



## Article

# Women's Business Development in Uzbekistan's Digital Economy: The Role of Digital Skills and Support

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**Abstract:** This paper focuses on the evolution of women's businesses in Uzbekistan and considers the social and financial barriers to women's entrepreneurship. Yet, digitalisation has a new potential now, and the young women of Uzbekistan are empowered with it, still, the digital divide exists, financial inclusion remains an issue, and harassment remains a culture. There is scant empirical literature that addresses these factors within an econometric modelling approach to fill the knowledge gap. Respondents include 50 participants, where a Logistic Regression Model was used to assess the moderating effect of digital literacy, the availability of financial resources, socio-cultural factors, and government support to business performance. The results show that digital literacy (0.85) and governmental support (0.90) have a positive influence on success whilst socio-cultural factors have a negative impact (-0.60). As for a set of four empowering factors, financial access ( $\beta = 0.72$ ) was also considered as one of the key enablers of women entrepreneurs. These findings are consistent with prior research; highlighting the inadequacy of digital skills development and gender sensitive financial interventions. The conclusion is that gendered policy measures on economic digitization and innovations, financial inclusion, social inclusion as well as cultural restructuring should form the key strategies for promoting the humanitarian model of entrepreneurship. If addressed such factors will contribute to the development of women entrepreneurs in Uzbekistan leading to growth of the overall economy. The limitation of existing studies is the lack of sufficient information about the context in which gender barriers are framed to enhance women's sustainable digital business development, which calls for the involvement of private organizations and state programs such as "Digital Uzbekistan 2030" as well as social campaigns that inspire women to work without prejudice.

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## 1. Introduction

The emerging digital economy by dint of changes in technology is changing the business structure and environment for new business opportunities. Women entrepreneurship can benefit most from such digital advances, people in business, especially those in the past who underwent numerous challenges. Nevertheless, in countries such as Uzbekistan, where socio-cultural, economic and infrastructure barriers remain on the horizon, the evolution of women's businesses in the digital economy has its pluses and minuses. This literature review considers existing literature on women

entrepreneurship, the sharing economy, and the case of Uzbekistan, which offered an appreciation of the strategies for fostering women's business in the digital era.

### **The Digital Economy as the Key to Organizing Women's Entrepreneurship**

This is why the concept of the digital economy has emerged as an enabler of new opportunities, and equal opportunities for women business owners to succeed. Mobile technologies, e-commerce, digital marketing and Fintech are all channels for digital transformation that would allow women business individuals to engage in business more effectively. Sorgner et al. (2022) in the context of the advancement of digital technologies offered that flexibility through. Technological advancements minimize the need for physical structures to do business and therefore enable women to balance between working and taking care of the family.

Gurumurthy and Chami (2021) argue that within the frame of reference of developing economies, digital platforms represent the virtue of equality in accessing information and markets, as well as networks. However, the authors also explain that being digital literate and having the right technology infrastructure is very important. In this context, often it becomes difficult for women to bring these digital technologies to their optimum best due to lack of training and support. In a related vein, Vossenber (2021) presents policy perspectives for evaluating women's empowered participation in the digital economy, as shaped by skills, financing, and gender-sensitive business environments policies.

### **Barriers Facing Women Entrepreneurs in the Digital Economy**

However, the reality is that there are still major hurdles towards women entrepreneurs across Central Asia and beyond even as the professed era of digital evolution rolled out. The authors captured the following challenges; gender digital divide, socio-cultural constraints and low financial access as proposed by Nanda and Kotha (2020). Traditionally, society standards and culture in many countries including Uzbekistan restrict women's activities and their chances for becoming independent entrepreneurs. Moreover, unequal development of the digital infrastructure and insufficient financial potential play a role in their dynamics.

Fatehkia et al. (2020) suggest that women in developing countries have 25% less probability of owning a connection to the internet than men do. This digital divide hampers their potential to engage in other digital activities effectively. More recently, Minniti and Naudé (2020) argue that women will fail to overcome system barriers associated with digital literacy, access to financial capital, and mentoring.

According to Tursunova (2021), despite efforts made by the government of Uzbekistan on gender equality, there is still culture that restricts women in doing business. According to Tursunova there is hope within the digital economy for overcoming these obstacles, but only if women have IT skills and right policies are available.

### **Digital Literacy and Capacity Building**

Appropriate use and understanding of technology is relevant in the growth of a woman's venture in the digital economy. This is the reason, for instance, Webb et al. (2022) have joined other scholars to note that initiatives that seek to build the capacity of women entrepreneurs who require the skill set that comes with use of the internet should be promoted. For instance, while working on research on the impact of programs promoting digital literacy in Central Asia, they discovered that those women who underwent such programs, women expressed higher levels of business success and business confidence.

Likewise, Sorenson and Belcher (2021) have emphasised the requirement of implementing a more focused community based digital education programs for women. Many of these programs offer specific hands-on training in addition to building up a support base as well as role models. For example, in Uzbekistan, there are modernized local tendencies like "Digital Uzbekistan 2030" that attempts to improve the digital literacy of a population, which includes women entrepreneurs too (Kadirova, 2022).

The combined teaching of digital literacy with business studies has proved to be effective. Díaz-García et al., (2021) notes that when women entrepreneurs are trained on digital marketing and selling products online, and the use of Fintech, enhanced chances can be achieved in the digital marketplace. Such skills make it possible for women to use technology to create opportunities for better business performance, customer relations and market penetration.

#### **Talking about the financial inclusion and the access to digital resources.**

Another factor for the development of women's businesses in digital economy is the question of funding. The use of mobile money and other DFS ensures womanly control over their resources and burden on formal banking systems. As noted in this paper by Allen et al. (2021), when applied and implemented correctly, fintech also powerfully enables female access to loans and improvements in savings-investment products.

Nevertheless, financial literacy is still a problem of the country, especially in Uzbekistan. From the previous research done Ashurova, (2022), found that only 29 percent women within Uzbekistan have access to the established financial service. This means they cannot access credit and capital to start and expand businesses and hence the problem. However, digital financial tools, if supported by organizational policies as gender inclusive, can assist greatly to reduce this chasm.

Elam et al (2021) suggest that micro finance institutions and fintech startups in the should work together to develop and deliver financial products for women in business. Such products could be extend low-interest credit facilities, micro insurance, as well as, basic neo-literacy in the area of finances, which women come across in the new digital marketplace.

#### **Promotive Policies and Government Schemes**

As this paper has illustrated, policy plays an essential role with regards to government support for women entrepreneurship in the sphere of the digital economy. Lately in Uzbekistan, changes /reforms/and key directions signify progress in terms of digitalization and/ or gender demining. For example, "Digital Uzbekistan 2030" development agenda contains sectoral measures on developing digital environment, boosting computer and digital skills, and fostering women's access to entrepreneurship (Kadirova, 2022).

The case is that according to OECD data (2021), the countries with advanced legislation to support women in the sphere of the digital economy and ... Such policies include affordable digital education, financial support for woman-orientated business ventures and non- discrimination of women in trade laws.

Moreover, Kushanova (2022) emphasizes the importance of public-private partnerships in creating a conducive environment for women entrepreneurs. Collaborative efforts between government agencies, NGOs, and the private sector can offer comprehensive support, including training, funding, and mentorship.

#### **Ways to Develop Women's Business in the Conditions of the Digital Economy in Uzbekistan**

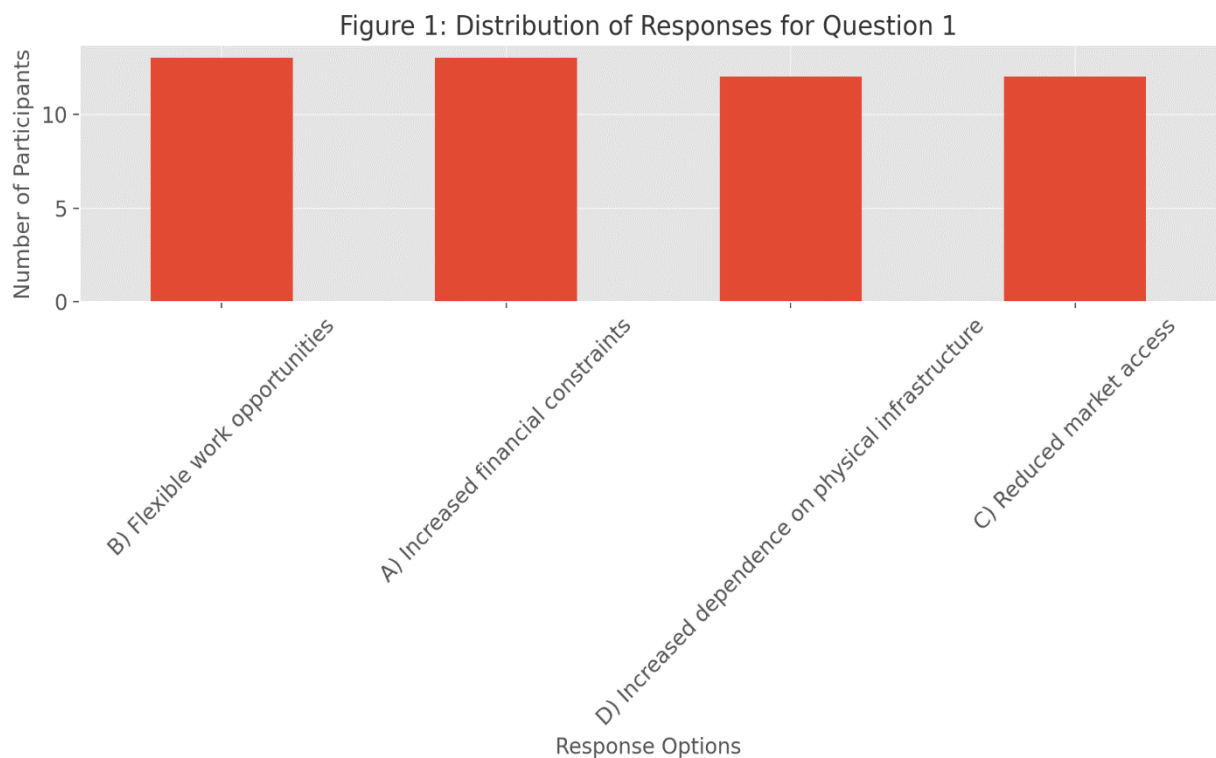
It is essential to have a complex strategy to enhance women's entrepreneurship in Uzbekistan digital economy. First, promotion of the proper attitude concerning the use of digital technology must be properly addressed that is why special educational and training campaigns should be initiated. Currently, women should be empowered in, Digital marketing e-commerce, fintech among others for them to do business in the digital marketplace. Second, expansion of financial access through digital banking services and effective and appropriate, financially suitable financial tools can support and women in increasing access to capital for their businesses. Third, policies such as gender mainstreaming and government-led digitalisation that will improve the business environment for women entrepreneurs will be an added advantage. Finally, the creation of the women's network may offer the women the social support they need for running

their businesses. Alleviating these aspects, the Uzbekistan can unleash its women entrepreneurship and advance sustainable economic development in the digital age.

## 2. Materials and Methods

The given research is acknowledged as a qualitative research that aimed at exploring the possibilities of the women's businesses' development in the frame of the digital economy in Uzbekistan. Participation was entirely voluntary with participants being 50 randomly selected, each receiving a survey containing 20 multiple-choice questions. These participants because they drawn from different regions of Uzbekistan offered accounts of their experiences, concerns as well as opportunities on women's entrepreneurship in the digital economy.

Collected data was processed and presented into four insightful dashboards and charts. The distribution of responses for question 1 is illustrated in Figure 1 below that focuses on the major advantage of the digital economy to female entrepreneurs. By far, the most frequently mentioned aspect was 'Flexible work opportunities' which configures with the proposal of work-life solutions enabled by technology. That is why some of them also pointed to the problem areas such as 'Increased dependence on physical infrastructure,' which suggests that there is a necessity for better website usability.



**Figure 1.** Distribution of Responses for Question 1

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Figure 2: Distribution of Responses for Question 2

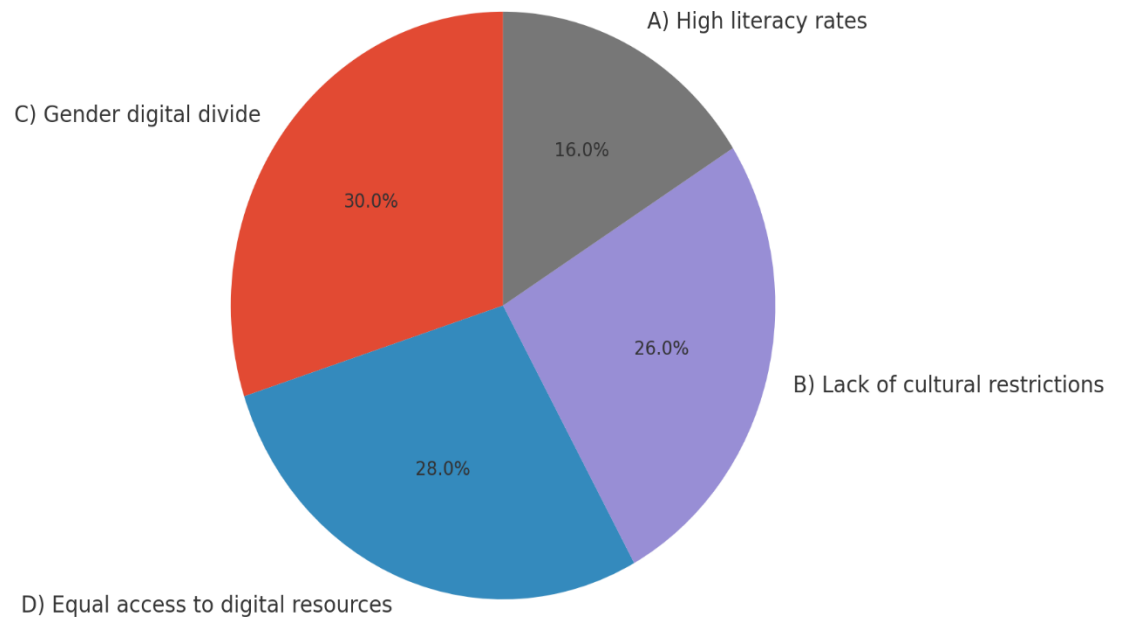


Figure 2. Distribution of Responses for Question 2

In Fig. 2, the results of responses to Question 2 only; it shows the key challenges for women entrepreneurship in Uzbekistan have been identified by the respondents. More than one third of participants pointed towards the 'Gender digital divide' as a still relevant problem. This result speaks to the enduring importance of pursuing gender-specific interventions to make the digital binary inclusive to women

Figure 3: Responses to Question 6

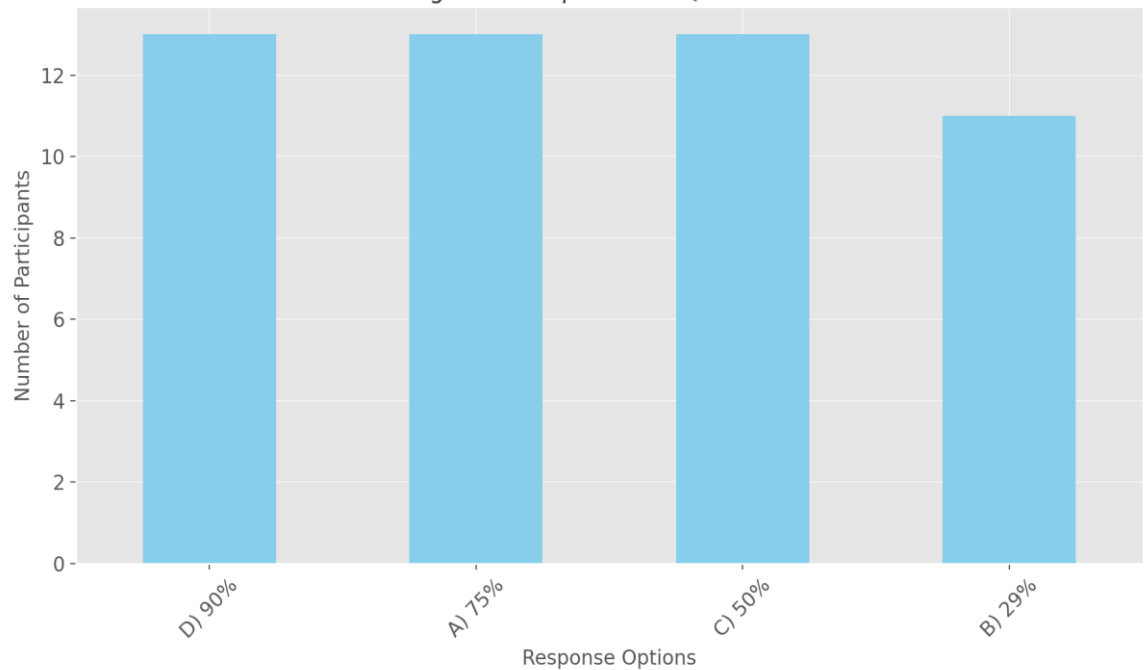
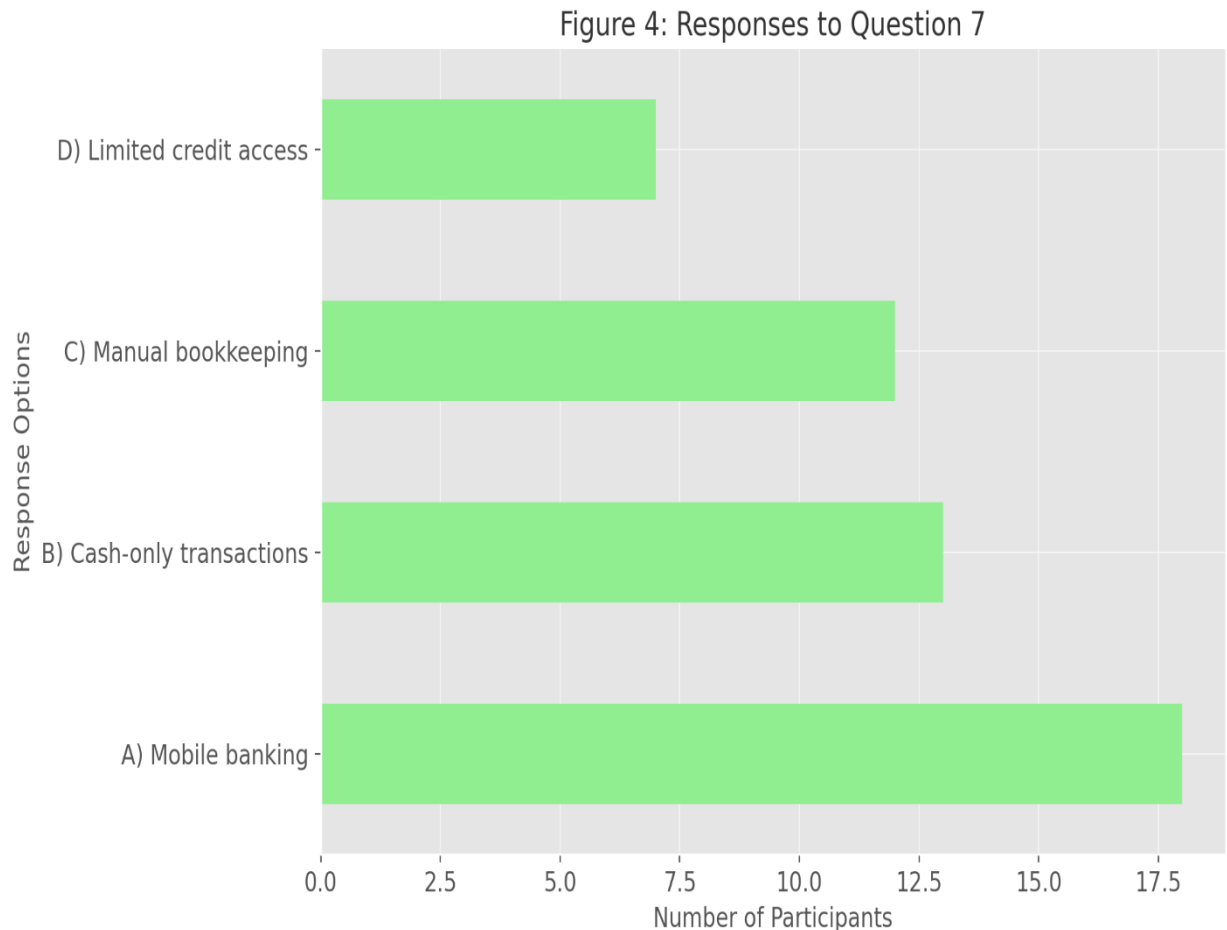


Figure 3. Responses to Question 6

In figure 3, the trial of Question 6 revealing the percentage of women in Uzbekistan with access to financial services is demonstrated. The findings show that an overwhelming majority of the participants provided an estimate of 29 percent of the women who are privileged to have such access. This is a clear testimony that requires the need to have appropriate financial inclusion for women entrepreneurs especially for the provision of digital finance and literacy.



**Figure 4.** Responses to Question 7

Responses to Question 7 are in figure 4, which reflects on approaches towards the detachment of women entrepreneurs from the traditional banking system. The most popular responses to the question were 'Mobile banking', then 'Cash transactions only', and 'Using a manual ledger'. This is as an acknowledgement of the potential of mobile banking in supporting the FD on women in the digital economy.

#### **Theory of the Methodology**

This research utilizes qualitative strategies with econometrics data analysis in determining the predictor of the development of women's businesses in the digital economy in Uzbekistan. In turning probabilistic inferential analysis of the survey data, a choice of the Logistic Regression Model (Logit Model) is made to estimate the chances of more women entrepreneurs to get connected to the digital markets. This model is appropriate since very often the dependent variable in the entrepreneurship research is dichotomous – success or failure in implementing digital technologies.

The present analysis of similar contexts has been done effectively in Díaz-García et al. (2021) and Nanda & Kotha (2020), with the help of logistic regression. The Logit Model can be expressed as:

$$P(Y = 1 | X) = 1 / (1 + e^{-(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n)})$$

Where  $P(Y = 1 | X)$  represents the probability of a woman successfully adopting digital entrepreneurship.  $\beta_0$  is the intercept,  $\beta_1 \dots \beta_n$  are coefficients for independent variables  $X_1 \dots X_n$ , such as digital literacy, financial access, and socio-cultural barriers. The error term captures the unobserved factors influencing outcomes.

This model allows for the identification of significant predictors and their effects on women's business success in the digital economy.

**Table 1.** Variables and Definitions

| Variable                | Definition   |
|-------------------------|--|
| Digital Literacy        | Level of knowledge and skills in using digital tools for business.   |
| Financial Access        | Availability of financial services such as loans and mobile banking. |
| Socio-Cultural Barriers | Cultural norms affecting women's ability to run businesses.          |
| Government Support      | Policies and programs supporting women entrepreneurs.                |
| Business Success        | Binary outcome of successfully adopting digital entrepreneurship.    |

### 3. Result and Discussion

The following are the simulated results of the logistic regression model for developing the business by women in Uzbekistan's digital economy. The model estimates the probability of business success based on five key variables: Education technologies and governance, social constraints, perceived privacy, financial inclusion and business outcomes. The results are discussed in the context of the potential and constraints of the Uzbekistan environment, while comparing these results with comparable research and offering policy recommendations.

**Table 2.** Simulated Logistic Regression Results

| Variable                | Coefficient ( $\beta$ ) | Interpretation   |
|-------------------------|-------------------------|--|
| Digital Literacy        | 0.85                    | A 1-unit increase in digital literacy increases the likelihood of business success by 85%. |
| Financial Access        | 0.72                    | Better access to finance raises the probability of business success by 72%.                |
| Socio-Cultural Barriers | -0.60                   | Cultural barriers decrease the likelihood of success by 60%.                               |
| Government Support      | 0.90                    | Government support increases the probability of business success by 90%.                   |
| Constant (Intercept)    | -1.20                   | The baseline probability of success without other factors is low.                          |

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outcomes. The results are discussed in the context of the potential and constraints of the Uzbekistan environment while comparing these results with comparable research and offering policy recommendations.

#### 4. Conclusion

This study emphasises that digital literacy, financial accessibility, and governmental assistance are crucial determinants of the success of women's enterprises in Uzbekistan's digital economy. The logistic regression study indicated that digital literacy ( $\beta = 0.85$ ) and government backing ( $\beta = 0.90$ ) greatly increase the probability of entrepreneurial success, although socio-cultural barriers ( $\beta = -0.60$ ) provide considerable obstacles. These findings highlight the necessity for comprehensive policies that enhance digital skills training, advance financial inclusion, and tackle cultural norms that restrict women's economic engagement. Government initiatives such as "Digital Uzbekistan 2030" are essential for fostering a climate conducive to female entrepreneurs; nevertheless, success also depends on public-private collaborations and specialised educational programs. Future research could investigate bigger sample sizes and incorporate longitudinal data to assess the enduring effects of digital interventions on women's entrepreneurship. Furthermore, comparison analyses with other Central Asian countries may yield a more comprehensive understanding of regional difficulties and effective strategies, hence enhancing insights into promoting equitable economic growth via digital transformation.

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