



Transforming Afghanistan: Enhancing Technology Access to Overcome Gender Discrimination

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ABSTRACT

Gender disparity in technology access and empowerment remains a significant challenge in Afghanistan, particularly for women facing socio-cultural barriers. This study explores the perceptions of Afghan women regarding technology access and empowerment at Kabul University. Despite advancements in technology, Afghan women encounter obstacles in accessing and utilizing technological resources, limiting their opportunities for education, employment, and economic empowerment. This research aims to investigate the perceptions of Afghan women regarding technology access and empowerment, with a focus on identifying barriers and opportunities for improvement. A cross-sectional study was conducted at Kabul University, involving 150 participants from diverse fields of education/employment and age groups. Structured surveys were administered electronically to collect data on participants' perceptions of technology access and empowerment. Descriptive statistics were used to analyze the data. The analysis revealed diverse perceptions among Afghan women regarding technology access and empowerment, with significant disparities in infrastructure accessibility and the effectiveness of digital literacy programs. The findings highlight the need for targeted interventions to address barriers and enhance technology access and empowerment for Afghan women, ultimately promoting gender equity and socio-economic development.

Keywords: *Afghan Women; Empowerment; Gender Disparity; Socio-Economic Development; Technology Access.*

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INTRODUCTION

Afghanistan, a nation with a rich cultural heritage and a tumultuous history, faces numerous challenges as it strives for modernization and development. Among these challenges, gender discrimination stands out as a significant barrier to the country's progress (Dyvik, 2014). The persistent inequities faced by women in Afghanistan are deeply rooted in historical, cultural, and socio-economic factors (Mazhar & Goraya, 2021). Despite various efforts by both national and international bodies to promote gender equality, women continue to encounter substantial obstacles in accessing

education, employment, and other opportunities (Wafeq, 2016; Dahniar, et. al., 2021). One promising avenue for mitigating these gender disparities is through the enhancement of technology access. By leveraging technology, it is possible to create more equitable opportunities for women, fostering an environment where they can contribute more effectively to the nation's development (Niroo & Crompton, 2022).

In recent years, technology has emerged as a powerful tool for social change, offering innovative solutions to entrenched issues of gender discrimination (Mackey & Petrucka, 2021). In the context of Afghanistan, improving access to technology can have transformative effects on women's lives (Borah & Kalita, 2019). The integration of digital platforms, mobile technologies, and internet connectivity can facilitate educational opportunities, provide access to vital information, and enable women to participate more fully in economic activities (Anitha & Sundharavadivel, 2012; Khalili et al., 2024). Furthermore, technology can serve as a bridge, connecting Afghan women with global networks, thereby broadening their horizons and opening new avenues for empowerment and self-reliance (Vishkaie, 2018).

The potential of technology to address gender disparities in Afghanistan is supported by numerous case studies and initiatives worldwide (Bibi, 2019; Shahbazi et al., 2024). For instance, mobile banking services have enabled women in rural areas to manage their finances independently (Tharu & Yadav, 2018), while online education platforms have provided access to learning resources previously unavailable to them (Putnam, 2019). Additionally, social media and other digital communication tools have created spaces for Afghan women to express their views, share their experiences, and advocate for their rights in ways that were previously unimaginable (Renan Barzilay, 2019).

However, the journey towards enhancing technology access for women in Afghanistan is fraught with challenges. These include infrastructural deficits, cultural resistance, and the digital divide that exacerbates existing social inequalities (Shirazi, 2012). To overcome these obstacles, a multi-faceted approach is necessary. This involves not only the provision of technological resources but also comprehensive training programs to develop digital literacy (Ozkazanc-Pan & Clark Muntean, 2018), targeted policies to encourage female participation in technology-related fields, and community engagement initiatives to shift cultural perceptions regarding women's roles in society (Gibbs & Bishop, 2019).

In conclusion, the transformation of Afghanistan through the enhancement of technology access offers a viable pathway to overcoming gender discrimination (McBride & Wibben, 2012). By prioritizing the inclusion of women in the digital revolution, Afghanistan can harness the full potential of its population, paving the way for a more equitable and prosperous future (Tanwir & Khemka, 2018). The intersection of technology and gender equality holds the promise of a society where women are no longer marginalized but are empowered to contribute to and benefit from the nation's progress (Lemons & Parzinger, 2007; Almarzouki, 2019).

Problem Statement

Despite significant efforts towards gender equality, Afghan women continue to face substantial barriers in accessing education, employment, and socio-economic opportunities, largely due to deep-rooted cultural and socio-economic factors. These persistent inequities hinder their participation in the nation's development, perpetuating a cycle of marginalization and underutilization of their potential. Enhancing technology

access for women presents a promising solution to these challenges, offering avenues for education, economic participation, and social empowerment. However, significant obstacles such as infrastructural deficits, cultural resistance, and the digital divide remain. Addressing these challenges requires a comprehensive, multi-faceted approach to ensure that technology can be a transformative tool for reducing gender disparities and fostering an inclusive environment for Afghan women's advancement.

The research aims to assess the status of technology access among women in Afghanistan, identifying barriers that contribute to gender discrimination. It will evaluate the impact of initiatives like digital literacy programs and infrastructure development on reducing gender discrimination and promoting women's empowerment across various sectors. The study seeks to propose evidence-based strategies and policy recommendations to foster a more inclusive and gender-equitable technological ecosystem in Afghanistan, overcoming systemic barriers and promoting sustainable socio-economic development. Key questions include identifying predominant barriers, evaluating the impact of technology access initiatives, and proposing strategies for a gender-equitable technological environment.

LITERATURE REVIEW

The intersection of gender discrimination and technological advancement has been the subject of extensive research, particularly in regions where socio-cultural barriers significantly impede women's progress. In Afghanistan, the enhancement of technology access to overcome gender discrimination presents both opportunities and challenges, as highlighted by various scholars and studies.

Gender discrimination in Afghanistan is deeply entrenched, manifesting in various forms including restricted access to education, limited employment opportunities, and socio-cultural constraints (Mazhar & Goraya, 2021). These barriers significantly hinder women's ability to participate in and benefit from technological advancements. According to Wafeq (2016), policy changes promoting women's empowerment have been met with resistance, highlighting the need for more robust and culturally sensitive approaches.

Technology's potential to transform educational access for women in Afghanistan is significant. Digital learning platforms and online resources can bridge educational gaps by providing access to knowledge and skills that were previously inaccessible. Anitha and Sundharavadivel (2012) emphasize that Information and Communication Technology (ICT) can play a pivotal role in women's empowerment by enhancing their educational opportunities. Similarly, Putnam (2019) found that ICT usage among Afghan women business leaders has positively impacted their access to education and training, enabling them to improve their professional skills and business acumen.

The economic empowerment of women through digital platforms is another critical area of research. Mobile banking and online marketplaces have the potential to revolutionize the economic landscape for Afghan women by providing them with financial independence and business opportunities. Borah and Kalita (2019) argue that ICT can significantly enhance women's economic participation by facilitating their engagement in entrepreneurial activities. Tharu and Yadav (2018) further support this view, indicating that technological development through electronic communication has positively impacted women's economic empowerment.

Despite the potential benefits, significant challenges remain in enhancing technology access for Afghan women. Infrastructural deficits, such as inadequate internet connectivity and lack of technological devices, pose substantial barriers (Shirazi, 2012). Cultural resistance to women's use of technology also exacerbates these challenges. Renan Barzilay (2019) discusses how platforms can unintentionally cultivate gender inequality, highlighting the need for gender-sensitive technological interventions.

Addressing these challenges requires comprehensive policy measures and community engagement initiatives. Ozkazanc-Pan and Clark Muntean (2018) suggest that networking and supportive policies can help mitigate gender disparities in technology. Similarly, Gibbs and Bishop (2019) emphasize the importance of combined economic empowerment and gender-transformative interventions to promote sustainable development.

Empirical studies provide valuable insights into the impact of technology on women's empowerment. For instance, Mackey and Petrucka (2021) conducted a scoping review on the role of technology in women's empowerment, concluding that access to digital tools can significantly enhance women's social and economic status. Bibi (2019) conducted an empirical analysis on the use of ICT for women's empowerment, finding that increased access to information and communication technologies has positively impacted women's socio-economic conditions.

Developing digital literacy is crucial for maximizing the benefits of technology for Afghan women. Without adequate training and support, women may not fully utilize technological tools available to them. Vishkaie (2018) highlights the importance of digital literacy programs in promoting gender equality, suggesting that such initiatives can empower women to effectively use technology for personal and professional growth.

The experiences of women in other regions provide valuable lessons for Afghanistan. For example, Almarzouki (2019) investigates the influence of technology on Saudi women entrepreneurs, finding that technology has helped them overcome gender discrimination and achieve significant entrepreneurial success. These findings underscore the potential of technology to empower women in similar socio-cultural contexts.

To fully leverage technology for overcoming gender discrimination in Afghanistan, a multi-faceted approach is necessary. This includes not only providing access to technological resources but also implementing comprehensive training programs to develop digital literacy (Ozkazanc-Pan & Clark Muntean, 2018). Policy measures should be designed to encourage female participation in technology-related fields, and community engagement initiatives should aim to shift cultural perceptions regarding women's roles in society (Gibbs & Bishop, 2019).

In conclusion, the literature highlights the significant potential of technology to address gender disparities in Afghanistan. However, realizing this potential requires overcoming substantial challenges, including infrastructural deficits, cultural resistance, and the digital divide. By prioritizing the inclusion of women in the digital revolution and adopting a holistic approach, Afghanistan can harness the full potential of its population, paving the way for a more equitable and prosperous future. The intersection of technology and gender equality holds the promise of a society where women are no longer marginalized but are empowered to contribute to and benefit from the nation's progress.

METHOD

Study Design: A cross-sectional study design was employed to investigate the perceptions of Afghan women regarding technology access and empowerment at Kabul University. This design allowed for the collection of data at a single point in time, offering insights into the current perceptions and experiences of the target population.

Population and Sample Size: The target population comprised Afghan women enrolled or employed at Kabul University. The sample size consisted of 150 participants, representing various fields of education/employment and age groups. The distribution included 50 participants from Economics, 30 from Education, 20 from Computer Science, 30 from the medical field, 10 employees, and 10 entrepreneurs. In terms of age groups, 100 participants were aged 30-35, 20 were aged 35-40, and 30 were aged 25-30.

Participant Demographics: Participants were characterized based on their field of education/employment and age group. This demographic information provided insights into the diversity of the sample and allowed for the analysis of perceptions across different segments of the population.

Data Collection: Structured surveys were administered electronically to collect data on participants' perceptions regarding technology access and empowerment. The surveys were designed to assess various aspects, including the sufficiency of technology access, perceptions of infrastructure accessibility, effectiveness of digital literacy programs, and attitudes towards gender-sensitive policies. The use of structured surveys facilitated standardized data collection and ensured consistency in responses.

Statistical Analysis: Descriptive statistics were used to analyze the demographic characteristics of the participants and present the distribution of responses. Frequency tables were generated to illustrate the distribution of participants across different demographic categories and their responses to survey questions. This analysis provided a comprehensive overview of the sample composition and allowed for the exploration of patterns and trends in participants' perceptions.

RESULT AND DISCUSSION

In this section, we introduce the complex interplay between gender discrimination and technological advancement, particularly in regions like Afghanistan. We delve into the significance of enhancing technology access to address gender disparities and empower women.

Table 1. Demographic Characteristics of Study Participants from WO University

Demographic Characteristic	Frequency (n)	Percentage (%)
Field of Education/Employment		
Economics	50	33.3
Education	30	20.0
Computer Science	20	13.3
Medical	30	20.0
Employee	10	6.7
Entrepreneur	10	6.7
Age Group		
25-30	30	20.0
30-35	100	66.7

Demographic Characteristic	Frequency (n)	Percentage (%)
35-40	20	13.3

The demographic table provides a comprehensive overview of the study participants from WO University. It reveals a diverse composition across fields of education/employment and age groups. Among the participants, Economics is the most represented field, comprising 33.3% of the total sample, followed by Education and Medical at 20.0% each. Computer Science accounts for 13.3% of the participants, while Employee and Entrepreneur categories each represent 6.7%. Regarding age distribution, most participants fall within the 30-35 age group, constituting 66.7% of the sample, followed by 20.0% in the 25-30 age group and 13.3% in the 35-40 age group.

Table 2. Perception of Technology Access Sufficiency among Afghan Women

Response	Frequency	Percentage
Very Sufficient	40	26.7%
Sufficient	50	33.3%
Neutral	20	13.3%
Insufficient	30	20.0%
Very Insufficient	10	6.7%

The analysis of Table 2 illustrates diverse perceptions among Afghan women regarding the sufficiency of their access to technology for their needs. A significant portion, representing 60% of respondents, perceive their access to technology as either very sufficient or sufficient. This suggests a substantial level of satisfaction with the current state of technology access among Afghan women. However, a notable proportion, comprising 20% of respondents, view their access as insufficient or very insufficient, indicating significant barriers or limitations in accessing technology resources. Additionally, 13.3% of respondents remain neutral, suggesting a degree of ambivalence or uncertainty regarding the sufficiency of their technology access. Overall, while most Afghan women perceive their access to technology as satisfactory, there remains a considerable subset facing challenges in this regard, highlighting the need for targeted interventions to address disparities and enhance access for all.

Table 3. Perception of Technology Infrastructure Accessibility among Afghan Women

Response	Frequency	Percentage
Very Accessible	80	32.0%
Accessible	70	28.0%
Neutral	40	16.0%
Inaccessible	45	18.0%
Very Inaccessible	15	6.0%

The analysis of Table 3 reflects varying perceptions among Afghan women concerning the accessibility of technology infrastructure in their communities. A significant proportion, constituting 60% of respondents, view the infrastructure as either very accessible or accessible, indicating a positive perception of the availability of technology resources. However, a notable percentage, comprising 24% of respondents, perceive the infrastructure as inaccessible or very inaccessible, suggesting significant barriers to accessing technology resources. Additionally, 16% of respondents remain neutral, indicating uncertainty or ambivalence regarding the accessibility of technology

infrastructure. This diversity in perceptions underscores the importance of addressing disparities in infrastructure access to ensure equitable technology provision for all Afghan women, facilitating their participation in the digital age.

Table 4. Perception of Digital Literacy Program Effectiveness among Afghan Women

Response	Frequency	Percentage
Highly Effective	50	33.3%
Effective	40	26.7%
Neutral	20	13.3%
Ineffective	25	16.7%
Highly Ineffective	15	10.0%

The analysis of Table 4 reveals diverse perceptions among Afghan women regarding the effectiveness of digital literacy programs in enhancing their technological skills and knowledge. A significant portion, comprising 60% of respondents, perceive these programs as either highly effective or effective, indicating a positive impact on their technological proficiency. However, a notable percentage, representing 27% of respondents, find the programs ineffective or highly ineffective, suggesting room for improvement in program delivery or content. Additionally, 13.3% of respondents remain neutral, indicating uncertainty or ambivalence regarding the effectiveness of digital literacy programs. This variability in perceptions underscores the importance of evaluating and refining digital literacy initiatives to ensure they meet the diverse needs and expectations of Afghan women, ultimately empowering them in the digital landscape.

Table 5. Perception of Infrastructure Development Impact on Afghan Women's Access to Technology-Enabled Opportunities

Response	Frequency	Percentage
Greatly Improve	45	30.0%
Improve	40	26.7%
Neutral	20	13.3%
Do Not Improve	30	20.0%
Worsen	15	10.0%

The analysis of Table 5 illustrates varied perceptions among respondents regarding the impact of infrastructure development initiatives on Afghan women's access to technology-enabled opportunities. A significant proportion, comprising 56.7% of respondents, perceive these initiatives as either greatly improving or improving access to technology-enabled opportunities for Afghan women, indicating a positive effect on their access to technology resources. However, a notable percentage, representing 30% of respondents, believe that these initiatives do not improve or worsen access, suggesting areas for improvement or potential challenges in implementation. Additionally, 13.3% of respondents remain neutral, indicating uncertainty or ambivalence regarding the impact of infrastructure development initiatives. This diversity in perceptions highlights the importance of continued assessment and refinement of infrastructure development strategies to ensure equitable access to technology-enabled opportunities for Afghan women.

Table 6. Perception of Afghan Women on Gender-Sensitive Policy Implementation for Technology Access

Response	Frequency	Percentage
Strongly Support	50	33.3%
Support	40	26.7%
Neutral	20	13.3%
Oppose	25	16.7%
Strongly Oppose	15	10.0%

The analysis of Table 6 reveals varying degrees of support among Afghan women for the implementation of gender-sensitive policies aimed at promoting technology access. A significant portion, comprising 60% of respondents, either strongly support or support the implementation of such policies, indicating a positive stance toward initiatives addressing gender disparities in technology access. However, a notable percentage, representing 26.7% of respondents, express opposition or strong opposition to these policies, suggesting differing viewpoints or concerns regarding their effectiveness or implementation. Additionally, 13.3% of respondents remain neutral, indicating a degree of ambivalence or uncertainty regarding their level of support for gender-sensitive policies. This diversity in perceptions underscores the importance of engaging Afghan women in policy development processes to ensure alignment with their needs and preferences in promoting equitable technology access.

Table 7. Perception of Afghan Women on Government Initiatives for Gender-Equitable Technological Ecosystem

Response	Frequency	Percentage
Highly Effective	45	30.0%
Effective	40	26.7%
Neutral	20	13.3%
Ineffective	30	20.0%
Highly Ineffective	15	10.0%

The analysis of Table 7 indicates diverse perceptions among Afghan women regarding the effectiveness of government initiatives aimed at fostering a gender-equitable technological ecosystem. A significant portion, comprising 56.7% of respondents, perceive these initiatives as either highly effective or effective, indicating a positive impact on promoting gender equity in technology. However, a notable percentage, representing 30% of respondents, view these initiatives as ineffective or highly ineffective, suggesting room for improvement or challenges in implementation. Additionally, 13.3% of respondents remain neutral, indicating uncertainty or ambivalence regarding the effectiveness of government initiatives. This variability in perceptions underscores the importance of continual evaluation and refinement of government policies and programs to ensure they effectively address gender disparities in technology access and participation.

DISCUSSION

The intersection of gender discrimination and technological advancement has been a focal point of extensive research, particularly in regions where socio-cultural barriers significantly impede women's progress. In Afghanistan, where gender

disparities are deeply entrenched, enhancing technology access presents both opportunities and challenges. The literature review highlights various dimensions of this complex issue, providing insights into the barriers faced by Afghan women and the potential of technology to address gender discrimination.

Gender discrimination in Afghanistan manifests in numerous forms, including restricted access to education, limited employment opportunities, and socio-cultural constraints (Mazhar & Goraya, 2021). These barriers create significant hurdles for women, limiting their ability to participate in and benefit from technological advancements. Policy changes aimed at promoting women's empowerment have encountered resistance, emphasizing the need for more robust and culturally sensitive approaches (Wafeq, 2016).

Technology holds promise in transforming educational access for Afghan women. Digital learning platforms and online resources can bridge educational gaps by providing access to knowledge and skills previously inaccessible (Anitha & Sundharavadivel, 2012; Putnam, 2019). Similarly, ICT usage among Afghan women business leaders has positively impacted their access to education and training, enabling them to improve their professional skills and business acumen (Putnam, 2019). Moreover, initiatives such as mobile banking and online marketplaces have the potential to revolutionize the economic landscape for Afghan women, offering financial independence and business opportunities (Borah & Kalita, 2019; Tharu & Yadav, 2018).

However, significant challenges hinder the enhancement of technology access for Afghan women. Infrastructural deficits, including inadequate internet connectivity and lack of technological devices, pose substantial barriers (Shirazi, 2012). Moreover, cultural resistance to women's use of technology exacerbates these challenges, perpetuating gender inequality (Renan Barzilay, 2019).

Addressing these challenges necessitates comprehensive policy measures and community engagement initiatives. Networking and supportive policies can help mitigate gender disparities in technology (Ozkazanc-Pan & Clark Muntean, 2018). Similarly, combined economic empowerment and gender-transformative interventions are crucial for promoting sustainable development (Gibbs & Bishop, 2019). Empirical studies provide valuable insights into the impact of technology on women's empowerment in Afghanistan. Access to digital tools can significantly enhance women's social and economic status (Mackey & Petrucka, 2021). Increased access to ICT has positively impacted women's socio-economic conditions, underscoring the potential of technology to empower women (Bibi, 2019).

Digital literacy is pivotal for maximizing the benefits of technology for Afghan women. Digital literacy programs play a crucial role in promoting gender equality by empowering women to effectively use technology for personal and professional growth (Vishkaie, 2018). Lessons from the experiences of women in other regions, such as Saudi Arabia, offer valuable insights for Afghanistan. Technology has helped Saudi women entrepreneurs overcome gender discrimination and achieve significant entrepreneurial success, highlighting the transformative potential of technology in similar socio-cultural contexts (Almarzouki, 2019).

In conclusion, the literature review and discussion underscore the significant potential of technology to address gender disparities in Afghanistan. However, realizing this potential requires concerted efforts to overcome infrastructural deficits, cultural resistance, and the digital divide. By prioritizing digital literacy, enhancing

infrastructure, and implementing gender-sensitive policies, Afghanistan can unlock the transformative power of technology, paving the way for a more equitable and prosperous society.

CONCLUSION

In conclusion, the discourse surrounding gender discrimination and technological advancement in Afghanistan underscores the complexity of the issue and the multifaceted approaches required for meaningful progress. While technology presents immense opportunities for empowering Afghan women, it also brings to light significant challenges that must be addressed to ensure equitable access and participation.

The literature review illuminates the entrenched nature of gender discrimination in Afghanistan, manifesting in various socio-cultural barriers that impede women's progress. These barriers include restricted access to education, limited employment opportunities, and cultural resistance to women's use of technology. Policy changes aimed at promoting women's empowerment often face resistance, underscoring the need for culturally sensitive approaches and comprehensive strategies.

Despite these challenges, there is optimism regarding the potential of technology to transform educational access, economic empowerment, and overall societal participation for Afghan women. Digital learning platforms, ICT, and initiatives such as mobile banking have demonstrated positive impacts on women's education and economic opportunities. However, the effectiveness of these initiatives is contingent upon addressing infrastructural deficits, such as inadequate internet connectivity, and overcoming cultural barriers.

To fully leverage the potential of technology for women's empowerment in Afghanistan, a holistic approach is essential. This includes not only providing access to technological resources but also implementing comprehensive training programs to develop digital literacy. Moreover, policy measures must be designed to encourage female participation in technology-related fields, and community engagement initiatives should aim to shift cultural perceptions regarding women's roles in society.

In essence, the discourse on gender discrimination and technological advancement in Afghanistan emphasizes the need for concerted efforts from policymakers, educators, community leaders, and other stakeholders. By prioritizing gender-sensitive policies, investing in infrastructure, and fostering digital literacy, Afghanistan can pave the way for a more equitable and prosperous future where women are empowered to contribute to and benefit from technological advancements.

RECOMMENDATION AND FUTURE RESEARCH

Recommendations

1. Develop gender-sensitive policies and programs tailored to the unique socio-cultural context of Afghanistan to promote women's access to and utilization of technology.
2. Invest in infrastructure development to improve internet connectivity and access to technological resources in rural and underserved areas.

3. Implement comprehensive digital literacy programs to equip Afghan women with the skills and knowledge needed to effectively navigate and leverage technology for personal and professional development.

Future Research

Exploring the long-term impacts of technology access and empowerment initiatives on Afghan women's socio-economic status and well-being, considering factors such as employment opportunities, income generation, and social inclusion.

ACKNOWLEDGMENT

We express gratitude to all participants whose invaluable insights contributed to this research. Your involvement is deeply appreciated, and we extend our sincere thanks for your time and cooperation.

REFERENCES

- Almarzouki, R. A. (2019). *Investigating the influence of technology on Saudi women entrepreneurs overcoming gender discrimination* (Doctoral dissertation, University of Reading). <https://doi.org/10.1002/cjas.106>
- Anitha, L., & Sundharavadivel, D. (2012). Information and communication technology (ICT) and women empowerment. *International Journal of Advanced Research in Management and Social Sciences*, 1(4), 143-152.
- Bibi, C. (2019). Information and Communication Technology and Women Empowerment: An Empirical Analysis. *Journal of Policy Options*, 2(1). <https://resdojournals.com/index.php/jpo/article/view/44>
- Borah, S., & Kalita, H. C. (2019). Information communication technology and women empowerment. *Journal of Pharmacognosy and Phytochemistry*, 8(5S), 365-368. <https://www.phytojournal.com/special-issue?year=2019&vol=8&issue=5S&ArticleId=9214>
- Khalili, B. G., Rahimi, B., Akrami, M., Hejran, M., & Hakimi, M. (2024). Assessing the Impact of social media on Youth's Entrepreneurship Development in Afghanistan.
- Dahniar, N., Salam, S., & Suherman, A. (2021, November). Women's Image on Youtube Content "Sexual Price Survey": Gender Identity Perspective and Artificial Intelligence. In *3rd Jogjakarta Communication Conference (JCC 2021)* (pp. 125-130). Atlantis Press. <https://doi.org/10.2991/assehr.k.211121.029>
- Dyvik, S. L. (2014). Women as 'Practitioners' and 'Targets' Gender and Counterinsurgency in Afghanistan. *International Feminist Journal of Politics*, 16(3), 410-429. <https://doi.org/10.1080/14616742.2013.779139>
- Gibbs, A., & Bishop, K. (2019). Combined economic empowerment and gender transformative interventions. *Evidence Review Pretoria: What Works to Prevent Violence*, SAMRC.
- Shahbazi, H., Hakimi, M., Ulusi, H., Rahimi, B., & Quraishi, T. (2024). Exploring the Impact of Artificial Intelligence on Women's Empowerment: A Comprehensive Survey. *EDUTREND: Journal of Emerging Issues and Trends in Education*, 1(2), 108-120. <https://doi.org/10.59110/edutrend.333>

- Lemons, M.A., Parzinger, M. Gender Schemas: A Cognitive Explanation of Discrimination of Women in Technology. *J Bus Psychol* **22**, 91-98 (2007). <https://doi.org/10.1007/s10869-007-9050-0>
- Mackey, A., Petrucka, P. Technology as the key to women's empowerment: a scoping review. *BMC Women's Health* **21**, 78 (2021). <https://doi.org/10.1186/s12905-021-01225-4>
- Hakimi, M., Quchi, M. M., Hasas, A., & Fazil, A. W. (2024). The Transformative Power of Information and Communication Technology in Empowering Women in Afghanistan. *Journal of Social Science Utilizing Technology*, *2*(1), 275-287.
- Mazhar, P. D. M. S., & Goraya, D. N. S. (2021). Afghan women education: Bottlenecks & future. *South Asian Studies*, *1*(35). <http://111.68.103.26//journals/index.php/IJSAS/article/view/4104>
- Wafeq, N. (2016). Shifting Perspectives: Changing Policies Promoting Women's Empowerment in Afghanistan. <http://hdl.handle.net/1794/20503>
- McBride, K., & Wibben, A. T. (2012). The gendering of counterinsurgency in Afghanistan. *Humanity: An International Journal of Human Rights, Humanitarianism, and Development*, *3*(2), 199-215.
- Niroo, W. T., & Crompton, H. (2022). Women's Empowerment Through the Use of Technology. *Asian Journal of Distance Education*, *17*(2). <https://doi.org/10.5281/zenodo.7117324>
- Putnam, K. A. (2019). *ICT Usage among Afghan Women Business Leaders: A Descriptive Case Study* (Doctoral dissertation, University of Phoenix).
- Renan Barzilay, A. (2019). The technologies of discrimination: How platforms cultivate gender inequality. *The Law & Ethics of Human Rights*, *13*(2), 179-202. <https://www.degruyter.com/document/doi/10.1515/lehr-2019-2006/html>
- Tharu, M., & Yadav, R. G. (2018). Effects of technological development through electronic communication in women empowerment. *International Journal of Humanities and Social Sciences (IJHSS)*, *7*(5), 93-100.
- Shirazi, F. (2012). Information and communication technology and women empowerment in Iran. *Telematics and Informatics*, *29*(1), 45-55. <https://doi.org/10.1016/j.tele.2011.02.001>
- Vishkaie, R. (2018). Women, Gender Equality, and Digital Technology. In: Stephanidis, C. (eds) *HCI International 2018 - Posters' Extended Abstracts*. HCI 2018. Communications in Computer and Information Science, vol 850. Springer, Cham. https://doi.org/10.1007/978-3-319-92270-6_43
- Ozkazanc-Pan, B., & Clark Muntean, S. (2018). Networking towards (in) equality: Women entrepreneurs in technology. *Gender, Work & Organization*, *25*(4), 379-400. <https://doi.org/10.1111/gwao.12225>
- Tanwir, M., & Khemka, N. (2018). Breaking the silicon ceiling: Gender equality and information technology in Pakistan. *Gender, Technology and Development*, *22*(2), 109-129. <https://doi.org/10.1080/09718524.2018.1496695>