

# Digitalization, Women's Leadership, and Sustainable Governance in Higher Education

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**Abstract:** Digitalization has become a defining condition of organizational communication and governance in higher education institutions, reshaping how leadership is practiced and experienced. This study explores how digitalization influences organizational communication, leadership practices, and perceptions of the glass ceiling among female academic leaders within the framework of sustainable governance. While digital transformation is commonly associated with increased efficiency, speed, and flexibility, participants' experiences indicate that its implications extend beyond technical improvement and are deeply intertwined with organizational culture and gender relations. Drawing on a qualitative research design, the study is based on semi-structured, in-depth interviews with 30 female academics holding leadership positions at different universities, with the data analyzed through thematic analysis using MaxQDA Analytics PRO 2024. The findings suggest that digitalization strengthens organizational communication by enhancing speed, accessibility, and coordination, supporting time and resource efficiency, and in certain contexts facilitating women's participation in managerial processes by reducing exposure to overt gender-based bias. At the same time, digitally mediated communication and work practices generate new sustainability/related tensions, including expectations of constant availability, intensified workloads, reduced concentration in online environments, and the erosion of boundaries between work and private life. These dynamics appear particularly salient for female leaders, whose professional responsibilities intersect with persistent gendered expectations in domestic life. Overall, the study demonstrates that digitalization alone does not guarantee sustainable governance in higher education institutions; rather, its potential to support inclusive and equitable leadership depends on how digital technologies are embedded within organizational cultures that recognize human limits, protect work/life boundaries, and promote gender-sensitive leadership practices.

**Keywords:** Digitalization, Glass Ceiling, Organizational Communication, Women's Leadership, Sustainable Governance.

## Introduction

Digitalization has gradually ceased to be a peripheral issue in organizational life and has instead become one of the primary conditions under which communication, coordination, and leadership are enacted. In higher education institutions, where administrative processes intersect with academic cultures and long-established hierarchies, this transformation has been neither linear nor uniform. Digital communication technologies have accelerated information flows, expanded access to organizational actors, and reconfigured decision-making routines. At the same time, they have introduced less visible tensions related to constant availability, communication saturation, and the erosion of boundaries between professional and personal life [1]. These tensions suggest that digitalization cannot be approached solely as a matter of technical efficiency.

Organizational culture remains central in shaping how digital transformation is experienced. Communication norms, leadership practices, and power relations are not replaced by digital tools; rather, they are often reproduced through them. In organizational contexts where patriarchal structures continue to shape everyday practices, digital

technologies do not operate as neutral instruments. Instead, they may either disrupt or reinforce existing inequalities, depending on how they are embedded within cultural and governance frameworks [2, 3]. Gendered expectations surrounding authority, leadership, and visibility can persist, sometimes in more subtle forms, within digitalized organizational environments [4, 5].

Against this background, examining digitalization through the experiences of women leaders offers a particularly revealing perspective. Women's access to decision-making processes, their visibility in leadership roles, and their navigation of organizational communication practices provide insight into how power is reorganized under digital conditions. From a sustainability perspective, this focus gains further relevance. Corporate sustainability emphasizes transparency, participation, equality, and inclusiveness as core organizational values [6], while digital sustainability highlights the strategic and responsible management of digital technologies in support of long-term development goals [7]. Bringing these dimensions together allows for a closer examination of whether digital transformation contributes to sustainable organizational equality or merely reshapes existing barriers in new forms.

Rather than treating digitalization as a completed shift, this study approaches it as an ongoing and contested process. By focusing on female academic leaders' perceptions of organizational communication, leadership, and glass ceiling practices, the analysis seeks to explore how sustainability-oriented governance is negotiated within digitally mediated organizational settings.

### **Organizational Culture, Gender, and Digital Transformation**

Organizations are not simply structured systems designed to achieve predefined objectives. They are also social and cultural formations in which values, norms, and habitual practices shape communication and leadership in everyday ways [2, 3]. Organizational culture influences how authority is exercised, how decisions are legitimized, and how inclusion or exclusion is normalized. Both formal communication channels and informal interactions contribute to the reproduction of these cultural patterns, with leadership practices occupying a particularly influential position.

Gender becomes especially visible within organizational cultures shaped by patriarchal social structures. Normative assumptions about gender roles are often embedded in organizational routines and expectations, producing invisible barriers that limit women's access to managerial and decision-making positions [8]. The persistence of male-dominated leadership cultures has been widely associated with glass ceiling practices that constrain women's career trajectories and leadership opportunities [5]. In this sense, organizational culture functions not only as a framework that organizes institutional life but also as a mechanism through which gender inequalities are sustained.

Digitalization has added a new layer to these dynamics. The increasing reliance on hybrid and technology-mediated forms of communication has altered how organizational interactions are structured. While digital tools facilitate faster information exchange and greater flexibility, they also introduce challenges related to communication overload, fragmented attention, and heightened expectations of availability [1]. As communication norms are increasingly shaped through digital platforms, organizational culture itself requires reconsideration within this transformed context [9].

Leadership plays a decisive role in navigating these shifts. Leaders' communication styles, their responses to change, and their engagement with digital tools directly influence how organizational cultures adapt [10]. Transformational leadership has frequently been highlighted as particularly relevant under conditions of change due to its emphasis on motivation, shared vision, and adaptability [11, 12]. Notably, leadership qualities often associated with women (such as collaboration, participation, and open communication) have been shown to align with several dimensions of transformational leadership [13, 14]. However, this alignment does not automatically translate into equal access to leadership positions, especially within organizational cultures where authority remains gendered.

Recent scholarship has increasingly emphasized the relationship between organizational culture and sustainability. Organizational sustainability extends beyond environmental concerns to encompass ethical governance, social responsibility, and long-term institutional viability [6]. In higher education institutions, where governance structures shape both academic and administrative life, sustainability is closely tied to communication practices, representation, and participation. Digital sustainability further expands this discussion by focusing on the strategic use of digital technologies to support sustainable development objectives [15]. Research suggests that aligning organizational culture with principles of digital sustainability can enhance communication quality and strengthen leadership practices over time [16]. Yet, how these principles are experienced by women leaders within digitalized organizational environments remains insufficiently explored.

Although a growing body of literature examines the effects of digitalization on leadership, sustainability, and glass ceiling practices, these studies tend to address these concepts in isolation and are predominantly conducted within specific sectors, particularly the private sector. Within this context, the present study differentiates itself by focusing

on higher education institutions and by adopting a holistic analytical perspective that simultaneously considers the interrelations between digitalization, leadership, sustainability, and the glass ceiling. By integrating these dimensions within a single analytical framework, the study responds to an important gap in the literature and offers an original contribution to ongoing debates on sustainable governance and gender equality in digitalized organizational settings.

Khaw et al. [17], for instance, examined the impact of increasing digitalization on leadership by investigating the role of digital leadership in sustaining organizational performance. Drawing on a systematic literature review of studies published between 2001 and 2021 in the Scopus database, the authors focused on research addressing digital leadership and performance outcomes. Their findings highlight digital leadership as a critical determinant of sustainable performance, emphasizing that leaders' ability to adapt to the challenges of the digital era plays a key role in strengthening long-term organizational outcomes.

Similarly, Petrov et al. [18] analyzed the role of leadership in addressing sustainability and digitalization-related challenges within business management. Their findings indicate that sustainability and digitalization are widely perceived as core components of modern management, and that leadership plays a central role in overcoming constraints such as limited resources and technological barriers. The study underscores the practical significance of management decision-making models that prioritize leadership and trust-building within teams, while also emphasizing the growing importance of integrating digital technologies into managerial and decision-making processes.

In a different context, Tian et al. [19] empirically examined whether corporate digital transformation serves as a mechanism for reducing gender inequality in executive roles. Based on firm-level data from companies listed on the Chinese A-share market between 2010 and 2023, the study demonstrates that digital transformation supports gender equality by increasing demand for skilled labor and improving corporate governance practices.

Focusing on higher education, Drljic et al. [20] explored the relationship between digital equity and sustainability by conducting a survey among students enrolled in teacher education programs at the Faculty of Education, University of Primorska. Their findings reveal a reciprocal relationship between digital equity and sustainability, suggesting that access to digital resources and inclusive digital practices are integral to sustainable higher education environments.

Finally, Savaşkan's [21] study investigated the impact of digitalization and artificial intelligence technologies on invisible barriers limiting women's access to senior management positions in OECD countries, within the framework of the glass ceiling syndrome. Through in-depth analyses of institutional activity reports from the public and private sectors in Sweden, Germany, South Korea, Canada, and Turkey, the findings demonstrate that digitalization alone does not guarantee gender equality. On the contrary, artificial intelligence applications may reinforce or deepen existing inequalities when they lack gender-sensitive design. The study further indicates that cultural and structural barriers remain particularly pronounced in countries such as Turkey and South Korea.

### **Aim and Research Orientation**

Although digital transformation has been widely addressed in organizational research, its implications for the everyday experiences of women leaders in higher education remain unevenly examined. This study is oriented toward understanding how digitalization shapes female academic leaders' perceptions of organizational communication, leadership, and glass ceiling practices within the broader framework of sustainable governance.

Rather than constructing a comparative analysis between public and foundation universities, the study treats women leaders' experiences across institutional contexts as part of a shared organizational landscape shaped by similar cultural and structural dynamics. This approach allows for a more nuanced exploration of how digitalization intersects with gendered leadership experiences beyond formal institutional distinctions.

The central research question guiding the study is as follows:

How does digitalization affect female leaders' experiences of organizational communication and leadership, as well as their perceptions of the glass ceiling, in the context of sustainable governance?

This overarching question is explored through three interrelated sub-questions:

1. How do female leaders interpret the impact of digitalization on leadership practices in relation to sustainable leadership?
2. How does digitalization shape women leaders' perceptions of organizational communication, and what does this imply for sustainable communication practices?

3. How does digitalization reconfigure barriers to women academics' access to leadership positions, and how are these changes related to sustainable organizational equality?

Rather than seeking definitive answers, these questions serve as analytical entry points for tracing how digitalization is negotiated within women leaders' organizational experiences.

### **Research Design and Analytical Approach**

The study adopts a qualitative research design grounded in semi-structured, in-depth interviews in order to explore female leaders' lived experiences with digitalized organizational processes. Guided by a phenomenological orientation, the research focuses on how participants make sense of organizational communication, leadership practices, and digital transformation within their institutional contexts.

A multiple case study design was employed to identify shared patterns across different higher education institutions. Purposeful sampling was used to select participants, resulting in a study group of 30 female academics holding leadership positions. Participation was voluntary, informed consent was obtained from all participants, and confidentiality was ensured through the use of participant codes (P1-P30).

In this study, the multiple case study approach was chosen to identify common patterns based on the experiences of female administrators working in different higher education institutions. The participants in the study were selected as individuals who share experiences with digitalization and leadership within similar institutional structures; in this regard, the study is based on a replication logic grounded in the repetition of similar patterns (literal replication). During the analysis process, each participant experiences was first evaluated within its own context (within-case analysis), and the findings were then examined comparatively across participants (cross-case analysis). This approach aims to provide a more comprehensive understanding of how digitalization, leadership, and the glass ceiling phenomenon are experienced within different institutional contexts. The study constitutes an embedded multiple case study, which treats each participant as a separate entity. The method allows for the identification of common themes across different experiences, while also involving a process of analysis that is significant in terms of both time and effort. This approach also enables a comprehensive assessment of how digitalization, leadership, and organizational communication processes are shaped within the framework of sustainable governance.

The sample size in this study was selected not for the purpose of quantitative generalization, but with the aim of developing an in-depth and contextual understanding. Using a purposive sampling method, a group of participants was formed to reflect the experiences of female academics in leadership positions. It was evaluated that the data obtained from 30 participants revealed recurring patterns sufficient to answer the research questions, and that data saturation had been reached at this point. Therefore, the sample size was seen as sufficient to capture thematic diversity and enable meaningful findings.

Data were collected through a combination of literature engagement and semi-structured interviews. The interview guide was developed by adapting questions informed by Charles Handy's management approaches and aligned with the study's sustainability focus. Following transcription, the data were analyzed using MaxQDA Analytics PRO 2024 in accordance with Braun and Clarke's [22] six-phase thematic analysis framework. This process enabled a systematic yet flexible engagement with the data, allowing themes to emerge while maintaining analytical coherence.

In this study, several measures were taken to minimize the potential biases that could impact the data collection and analysis process. A semi-structured interview form was used to ask all participants the same questions, ensuring consistency in the data collection process. Participant anonymity was protected, and a voluntary participation process was followed to elicit more honest and candid responses. However, because the data is based on subjective experiences, it is not possible to completely eliminate the participant bias. To balance this limitation, particular attention was taken to maintain consistency during the coding process and avoid excessive interpretation of the individual statements. The data was systematically coded during the thematic analysis process and evaluated based on recurring patterns. In order to limit researcher bias, findings were supported directly by participant statements, and interpretations were based on common trends rather than individual opinions.

### **Findings and Discussion**

#### **Women Leaders' Perceptions of Sustainable Organizational Communication Practices**

This section explores how female leaders conceptualize sustainable organizational communication and the elements they associate with its continuity. Participants' accounts indicate that organizational communication is not perceived as a purely technical process but as a relational and value-laden practice shaped by channel selection, communication style, and individual competencies.

### Using Appropriate Channels in Organizational Communication

*“Fluent organizational communication can be achieved through the use of appropriate communication channels.” (P14)*

*“I believe that for communication to be fluent, appropriate communication channels, supported by an appropriate communication style, must be conveyed to individuals at every level of the organization.” (P18)*

*“In my view, the more accessible and effectively used tools like email and WhatsApp become, the more conducive an organization becomes to digital transformation, leading to more fluid communication.” (P20)*

Participants consistently emphasize that sustaining effective organizational communication depends on the deliberate selection and consistent use of appropriate communication channels. Digital tools such as email, WhatsApp, and institutional systems are not evaluated solely in terms of availability, but rather in relation to how coherently they are integrated into organizational routines. From this perspective, channel choice is closely linked to clarity, accessibility, and coordination.

The findings suggest that digitalization contributes to sustainable organizational communication by structuring information flow and reducing fragmentation. At the same time, participants’ emphasis on “appropriateness” implies that sustainability in communication is not an automatic outcome of digitalization but depends on organizational norms regulating how and when digital channels are used.

### The Role of Individual Communication Skills in Effective Organizational Communication

*“I think being open to communication, being as transparent as possible, and exhibiting a friendly attitude are among the most important requirements.” (P2)*

*“The more open you are with people and the more directly you communicate that your aim is to benefit the organization, the smoother the organizational communication process can be completed.” (P19)*

*“I think that somehow developing a sense of empathy among employees makes fluent and effective organizational communication possible.” (P27)*

Beyond technological infrastructure, participants place strong emphasis on individual communication competencies. Transparency, empathy, and openness are repeatedly identified as central to building trust and sustaining effective communication. These competencies are perceived as particularly important in digitalized environments, where misinterpretation and emotional distance may easily occur.

From a sustainability perspective, these findings indicate that organizational communication remains deeply human-centered. Digital tools may accelerate communication, but without supportive interpersonal practices, their contribution to long-term organizational sustainability remains limited. Institutional support for developing communication skills therefore emerges as a key element of sustainable organizational communication.

### The Effects of Digitalization on Organizational Communication and Management Processes

Participants describe digitalization as having a multidimensional impact on organizational communication and management. While many effects are evaluated positively, participants also point to emerging tensions that complicate the relationship between digitalization and sustainability.

#### Gains in Communication Speed and Accessibility

*“Previously, incoming documents were circulated using traditional methods requiring wet signatures, and these processes took a significant amount of time due to numerous bureaucratic steps. Today, such processes are carried out much more efficiently through digital systems.” (P6)*

*“For example, we frequently use WhatsApp to share information related to administrative matters. First of all, it has freed us from bureaucratic burdens.” (P14)*

*“Speed is definitely one of the main advantages. Instead of informing people one by one, it is extremely practical to create a WhatsApp group and send the message to everyone at the same time.” (P18)*

Participants identify speed and accessibility as the most visible advantages of digitalization. Digital communication tools are described as accelerating decision-making processes, reducing bureaucratic workload, and enabling smoother information flow. These gains are closely associated with perceptions of efficiency and organizational responsiveness.

In line with the literature, the findings suggest that digitalization supports sustainable communication practices by optimizing time and resource use. However, participants' accounts also indicate that these efficiencies reshape expectations regarding responsiveness and availability, which later emerge as sources of tension.

### **Time Efficiency Enabled by Digital Applications**

*"One of the biggest challenges we face in academic life is time. In this regard, digital applications have significantly facilitated our work." (P3)*

*"These applications have greatly simplified our lives in terms of time management." (P7)*

*"We all have responsibilities as mothers and wives at home, and it is often difficult to find time to meet during the day. In this context, we rely on applications like Zoom and Google Meet." (P15)*

Time emerges as a critical resource in women leaders' narratives. Digital applications are perceived as enabling flexibility by reducing spatial constraints and facilitating coordination across multiple roles. For many participants, digitalization supports the continuation of leadership responsibilities alongside domestic obligations.

At the same time, this flexibility does not eliminate role pressures; rather, it makes them more manageable under existing conditions. From a sustainability perspective, digitalization functions as a coping mechanism that supports women's long-term participation in leadership, while also revealing the fragility of work/life boundaries.

### **Reduction in Paper Use and Resource Conservation**

*"We can manage processes without any additional financial burden; we now use much less paper." (P17)*

*"Thanks to digital systems, there is no longer a need for physical printouts." (P23)*

*"Administrative paperwork is no longer as intensive as before; paper waste has decreased significantly." (P29)*

Participants also associate digitalization with environmental sustainability. Reduced paper use and simplified documentation processes are perceived as contributing to cost efficiency and resource conservation. In higher education institutions characterized by intensive bureaucratic procedures, these changes are particularly visible.

These findings indicate that digitalization supports sustainable organizational communication not only through efficiency but also through environmentally responsible practices. However, participants rarely frame these benefits as intentional sustainability strategies, suggesting that environmental gains are often experienced as secondary outcomes rather than primary objectives.

### **Negative Effects of Digitalization on Sustainability**

Despite its advantages, participants also emphasize that digitalization generates new sustainability-related challenges, particularly in relation to focus, productivity, and work/life boundaries.

#### **Focus and Productivity Challenges**

*"Meetings held via online applications generally yield less productive results." (P11)*

*"The most significant negative aspect is related to concentration." (P14)*

*"In online meetings held at home, our attention is often distracted by children." (P15)*

Participants report difficulties maintaining focus during online meetings, particularly in domestic settings. Digital environments are described as increasing cognitive load and reducing engagement, which in turn affects decision-making and productivity.

These findings highlight the ambivalent role of digitalization in sustainable governance. While spatial flexibility enhances access, it also introduces new forms of distraction that challenge human-centered sustainability.

#### **Expansion of Working Hours and Blurring of Work/Life Boundaries**

*"The negative aspect is definitely the disappearance of working hours." (P2)*

*"We constantly receive notifications asking us to complete tasks late at night." (P18)*

*"Administrative meetings have started to be held outside of working hours." (P25)*

Almost all participants emphasize that constant digital accessibility weakens the boundaries between work and private life. Extended working hours and continuous notification traffic increase workload and pressure, particularly for women leaders managing multiple responsibilities.

From a sustainability perspective, these dynamics reveal a critical tension: digitalization enhances organizational efficiency while simultaneously undermining individual sustainability. This suggests that technological advancement must be accompanied by organizational regulations that protect temporal boundaries and well-being. This duality should not be interpreted as a contradiction but rather as an indication that digitalization operates through layered and sometimes competing organizational logics.

### **Definitions of Leadership According to Women Leaders**

Women leaders' accounts indicate that leadership is understood not merely as a formal position but as a multidimensional process shaped by values, behaviors, and communication practices. Digitalization further reframes these understandings by introducing new expectations regarding visibility, coordination, and technological competence. These leadership practices resonate with the relational, ethical, and motivational dimensions commonly associated with transformational leadership, without reducing women's leadership experiences to a single or fixed leadership model.

### **Equitable and Fair Treatment**

*"A good leader should treat everyone equally and allocate time fairly to everyone. Furthermore, they should absolutely not be prejudiced." (P1)*

*"I believe that a good leader should primarily ensure the democratic and equitable distribution of tasks and responsibilities." (P22)*

*"A good leader should adopt as egalitarian an approach as possible when distributing responsibilities." (P27)*

Participants primarily define leadership through principles of equality, justice, and impartiality. Fair task distribution and non-discriminatory treatment emerge as core expectations, reflecting a leadership model grounded in democratic and ethical values.

From a sustainability perspective, these expectations highlight the importance of trust and legitimacy in leadership practices. Rather than emphasizing authority or hierarchy, women leaders associate sustainable leadership with fairness and relational accountability. This orientation suggests that leadership sustainability depends not only on outcomes but also on how leadership is exercised on a daily basis.

### **Leading by Example Through Behavior**

*"A leader cannot be considered a good manager if they cannot add value to the organization, initiate change, or be a role model for their colleagues." (P5)*

*"I believe that a good leader must be able to set an example." (P14)*

*"They must increase motivation and inspire their colleagues through their actions." (P15)*

Role modeling through behavior is repeatedly emphasized as a defining characteristic of leadership. Participants describe leaders as individuals whose attitudes and actions shape organizational norms, particularly in areas such as responsibility, respect, empathy, and motivation.

These findings resonate with the behavioral dimensions of transformational leadership while also underscoring the importance of consistency between discourse and practice. From a sustainability standpoint, behavior-based leadership contributes to long-term organizational stability by reinforcing ethical conduct, mutual trust, and cultural continuity.

### **Competence in Communication Technologies**

*"Leadership is essentially about facilitating the flow of information between subordinates and superiors." (P3)*

*"Knowing how to use digital applications is crucial for speeding up communication." (P17)*

*"Without applications like WhatsApp and electronic document management systems, coordination would lead to significant time losses." (P18)*

Participants emphasize that digital competence has become an indispensable component of leadership. Leadership is increasingly associated with the ability to manage information flows, coordinate processes, and maintain continuity through digital systems.

From the perspective of sustainable governance, technological competence is framed not merely as operational efficiency but as a resource that supports time, energy, and resource conservation. Women leaders' proficiency in

digital communication technologies thus emerges as a key element of sustainable, resilient, and inclusive leadership in digitalized organizational contexts.

### **Perceptions of Barriers to Women's Advancement into Leadership Positions**

Participants' narratives indicate that barriers to women's leadership are multifaceted and persist despite digital transformation. These barriers operate at structural, individual, and relational levels, creating overlapping zones of tension for sustainable governance.

#### **Barriers Stemming from Patriarchal Structures**

*"Some difficulties arise due to the roles attributed to women." (P6)*

*"There is a perception that leadership is a man's job, and that women should primarily be responsible for housework." (P11)*

*"The perception that 'women cannot be leaders' is widespread, not only in our country but globally." (P20)*

Almost all participants identify patriarchal norms as a fundamental barrier to women's access to management positions. Leadership is often socially coded as masculine, leading to the early questioning of women's competence and their exclusion from decision-making processes.

From a sustainability perspective, such structural inequalities undermine inclusive governance and contradict the principles of equality and fair representation. These findings suggest that digitalization alone does not dismantle patriarchal power relations; cultural transformation remains essential.

#### **Women's Internalization of the Glass Ceiling**

*"Women in leadership positions often create their own glass ceilings." (P4)*

*"If you are a married woman with children, a large part of the housework falls on you." (P15)*

*"Some women step back by prioritizing housework and childcare." (P19)*

Participants also point to the internalization of gender roles as a significant barrier. Domestic responsibilities and caregiving expectations are described as factors that weaken women's motivation to pursue leadership roles and reinforce self-limiting perceptions.

These findings indicate that the glass ceiling is reproduced not only institutionally but also through internalized norms shaped by broader social structures. From a sustainability perspective, addressing these dynamics requires organizational policies that recognize role multiplicity rather than framing withdrawal as individual choice.

#### **Barriers Arising from the Queen Bee Syndrome**

*"The biggest obstacle to women becoming leaders is sometimes other women." (P3)*

*"It's not just men hindering women; sometimes women hinder other women as well." (P21)*

Participants describe situations in which competitive dynamics among women contribute to exclusionary practices. References to the queen bee syndrome suggest that limited leadership opportunities within male-dominated organizational cultures can foster rivalry rather than solidarity.

This dynamic highlights the relational dimension of gender inequality. When leadership positions are perceived as scarce resources, collaboration may give way to competition, undermining sustainable and inclusive governance. Strengthening trust and supportive networks therefore appears critical for the long-term sustainability of women's leadership.

### **Digitalization and Sustainable Governance from Women Leaders' Perspectives**

This section examines how digitalization intersects with sustainable governance by shaping gender relations, work/life balance, and decision-making processes.

#### **Avoiding Prejudice Through Digitalization**

*"Not meeting face to face can sometimes be beneficial." (P7)*

*"Digital applications reduce gender-based approaches because decisions can be made without direct interaction." (P16)*

*"Digital systems help reduce exposure to discriminatory discourse." (P20)*

Participants suggest that digitalization can, in certain contexts, reduce women leaders' exposure to gender-based prejudice. By shifting interactions toward task-oriented and standardized communication, digital platforms may limit opportunities for sexist discourse.

From a sustainable governance perspective, this relative distancing can support more equitable decision-making processes. However, participants' accounts imply that these effects are contingent rather than guaranteed, depending on how digital tools are embedded in organizational culture.

### **Balancing Work and Family Life Through Digitalization**

*"Digitalization allows me to manage leadership responsibilities while allocating time to my family." (P6)*

*"I can act as both a mother and a leader at the same time." (P14)*

*"For women with administrative responsibilities, digitalization becomes indispensable." (P19)*

Participants emphasize that digitalization supports work/family balance by providing temporal and spatial flexibility. Digital tools enable women leaders to sustain managerial responsibilities alongside domestic roles, reinforcing their continued participation in leadership positions.

At the same time, digital flexibility is described as a coping mechanism rather than a solution. While it enables women to remain in leadership roles under existing conditions, its sustainability depends on organizational arrangements that protect boundaries and acknowledge gendered role expectations. The findings are not presented as universally applicable patterns but as contextually grounded insights that may inform similar organizational settings facing digital transformation challenges.

### **Conclusion**

This study set out to explore how digitalization reshapes organizational communication and leadership practices in higher education institutions, with a particular focus on women academic leaders' experiences of sustainable governance and glass ceiling dynamics. Rather than treating digital transformation as a uniform or inherently progressive process, the findings illustrate its ambivalent character, one that simultaneously enables new forms of participation while reproducing, and in some cases reconfiguring, existing inequalities. Rather than positioning digitalization as either a solution or a problem, this study contributes by demonstrating how women leaders experience digital transformation as a conditional and context/dependent process shaped by organizational culture, communication practices, and gender relations.

Addressing the first research question, the findings indicate that digitalization significantly reshapes women leaders' perceptions of organizational communication, yet not in a purely technological sense. Participants do not equate sustainable communication with the mere presence of digital tools. Instead, they emphasize the importance of appropriate channel selection, coherence in communication practices, and the adoption of a transparent and empathetic communication language. Sustainable organizational communication, in this regard, emerges as a relational and human-centered process in which digital technologies function as facilitators rather than determinants. While digitalization accelerates information flow and enhances accessibility, its contribution to sustainability depends on how communication norms are collectively negotiated and maintained within organizational culture.

In response to the second research question, the findings suggest that women leaders conceptualize leadership as a multidimensional practice grounded in values, behaviors, and communication competencies. Leadership is primarily associated with equality, justice, ethical conduct, and role modeling, rather than formal authority alone. Digitalization further expands this understanding by positioning technological competence as an integral component of leadership. The growing visibility of e-leadership reflects a shift in how coordination, decision-making, and organizational presence are enacted in higher education institutions. From a sustainable leadership perspective, this shift underscores the need to balance efficiency with relational accountability, as leadership effectiveness increasingly depends on the capacity to manage both human and technological dimensions of organizational life. An examination of participants' statements regarding the leadership approaches reveals a strong emphasis on equality, democratic decision-making, and practices aimed at fostering trust among colleagues. Women leaders consistently describe leadership as a process grounded in fairness, inclusiveness, and relational accountability. In this respect, the findings of present study is consistent with those reported by Petrov et al. [18], reinforcing the view that trust-based and participatory leadership practices play an important role in sustaining organizational stability under the conditions of digital transformation.

The third research question highlights the limits of digitalization in addressing gender-based inequalities. The findings reveal that digital transformation has not eliminated barriers to women's access to leadership positions;

instead, some barriers persist in transformed and less visible forms. Patriarchal norms, the association of leadership with masculinity, and the continued questioning of women's authority remain influential. These barriers operate not only at the structural level but also through the internalization of gender roles, particularly in relation to domestic responsibilities and work/family pressures. Additionally, relational dynamics among women, including competitive behaviors captured by the notion of the queen bee syndrome, further complicate pathways to sustainable organizational equality. These findings indicate that digitalization alone cannot produce gender-equal governance without accompanying cultural and institutional change. Although participants acknowledge that digitalization may have certain positive effects on reducing barriers associated with the glass ceiling, they simultaneously emphasize the continued influence of socio-cultural structures in shaping women's leadership trajectories. Persistent cultural norms and structural constraints are perceived as limiting the transformative potential of digitalization. In this respect, findings of this study parallel those reported by Savaşkan [21], who similarly concludes that digitalization alone is insufficient to eliminate gender-based inequalities in leadership without broader the cultural and institutional change.

Taken together, the results demonstrate the dual impact of digitalization on sustainable governance processes (sustainable governance, understood here as the alignment of organizational efficiency, human well-being, and gender-sensitive leadership practices within decision-making processes). On the one hand, digitalization enhances organizational efficiency through increased speed, spatial flexibility, reduced bureaucratic workload, and resource conservation, supporting several dimensions of sustainability. Participants also highlight the positive contributions of digital applications to sustainability, particularly in terms of time efficiency and reduction of paper consumption. Digitalization is perceived as facilitating resource conservation and minimizing bureaucratic waste within organizational processes. In this respect, the findings of present study is in line with those reported by Drljic et al. [20], supporting the argument that digital equity and sustainable practices are closely interconnected within the higher education institutions. On the other hand, it introduces human-centered sustainability risks, including intensified cognitive load, reduced concentration in digital environments, blurred working-hour boundaries, and the normalization of constant availability. These risks are particularly pronounced for women leaders, whose professional responsibilities intersect with persistent gendered expectations in private life. Participants' accounts further indicate that competence in the use of digital applications is perceived as having positive impact on performance, finding that aligns with the conclusions of Khaw et al. [17]. In this respect, digital proficiency emerges as a facilitating factor enhances efficiency and task coordination. However, unlike Khaw et al.'s more uniformly positive assessment, participants in the present study also draw attention to range of negative consequences associated with digital applications, including increased workload and communication saturation. By foregrounding both enabling and constraining effects, this study diverges from prior findings and contributes a more nuanced perspective to the literature on digital leadership and sustainable performance.

One of the more nuanced findings of this study concerns the role of digitalization in mediating gender-based prejudice. Participants' accounts suggest that, under certain conditions, digital communication can reduce women leaders' exposure to overt discriminatory attitudes by shifting interactions toward task-oriented and standardized processes. However, this protective effect remains fragile. As digital accessibility expands workloads and expectations of responsiveness, the same technologies that reduce visible bias may simultaneously generate new forms of pressure and vulnerability. This dual dynamic underscores the importance of approaching digitalization not as a neutral solution but as a socio-cultural process that requires careful regulation. Participants further suggest that the ability to effectively use digital applications can contribute to the reduction of gender-based prejudices by shifting interactions toward task-oriented and standardized communication. In this regard, findings of the present study support those of Tian et al. [19], indicating that digital competence may function as a partial equalizer in organizational interactions by limiting the influence of subjective and discriminatory judgments.

In conclusion, the findings suggest that sustainable governance in higher education cannot be achieved through digital transformation alone. While digitalization provides important tools for efficiency, flexibility, and inclusion, its sustainability depends on the presence of gender-sensitive, human-centered organizational cultures that recognize boundaries, support well-being, and promote equitable leadership practices. Sustainable governance, in this sense, remains an ongoing process—one that requires continuous reflection on how communication, leadership, and power are organized within digitally mediated institutional environments.

In interpreting the findings of this study, efforts were made to ensure a more balanced assessment by taking into consideration possible biases that may arise from the data being based on subjective experiences. Since participants' statements reflect individual experiences, generalizations based on individual opinions were avoided, and interpretations were primarily constructed based on common patterns recurring between different participants. This approach has contributed to achieving more consistent and inclusive results by preventing the findings from being reduced merely to specific individual experiences. Additionally, since the data was produced within particular

institutional and cultural contexts, the focus has been on the capacity for conceptual interpretation rather than generalized conclusions. In this regard, the research findings have been evaluated and interpreted within particular limits, leading to balanced and cautious findings about how digitalization, leadership, and organizational communication processes are shaped within the context of sustainable governance.

### Recommendations

Strengthening the alignment between digitalization and sustainable governance in higher education requires clear institutional frameworks that define the scope and boundaries of digital communication practices. Regulations limiting after-hours communication, structuring online meetings, and managing expectations of constant accessibility are essential for protecting work/life balance.

Digital transformation initiatives should be designed with gender sensitivity, increasing women leaders' visibility in decision-making processes and supporting training that addresses ethical communication and bias reduction. Mentoring and support networks remain critical for addressing structural and relational barriers that undermine women's leadership continuity.

Finally, digital sustainability should be evaluated not only through environmental indicators but also through human-centered measures such as well-being, cognitive load, focus, and productivity. Such an approach may help transform digitalization into a more inclusive, equitable, and sustainable governance framework within higher education.

### Limitations and Future Research

As with any qualitative inquiry, this study is shaped by certain contextual and methodological limitations that should be acknowledged when interpreting the findings. First, the research focuses on female academic leaders within higher education institutions, and the findings are therefore embedded in a specific organizational and cultural context. While this focus allows for an in-depth exploration of women leaders' experiences with digitalization, organizational communication, and sustainable governance, it also limits the direct transferability of the results to other sectors or institutional settings. Additionally, the study relies on a purposive sample of 30 participants, which provides rich qualitative insights but does not aim at statistical generalization. The findings should thus be understood as analytically transferable rather than universally representative.

A further limitation relates to the nature of self-reported data. Participants' narratives reflect subjective experiences and sense-making processes, which are valuable for understanding leadership and communication dynamics but may also be influenced by individual perceptions, positionality, and organizational context. Moreover, while the study captures women leaders' perspectives on digitalization and gendered barriers, it does not include comparative accounts from male leaders or other organizational actors, which could offer additional layers of interpretation regarding power relations and governance practices.

These limitations point toward several directions for future research. Comparative studies examining different institutional contexts, leadership positions, or gender identities could deepen understanding of how digitalization interacts with organizational culture and sustainability. Longitudinal research designs may also be particularly valuable in tracing how digital communication practices and leadership experiences evolve over time, especially as digital technologies become further embedded in organizational routines. Finally, future studies could integrate mixed-method approaches to combine qualitative insights with quantitative measures of organizational sustainability, well-being, and leadership effectiveness. Such research would contribute to a more comprehensive understanding of how digital transformation can be aligned with sustainable and gender-sensitive governance in higher education and beyond.

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