen a quantitative research design. Primary data collected through a web-based survey method is used to achieve the research objective. In the absence of a readily available questionnaire developed for academic research to collect primary data, questions from available industry-based research questionnaires were enhanced and employed to align with the research areas of this study.
According to the IT/BPM industry chamber SLASSCOM 2019/2020 report, there had been over 80 BPM companies in Sri Lanka, whereas after the first wave of the Covid-19 pandemic, many companies were closed down, and out of the remaining companies contacted only 40 companies agreed to participate in the survey conducted

during May – July 2021. For the data collection, 13 employees each from 40 companies were invited to participate in the web-based survey and 507 completed responses were received which is a 97.5% success rate. Managers of companies were requested to select 13 employees on a random basis to take part in the survey.
Data collected from both male and female groups were not normal and positively skewed. When data is not normal non-parametric tests are recommended for analysis. To test hypotheses, Mann-Whitney U Test which is a non-parametric test was employed and it compares whether the employee perceptions of dependent variables (in this research which are Leadership Style, Organizational Culture, and Digital Competence) are the same for independent variables (in this research it is the gender which has two groups male and female).

4. Analysis and Discussion

This section illustrates the analysis of quantitative data including hypotheses testing followed by a discussion of test results and the impact of human resource practices on gender inequality.
A pilot test was carried out on a sample of 50 respondents (5 from each company) from randomly selected 10 different BPM companies and reliability was measured through Cronbach's alpha coefficient. Value of reliability (Cronbach's alpha) statistics for Leadership Style, Organizational Culture, and Digital Competence was found to be .857, .811, and .820. A value over .7 indicates that the data is reliable. Some suggestions received from industry experts during the pilot study were incorporated into the questionnaire and then a full-scale survey was carried out with 40 companies requesting 13 participants from each company and 507 complete responses were received. Further, reliability check indicates Cronbach's alpha values of .801, .764, and .825 for the three dependent variables confirming that the data is reliable. The first outcome of the study is the demographic profile of respondents which is presented in table 01.

Table 01: Demographic Data

	Frequency	**Percentage**
Gender		
Female	238	46.9
Male	269	53.1
Education Level		
G.C.E. A/L	136	26.8
Diploma in IT	122	24.1
Bachelor`s Degree	65	12.8
Master`s Degree	16	3.2
Doctorate	3	0.6

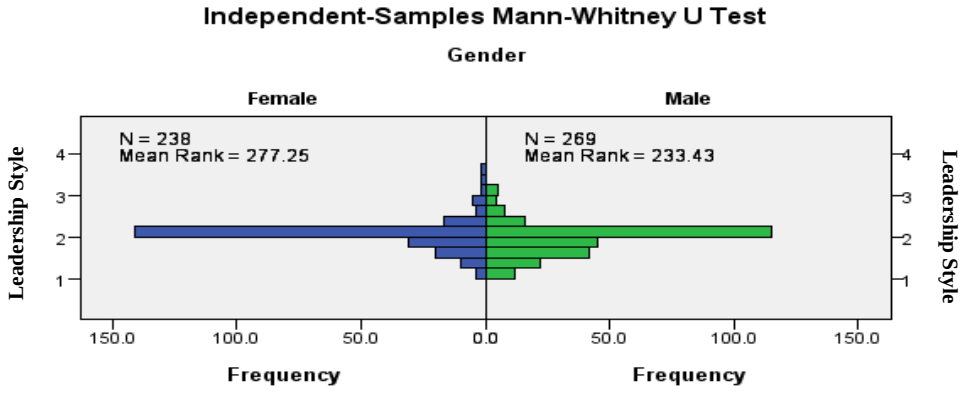
Other	165	32.5
Experience		
less than 5	387	76.3
5 to 10	91	17.9
more than 10	29	5.7
Age		
Below 20	7	1.4
20 – 30	424	83.6
31 – 40	56	11.0
41 – 50	12	2.4
Above 50	8	1.6

Source: Survey Data

As per the demographic analysis, participants' level of education has a wider distribution with G.C.E. (Advanced Level) being the lowest. Other categories include those having obtained various professional qualifications such as CIMA, ACCA, CIM, and AAT. Other than a small number of participants with marketing qualifications (CIM) others all with accounting and financial qualifications. Nearly 50% of the population are professionals and graduates. Experience distribution is unique to the BPM industry world where the attrition is much higher than in other industries. Many young people join the industry as their first job but leave within a short period due to the work pressure and the monotonous nature of work in many companies.

4.1. Leadership Style

Figure 01: Mann-Whitney U Test SPSS Output for the Leadership Style



Source: Survey Data

Table 02: Mann-Whitney U Test SPSS Output Data for Leadership Style

Total N	507
Mann-Whitney U	26,477.500
Wilcoxon W	62,792.500
Test Statistic	26,477.500
Standard Error	1,560.575
Standardized Test Statistic	-3.546
Asymptotic Sig. (2-sided test)	.000

Source: Survey Data

Adopting the explanation of Alagarsamy and Ramalingm (2017), an inspection of the two groups' means ranks in figure 01 indicates that the average leadership style score of females (277.25) is significantly higher than the score (233.43) for males. The difference between mean ranks is 43.82. The level of significance p-value (0.000) in table 02 is less than 0.05. Hence, there is significant evidence to reject the null hypothesis and the alternative hypothesis is accepted. Thus, there is a significant difference between male and female employees' perceptions of leadership style.

This is visible further in the descriptive statistics tables prepared using the percentages of responses received for 08 questions framed to measure indicators of leadership style, organizational culture, and digital competence listed in the operationalization section. Table 03 exhibits less percentage of females who have rated the leadership style as strongly agree than their male colleagues and a higher percentage of females have rated the Leadership style as disagree and strongly disagree compared to the percentage of males.

Table 03: Descriptive Statistics – Percentage of Answers to Leadership Style

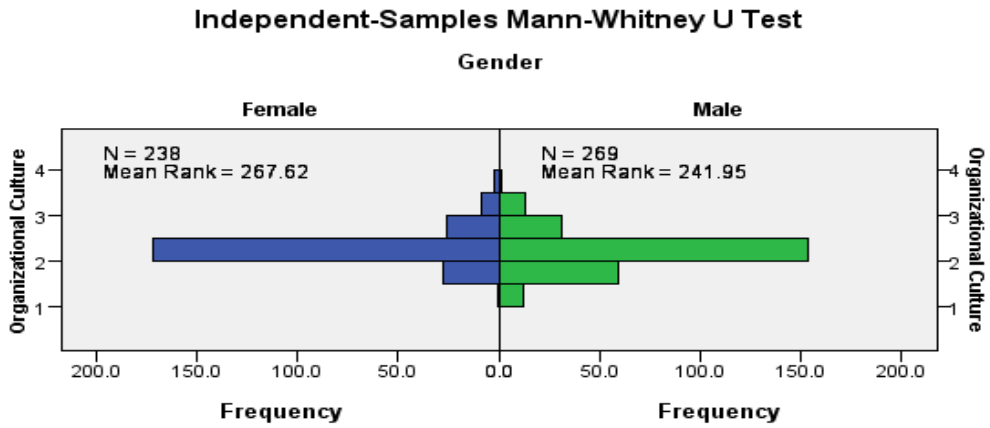
	Female%					**Male%**				
	Strongly Agree	**Agree**	**Neither Agree Nor Disagree**	**Disagree**	**Strongly Disagree**	**Strongly Agree**	**Agree**	**Neither Agree Nor Disagree**	**Disagree**	**Strongly Disagree**
LS1	12.2	80.7	5.0	2.1	0.0	18.2	75.5	5.6	0.7	0.0
LS2	9.2	82.8	6.3	1.3	0.4	18.2	72.9	6.7	1.1	1.1
LS3	16.4	75.6	5.9	2.1	0.0	28.6	65.4	5.9	0.0	0.0
LS4	21.0	69.3	5.5	4.2	0.0	29.7	60.2	6.3	3.3	0.4
LS5	11.8	80.7	5.5	1.7	0.4	21.6	71.4	5.9	1.1	0.0
LS6	17.2	75.2	5.5	1.7	0.4	29.4	64.3	4.8	1.5	0.0
LS7	4.2	82.4	10.1	2.9	0.4	13.8	69.9	13.4	3.0	0.0
LS8	12.6	80.7	5.0	0.8	0.8	23.4	68.4	7.4	0.7	0.0

Source: Survey Data

LS1 – LS8 - Questions to rate Leadership Style: LS1 - leadership quality, LS2 - leader's support, LS3 – leader's digital skills, LS4 – leader's communication style, LS5 – digital transformation objectives, LS6 – leader's collaboration with stakeholders, LS7 – organization's digital strategy, LS8 – leader's behavior

4.2. Organizational Culture

Figure 02: Mann-Whitney U Test SPSS Output for the Organizational Culture



Source: Survey Data

Table 04: Mann-Whitney U Test SPSS Output Data for Organizational Culture

Total N	507
Mann-Whitney U	28,769.500
Wilcoxon W	65,084.500
Test Statistic	28,769.500
Standard Error	1,556.540
Standardized Test Statistic	-2.083
Asymptotic Sig. (2-sided test)	.037

Source: Survey Data

Inspection of the two groups' mean ranks in figure 02 indicates that the average organizational culture score of females (267.62) is significantly higher than the score (241.95) for males. The difference between mean ranks is 25.67. The level of significance p-value (0.037) in table 04 is less than 0.05. Hence, there is significant evidence to reject the null hypothesis and the alternative hypothesis is accepted. Thus there is a significant difference between male and female employees' perceptions of organizational culture.

This is visible further in the descriptive statistics table 05 where less percentage of females have rated the Organizational Culture as strongly agree than the percentage of males and a higher percentage of females have rated Organizational Culture as disagree and strongly disagree than the percentage of males except for three questions

OC5, OC6 and OC8 related to digital initiatives, innovative culture, and planning in the organization. It may be demonstrating female sincerity or lack of awareness of the three areas.

Table 05: Descriptive Statistics - Percentage of Answers to Organizational Culture

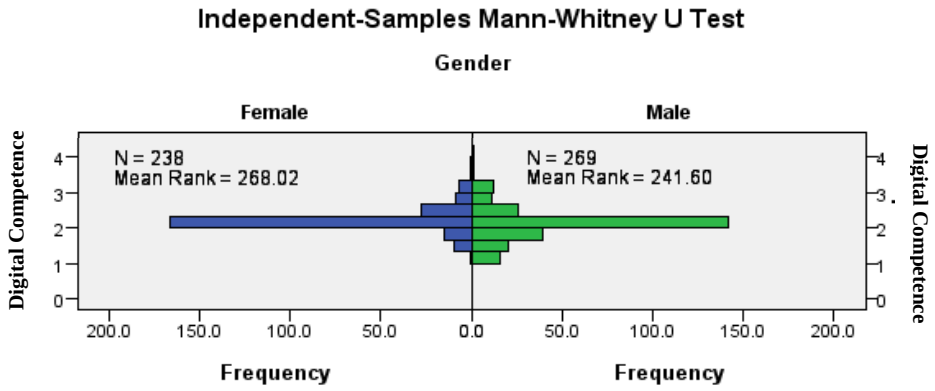
	Female%					Male%				
	Strongly Agree	**Agree**	**Neither Agree Nor Disagree**	**Disagree**	**Strongly Disagree**	**Strongly Agree**	**Agree**	**Neither Agree Nor Disagree**	**Disagree**	**Strongly Disagree**
OC1	3.8	81.5	10.9	3.8	0.0	12.3	69.9	14.5	3.3	0.0
OC2	6.3	72.7	13.9	6.3	0.8	12.6	64.3	16.0	6.3	0.7
OC3	8.4	79.4	10.1	2.1	0.0	17.1	71.0	10.4	1.5	0.0
OC4	4.2	78.2	13.4	2.9	1.3	10.0	71.4	14.9	3.7	0.0
OC5	4.6	85.3	8.8	1.3	0.0	17.8	67.7	11.5	1.9	1.1
OC6	8.0	78.6	9.7	3.8	0.0	18.2	69.9	6.7	3.7	1.5
OC7	7.6	80.7	9.2	2.5	0.0	19.7	69.1	8.9	1.1	1.1
OC8	2.9	77.3	13.9	5.0	0.8	8.6	66.2	17.1	7.4	0.7

Source: Survey Data

OC1 – OC8 - Questions to rate Organizational Culture: OC1 – organization's practices, OC2 – risk taking, OC3 – people collaboration, OC4 – customer centricity, OC5 – digital initiatives, OC6 – innovative culture, OC7 – data-driven decision making, OC8 – planning

4.3. Digital Competence

Figure 03: Mann-Whitney U Test SPSS Output for the Digital Competence



Source: Survey Data

Table 06: Mann-Whitney U Test SPSS Output Data Digital Competence

Total N	507
Mann-Whitney U	28,674.500
Wilcoxon W	64,989.500
Test Statistic	28,674.500
Standard Error	1,556.894
Standardized Test Statistic	-2.150
Asymptotic Sig. (2-sided test)	.032

Source: Survey Data

Inspection of the two groups' means ranks in figure 03 indicates that the average digital competence score of females (268.02) is significantly higher than the score (241.60) for males. The difference between mean ranks is 26.42. The level of significance p-value (0.032) in table 06, is less than 0.05. Hence, there is significant evidence to reject the null hypothesis and the alternative hypothesis is accepted. Thus, there is a significant difference between male and female employees' perceptions of digital competence in the organization.

This is visible further in the descriptive statistics table 07 where less percentage of females have rated Digital Competence as strongly agree than their male colleagues. A high percentage of females have rated disagree and strongly disagree than males for questions on skills, ethics, and teamwork (DC5, DC6, and DC8) pointing to a possible marginalization. There is further evidence that the female rating of the total of strongly agree and agree for skills and teamwork areas is lower than the male rating and for ethics males are just 0.2 lower than females.

Table 07: Descriptive Statistics – Percentage of Answers to Digital Competence

	Female%					**Male%**				
	Strongly Agree	**Agree**	**Neither Agree Nor Disagree**	**Disagree**	**Strongly Disagree**	**Strongly Agree**	**Agree**	**Neither Agree Nor Disagree**	**Disagree**	**Strongly Disagree**
DC1	4.6	82.4	10.1	2.9	0.0	14.9	69.5	11.9	2.6	1.1
DC2	4.6	80.7	12.6	1.7	0.4	14.1	68.8	11.5	4.5	1.1
DC3	6.3	80.3	10.9	2.1	0.4	14.5	67.7	11.9	4.8	1.1
DC4	11.8	79.8	6.7	1.7	0.0	19.0	69.5	9.7	1.5	0.4
DC5	2.5	80.3	11.3	5.9	0.0	10.8	72.5	13.8	2.2	0.7
DC6	9.7	75.6	9.2	5.5	0.0	15.2	69.9	11.5	2.6	0.7
DC7	2.9	82.8	11.3	2.9	0.0	10.0	73.2	12.6	3.0	1.1
DC8	4.6	81.1	10.1	4.2	0.0	12.3	74.0	11.9	1.9	0.0

Source: Survey Data

DC1 – DC8 - Questions to rate Digital Competence: DC1- resource competency, DC2 – availability of communication tools, DC3 – knowledge competence, DC4 – security compliance, DC5 – problem solving skills, DC6 – ethical and legal compliance, DC7 – continuous learning, DC8 – digital team work

In all three descriptive statistics tables, it is quite evident that the indecisiveness of males (scores in Neither Agree nor Disagree columns) is higher except in four questions LS6, OC6, OC7, and DC2. These questions refer to leader's collaboration with stakeholders, innovative culture, data-driven decision-making, and availability of communication tools. In all these areas females' strong agreement is lower and total disagreement is higher than males for LS6 and OC7 pointing to a potential marginalization.

Finally, the hypothesis test summary is shown in table 08 rejecting the null hypothesis for all three areas: Leadership Style, Organizational Culture, and Digital Competence so that their acceptances are not the same by female and male employees suggesting gender inequality.

Table 08: Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	There is no significant difference between male and female employees' perceptions in relation to leadership style	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
2	There is no significant difference between male and female employees' perceptions in relation to organizational culture.	Independent-Samples Mann-Whitney U Test	.037	Reject the null hypothesis.
3	There is no significant difference between male and female employees' perceptions in relation to digital competence.	Independent-Samples Mann-Whitney U Test	.032	Reject the null hypothesis.

Source: Survey Data

Asymptotic significances are displayed. The significance level is .05.

4.4. Discussion

This study examined the gender inequality of the critical success factors: Leadership Style, Organizational Culture and Digital Competence of the Digital Transformation process in the BPM industry. The findings provide relatively strong support to reject all three null hypotheses and prove that there is a significant difference between male and female employees' perceptions in relation to leadership style, organizational culture, and digital competence. It also found that the female employees are more sincere and directly exhibiting their feelings compared to their male colleagues. There is a considerable body of research reveals that women are more emotionally expressive than men (Kring & Gordon, 1998).

The findings of the study confirmed several previous research on gender inequality. Reynolds (2021) with Novakovic and Gnika (2015) agree that women tend to have a

higher perception of career barriers than men. Reynolds (2021) also confirmed organizational factors such as policies, practices, structure, and culture are elements of career barriers. Organizational policies are designed by the leadership and practices are part of the culture which again is under the purview of the leadership. Cabezas-Gonzalez et al. (2021), in a study on the digital competence of pre-service educators found that there are differences between the gender in digital competence agreeing with recent research which highlights that women have lower digital competence than men (Lucas et al., 2021; Jimenez-Hernandez et al., 2021; Ortega-Sanchez et al., 2020).

The outcome of this research proves to be an extension of the "Gendered Organization Theory". Test results exhibit that gender inequality exists in the digital transformation process of Sri Lanka's BPM industry in spite of it being a relatively young industry and digital transformation being an evolving technological process.

Human Resources (HR) practices such as policies, decision making and their enactment affect the hiring, training, pay and promotion for women and some of the most harmful gender inequalities are enacted within HR practices (Stamarski & Son Hing, 2015).

In the contemporary world, women play a key role in organizational success. Companies that are gender-diverse and utilize female talents effectively are 45% more likely to report improved market share (Molina et al., 2015).

5. Conclusion and Recommendations

The present research initiated an important scientific task and found significant empirical evidence to the existence of gender inequality within the three critical success factors: Leadership Style, Organizational Culture and Digital Competence of the Digital Transformation process in the BPM industry. This research has significant implications in theory and practice considering the fact that Digital Transformation process has been accelerated in all industries world over with the experience of Covid-19 global pandemic. BPM industry with high percentage of female employment is a high user of digital technologies and gender inequality is a serious barrier to the development of the BPM industry.

The analysis stands as a significant contribution to expanding and complementing existing theoretical knowledge. The study extends some important contributions to policy and the existing literature for Sri Lankan BPM industry and may also have implications for policy in BPM industries in other countries around the world.

Research recommends implementation of proper unbiased HR policies, digital workplaces and digital inclusion as some solutions to address the gender inequality. The concept of digital workplace has been around over a decade as it enables the modern worker to be more agile and productive.

Findings suggest the need for policy makers to explore solutions for areas outside technology that may influence the gender inequality in digital transformation.

6. Limitations and Future Research

Despite the significant theoretical and practical implications, this research faces certain limitations from which future research can be generated. First of all, the study is limited to only three critical success factors of digital transformation and findings may not cover the complete spectrum of antecedents of digital transformation and gender inequality. Another limitation is at the data collection exercise. Subsidiaries of multi-national companies were not willing to participate in the survey with the excuse of not having permission from the Head Quarters. Although there is huge market potential in the world for outsource business, BPM companies appear to be very restrictive in sharing data. Survey participant companies' management had the total control on selecting participants and hence a potential risk to unbiased data. Additionally, disruption of Covid-19 pandemic and displacement of work forces too had an impact on the data collection.

This research is unique as it explores inequality at the intersection of gender, BPM industry and digital transformation. This is a frontiers research area which is worthy of deeper exploration taking any other potential critical success factors. The unexplored areas of research about the performance of BPM industry and gender equality will also be useful. There is scope for replication of the study in other industries as well as geographical areas.

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