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## Using Information and Communication Technology to Support Women's Entrepreneurship in Central and West Asia

Inmaculada Martinez  
*Asian Development Bank*

Thao Nguyen PhD

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## Using Information and Communication Technology to Support Women's Entrepreneurship in Central and West Asia

### Abstract

#### Key Points

- In several Central and West Asian countries, women are less likely to become entrepreneurs, and their businesses are more likely to be informal, stay small, generate less revenue, and employ fewer people.
- Information and communication technology (ICT) tools not only improve business performance but can also be used to overcome challenges specific to women entrepreneurs—time and mobility constraints; access to formal financial services, information, skills, and personalized advice; and participation in business networks.
- However, lack of ICT skills, lower purchasing power, and cultural barriers hinder women entrepreneurs from accessing and using ICT.
- Governments, financial service providers, and business development service providers have room to more effectively leverage ICT to serve women entrepreneurs.
- Women represent an unmet market opportunity for the private sector, opening up public–private partnership options to develop sustainable initiatives and services.

### Keywords

gender, entrepreneurship, information and communication technology, Asia

### Comments

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# USING INFORMATION AND COMMUNICATION TECHNOLOGY TO SUPPORT WOMEN'S ENTREPRENEURSHIP IN CENTRAL AND WEST ASIA

Inmaculada Martinez  
Private Sector Development Specialist  
Central and West Asia Department  
Asian Development Bank

Dr. Thao Nguyen  
Consultant  
Entrepreneurship Development,  
Gender, and Information and  
Communication Technology

## INTRODUCTION

After the transition to market economies in the 1990s, the role of entrepreneurship changed significantly in Central and West Asian developing countries. It is more prominent in fostering economic development and social inclusion, creating jobs, and facilitating structural change. Inclusive growth requires the economic participation of both men and women. In several Central and West Asian countries, however, women's entrepreneurial potential remains underutilized. Women are less likely to become entrepreneurs and their businesses are more likely to be informal, stay small, generate less revenue, and employ fewer staff.<sup>1</sup>

Information and communication technology (ICT), which generally refers to a range of communication systems, devices, applications, and services (such as mobile phones, computers, and the internet), offers powerful tools to change and foster new economic opportunities for women. For micro and small enterprises, the use of ICT has led not only to better business performance but also better living conditions.<sup>2</sup> It can also be particularly effective in loosening constraints on women in enterprise development. However, women lag behind men in access to technology and use ICT differently. Understanding why can help leverage ICT to help women's businesses.

<sup>1</sup> Sabarwal, S. and K. Terrell. 2008. *Does Gender Matter for Firm Performance? Evidence from Eastern Europe and Central Asia*. IZA Discussion Paper No. 3758. October.

<sup>2</sup> United Nations Conference on Trade and Development. 2010. *Information Economy Report 2010*. Geneva.

The Asian Development Bank (ADB) supports the growth of women’s businesses in Central and West Asia.<sup>3,4</sup> As part of this development agenda, ADB has undertaken a regional study to better understand issues related to access and use of ICT, as well as the needs and preferences of women entrepreneurs in relation to ICT in selected Central and West Asian countries. The study, to be published in 2014, focuses on ICT’s potential to catalyze women’s entrepreneurship in Azerbaijan, Kazakhstan, the Kyrgyz Republic, and Uzbekistan.<sup>5</sup>

This brief gives an overview of women’s entrepreneurship in the region, and describes (i) how ICT can be used to support business activity and overcome challenges specific to women, (ii) the barriers preventing women from enjoying the full benefits associated with ICT, and (iii) the methodology used for the regional study. Finally, it summarizes the study’s strategic recommendations for ADB and other stakeholders.

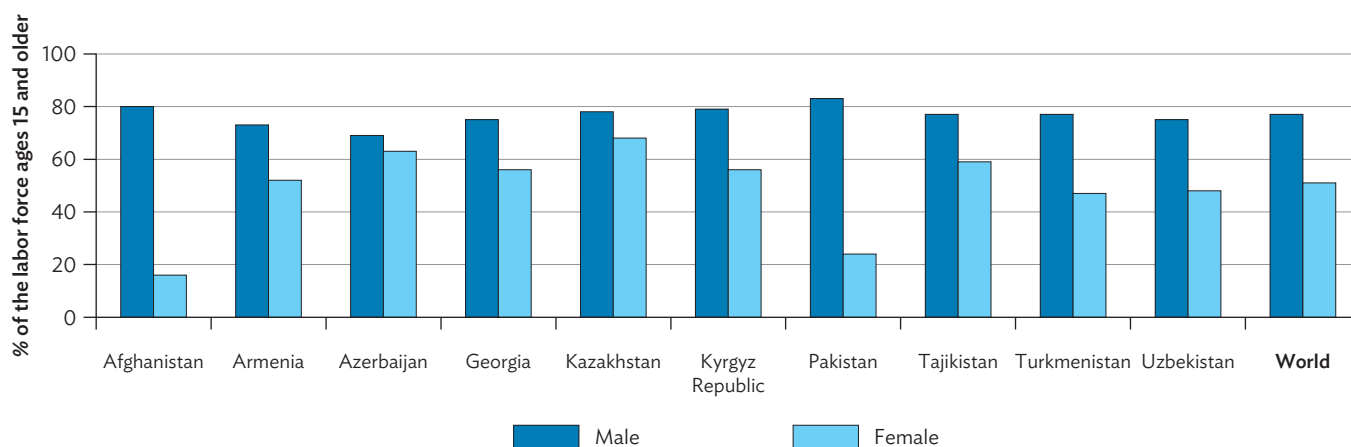
## WOMEN’S ENTREPRENEURSHIP IN CENTRAL AND WEST ASIA

There is limited data on the gap between men and women business operators or owners in Central and West Asia, but the figures below provide some insight.

Women play an important role in Central and West Asian economies. In most countries, they comprise a significant percentage of the labor force and, in some, make up more than the world average of 51% (Figure 1).

Table 1 shows the representation of women leaders in firms, either as owners or managers. Although women’s representation may be higher in Central and West Asia than in other parts of the world, these figures do not reflect the significance of women’s participation in the labor market or their educational achievements.<sup>6</sup> In this region, literacy rates for men and women are high—above 99% in most countries.<sup>7</sup>

**Figure 1** Labor Force Participation Rate by Sex (%), 2012



Source: World Bank. World Development Indicators. <http://data.worldbank.org/data-catalog/world-development-indicators> (updated 9 April 2014).

<sup>3</sup> For ADB, Central and West Asia includes Afghanistan, Armenia, Azerbaijan, Georgia, Kazakhstan, the Kyrgyz Republic, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan.

<sup>4</sup> For example, the following ADB projects: Women Entrepreneurship Development Project in the Kyrgyz Republic (2012); Women’s Entrepreneurship Support Sector Development Program in Armenia (2012); the Second Small and Microfinance Development Project in Uzbekistan (2010); and the Multitranche Financing Facility: Small and Medium Enterprise Investment Program in Kazakhstan (2010).

<sup>5</sup> The study is funded through ADB. 2010. *Technical Assistance for Promoting Gender-Inclusive Growth in Central and West Asia Developing Member Countries*. Manila.

<sup>6</sup> For example, according to the World Economic Forum’s *Global Gender Gap Report 2012*, the female-to-male ratio of professional and technical workers in Azerbaijan was 1.17 to 1 in the sample being studied, and educational attainment was almost equal for enrollment in primary, secondary, and tertiary education. In Kazakhstan, the female-to-male ratio of professional and technical workers was 2.02 (nearly twice as many women than men were professional and technical workers), and enrollment in tertiary education for female to male was 1.44. [http://www3.weforum.org/docs/WEF\\_GenderGap\\_Report\\_2012.pdf](http://www3.weforum.org/docs/WEF_GenderGap_Report_2012.pdf)

<sup>7</sup> Except for Afghanistan (where no data is available) and Pakistan (40% female literacy rate versus 69% for males). World Development Indicators Database. Data accessed 15 November 2013. <http://databank.worldbank.org/data/home.aspx>

**Table 1** Female Participation in Business (%)

Country/Region	Firms with Female Participation in Ownership	Firms with a Female Top Manager	Permanent Full-Time Female Workers	Permanent Full-Time Nonproduction Female Workers <sup>a</sup>
Eastern Europe and Central Asia	34.0	21.2	39.4	44.3
Afghanistan (2014)	2.4	4.6	24.4	47.4
Armenia (2009)	31.8	13.5	36.9	12.8
Azerbaijan (2013)	4.1	2.4	31.4	42.9
Georgia (2013)	33.9	32.1	44.4	23.3
Kazakhstan (2013)	28.3	18.8	35.9	48.3
Kyrgyz Republic (2013)	51.1	28.8	45.1	52.8
Pakistan (2007)	6.7	n/a	0.8	0.1
Tajikistan (2008)	34.4	11.8	31.4	8.1
Uzbekistan (2008)	39.8	11.4	34.1	11.4

n/a = not available.

<sup>a</sup> Indicator computed using data from manufacturing firms only.

Source: World Bank and European Bank for Reconstruction and Development. Business Environment and Enterprise Performance Surveys. Most recent data available.

Women tend to own businesses in low-growth, low-income sectors of the economy, with lower levels of efficiency and smaller firms.<sup>8</sup> This situation can be attributed to several factors, including women-specific barriers that either do not affect male-owned enterprises, or do not affect them to the same degree. Women have greater difficulty accessing formal financial services, in part because their businesses tend to be smaller and have less access to collateral. Women also tend to have weaker managerial and business skills, less financial knowledge, and less business experience because of their time constraints resulting from a disproportionately large share of family responsibilities. Traditional cultural norms also constrain mobility, limiting women's opportunities to benefit from business development support, networks, and access to information. Finally, an unfavorable business environment will affect smaller businesses disproportionately as they operate with more limited economies of scale and incur higher costs of doing business.

Preliminary findings from ADB's regional study are consistent with global research results. Fieldwork in the four countries studied shows that women entrepreneurs tend to concentrate on food processing, textiles, beauty care, and handicrafts. Time and mobility constraints are commonly shared concerns, and

traditional social norms limit women's economic role, especially in Azerbaijan. Access to finance, information, and markets are also highlighted, in that order, as important barriers to growing a business.<sup>9</sup>

## INFORMATION AND COMMUNICATION TECHNOLOGY TO LEVERAGE WOMEN'S ENTREPRENEURSHIP

ICT<sup>10</sup> can provide effective tools to support economic activities. ICT, especially mobile phones, computers, and the internet, have become essential to develop business and enhance competitiveness. In particular, the high penetration of mobile phones in developing countries and the increased affordability of internet services have brought about unprecedented opportunities for people to leverage these technologies to start and grow businesses. According to the International Telecommunication Union, in 2013 there were approximately 6.8 billion mobile phone subscriptions in the world, almost as many as the world's population. The price of ICT services dropped by 30% globally between 2008 and 2011, with the biggest decrease in fixed broadband internet services, where prices have gone down by 75%.<sup>11</sup>

<sup>8</sup> The hypothesis of female-owned firms' underperformance is from Mohammad Amin. 2011. *Labor Productivity, Firm-size and Gender: The Case of Informal Firms in Latin America (Short Note)*. Mimeograph. Available at [http://works.bepress.com/mohammad\\_amin/32](http://works.bepress.com/mohammad_amin/32)

<sup>9</sup> ADB. Forthcoming. *Leveraging ICTs to Unleash the Potential of Women Entrepreneurs in Central and West Asia*. Country Data. Manila.

<sup>10</sup> Including television, phones, radio, computer hardware and software, and services and applications associated with these technologies.

<sup>11</sup> International Telecommunication Union. 2013. *ICT Facts and Figures*. <http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2013-e.pdf>

The availability and quality of ICT infrastructure will determine the feasibility and effectiveness of using these tools for business. Table 2 provides data on access, usage, and quality of phones, computers, and the internet for the four countries covered by the study. ICT infrastructure is more developed in Kazakhstan and Azerbaijan, with the Kyrgyz Republic and Uzbekistan lagging behind. This is also consistent with the rankings of these countries using the Networked Readiness Index.<sup>12</sup> Out of 144 countries, Kazakhstan ranked 43, Azerbaijan 56, and the Kyrgyz Republic 118. Uzbekistan is not ranked. The overall environment of ICT infrastructure is thus quite different in these countries, and interventions will have to be tailored to reflect differences in access to computers and the internet, as well as usage patterns.

As a business tool, ICT can ease access to information to help set up or grow a business, including vital information on markets, suppliers, and producers. It can reduce the cost of transferring money or enable access to financial services, allowing the development of more tailored and responsive financial products. ICT tools can also provide new venues to deliver business development support services such as training and advisory or extension services, and can facilitate the provision of business-related government services.

Not only does ICT help improve productivity and competitiveness in the marketplace. The ICT sector itself creates jobs and business opportunities, further contributing to economic growth. In particular, given the high literacy rate and skills level of women in many former Soviet Central Asian countries, ICT provides unique opportunities for them to start businesses such as outsourced professional services in the knowledge economy (Box 1).

ICT can be an especially powerful tool to support women entrepreneurs and reduce women-specific barriers to their businesses. These technologies can help overcome time and mobility constraints; ease access to formal financial services; increase access to information, skills training, and personalized advice; and enable participation in business networks. As ICT services can contribute to a more enabling business environment, it helps smaller businesses—where women are concentrated disproportionately. Specific examples of how ICT can help reduce barriers to women's entrepreneurship are included below.

Statistics show a significant gap between men and women regarding access, usage, and ownership of ICT. Globally, 200 million fewer women use the internet than men, and they are 21% less likely to

**Table 2** Selected ICT Infrastructure Indicators

	Azerbaijan	Kazakhstan	Kyrgyz Republic	Uzbekistan
<b>Access</b>				
Fixed-telephone subscriptions (per 100 people)	18.1	26.3	9.3	6.9
Mobile-cellular telephone subscriptions (per 100 people)	108.7	155.7	116.4	91.6
Fixed (wired)-broadband subscriptions (per 100 people)	10.73	7.36	0.69	0.53
Households with a computer (%)	21.5	46	4	3.2
Households with internet access (%)	35.3	44	3.6	n/a
<b>Usage</b>				
International voice traffic, total (minutes/subscriber/month)	6.4	3.9	6.9	n/a
Domestic mobile traffic (minutes/subscriber/month)	110.5	68.4	78.7	154.3
Individuals using the internet (%)	50	45	20	30.2
<b>Quality</b>				
Population covered by a mobile-cellular network (%)	100	95	97	93
Fixed (wired)-broadband subscriptions (% of total internet)	75.7	94.6	32.1	3.2
International internet bandwidth (bits per internet user)	19,102	21,939	1,726	579

ICT = information and communication technology, n/a = not available.

Source: World Bank and the International Telecommunication Union. 2013. *The Little Data Book on Information and Telecommunication Technology*. <http://data.worldbank.org/products/data-books/little-data-book-on-info-communication-tech>. Most recent data available.

<sup>12</sup> World Economic Forum. 2013. *Global Information Technology Report 2013*. Geneva.

### Box 1 Online Outsourcing Services

Online outsourcing sites like Elance.com present unprecedented opportunities for women in developing countries. Working from home, they can provide a wide range of professional services to domestic and international clients. The range of services is evolving, from services that require basic skills such as data entry and personal assistance to others involving highly specialized skills like IT programming and law. A limiting factor is that a good command of the English language is usually required, although opportunities in Russian exist.

Philippines-based university librarian Sheila Ortencio used to earn \$1.50/hour and struggled to pay for food and child care. After 4 years of working as a freelancer on Elance, cataloguing e-books online at \$8.50/hour, she was able to save enough to buy properties, including a condo in Manila. Three of the top four countries with most freelancers registered in Elance are in Asia. Elance has over 350,000 freelancers in India, who earned over \$160 million in 2012. Odesk has 2.4 million registered freelancers and more than 480,000 clients—including companies like Cisco and HP.

Opportunities like those Sheila had are available to women in Azerbaijan, Kazakhstan, the Kyrgyz Republic, and Uzbekistan, and could be especially suitable for them given their literacy rate and education. A search on Elance.com showed that a small group of women in these countries are already taking advantage of these opportunities.

IT = information technology.

Sources: ADB. Forthcoming. Leveraging ICTs to Unleash the Potential of Women Entrepreneurs in Central and West Asia. Country Data. Manila; Elance Annual Impact Report. June 2013. <https://www.elance.com/q/sites/default/files/docs/AIR/AnnualImpactReport.pdf.html>

own a mobile phone.<sup>13</sup> This could be the result of one or more of the following factors:<sup>14</sup>

- Women in developing countries have lower-level skills and less access to training to adopt and fully employ ICT. Family responsibilities also leave them less time to acquire new ICT-related skills and increase their exposure to ICT.
- Social norms that support traditional male control of technology and information do not allow women opportunities to engage with the world outside their immediate communities.
- Women tend to be financially weaker than men; they have lower average incomes and face barriers in accessing financial resources. They are less able to afford to use, rent, or buy new technologies.

When designing women's entrepreneurship support programs leveraging ICT, it is important to assess the barriers that have traditionally shaped the gender divide. Interventions should be based on an assessment of women's demands, and involve women in consultation and design processes to ensure that barriers to ICT access and use are reduced. From the supply side, in many countries ICT is not leveraged effectively by government, financial service providers, business development support services providers, and other institutions focused on private sector development. The fact that women remain an untapped market opportunity for the mobile phone industry<sup>15</sup> creates opportunities for partnerships between the private (e.g., mobile network operators) and the public sectors (Box 2).

### Box 2 Developing Partnerships to Provide Information and Communication Technology Skills Training for Women Entrepreneurs

The Union of Kazakhstani Women Entrepreneurs and the mobile phone company JSK Kcell, within the framework of a project for a school for women leadership, have provided training on the use of mobile phones for women's business activities. The union organized the groups and sessions and Kcell delivered the training. In 2013, 250 women entrepreneurs were coached in the cities of Taraz, Aksu, and Karaganda. According to Kcell, the women found the training very useful and the company regards the program a success. The program will be scaled up in 2014.

Source: ADB. Forthcoming. Leveraging ICTs to Unleash the Potential of Women Entrepreneurs in Central and West Asia. Country Data. Manila.

<sup>13</sup> International Telecommunication Union and UNESCO. 2013. *Doubling Digital Opportunities: Enhancing the Inclusion of Women & Girls in the Information Society*. <http://www.broadbandcommission.org/Documents/working-groups/bb-doubling-digital-2013.pdf>

<sup>14</sup> International Center for Research on Women. 2010. *Bridging the Gender Divide*. Washington, DC.

<sup>15</sup> Other studies have reported a gender gap of 300 million fewer female than male mobile phone subscribers in low- and middle-income countries. GSM Association and the Cherie Blair Foundation for Women. 2010. *Women and Mobile: A Global Opportunity*. <http://www.cherieblairfoundation.org/women-and-mobile-a-global-opportunity/>

Although there is little sex-disaggregated data on ICT access, usage, and ownership for Central and West Asian countries, available data indicate that women in the region, and especially women in rural areas, are lagging significantly behind men in ICT usage. For example, in Azerbaijan 62% of urban men were computer users compared with only 38% of urban women and 19% of rural women.<sup>16</sup> Internet use was at 66% for urban men, 50% for urban women, and only 21% for rural women. Similarly, a well-designed, award-winning e-government program in Kazakhstan recorded that as of November 2013, women made up only 23% of its users.<sup>17</sup> Given that Kazakhstan is one of the leading countries in the region in gender equality<sup>18</sup> and ICT readiness,<sup>19</sup> women elsewhere in the region are likely to be in a similar or worse situation. Women entrepreneurs' access and use of ICT, as well as their needs and preferences, need to be better understood to support evidence-based interventions.

## REGIONAL STUDY

ADB is completing a regional study to explore and compare the ICT environment for developing women's entrepreneurship in Central and West Asia. The research covers Azerbaijan, Kazakhstan, the Kyrgyz Republic, and Uzbekistan. The study looks at women entrepreneurs' ICT access, usage, ownership, needs, and preferences, and assesses women's willingness to pay for ICT services. The study reviews how the use of different ICT tools can meet identified demand for support services, tailored to the skills and purchasing power of the target group. The research has identified actions to improve the policy, regulatory, and business support environment for women's entrepreneurship. It will also include practical recommendations for ADB's work involving ICT-related components to support women entrepreneurs.

The assessment used primary and secondary sources of data, including surveys of more than 420 women entrepreneurs and 24 focus groups with over 200 women entrepreneurs in various sectors in urban, peri-urban, and rural environments. The study assessed the extent to which ICT promotes (i) gender-sensitive legal and regulatory environments that favor women's economic empowerment, (ii) effective policy leadership and coordination for women's economic development, (iii) access to gender-sensitive financial services, (iv) access to gender-sensitive business development support services, (v) access to markets, (vi) access to and usage and ownership of technology, and (vii) representation of women entrepreneurs and participation in policy dialogue.

## POLICY RECOMMENDATIONS

The regional study proposes policy options and interventions to leverage ICT to create and improve women's entrepreneurial activity. These interventions aim to reduce the barriers to access and use from the demand side (skills, time and mobility, affordability, cultural barriers) and the supply side (ineffective leverage by government, financial services providers and business development services [BDS] providers). Some may require better ICT infrastructure and changes to the regulatory framework (e.g., to support the development and uptake of mobile financial services), which can take longer to implement. But other interventions could be introduced faster, for earlier results—a few examples are included below. More detailed options are included in Table 3.

Create an enabling environment where women can effectively use ICT by

- setting up women-friendly, culturally sensitive public access points for ICT; and
- implementing women-targeted ICT programs to build skills using computers and mobile phones for business. The contents could go from basic training on how to use the internet, email, or information search to more sophisticated contents to support online presence and develop online stores, or IT professional skills to explore opportunities in ICT-based businesses.

Leverage ICT to reduce barriers to accessing finance by providing support and incentives to financial service providers to

- pilot test the use of ICT in giving information about products;
- ease access to financial services, by facilitating loan applications, disbursement, and repayment using ICT;
- process new sources of data, for example, from telecommunications providers, utilities, or government, to design products better tailored to their risk profile and financial needs.

Leverage ICT to ease women's access to BDS by

- encouraging BDS providers, government agencies, or civil society organizations that provide information and support services to women entrepreneurs to use ICT to increase outreach of their services or serve as a new delivery platform, making services available online or by phone. SMS-based information alert services can increase outreach cost-effectively. Services and mobile applications should be available in local languages.

<sup>16</sup> International Telecommunication Union. 2013. ICT Statistics. <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>

<sup>17</sup> Over 800,000 users registered on the Republic of Kazakhstan e-Government portal in the first 9 months of 2013. [http://egov.kz/wps/portal/Content?contentPath=/egovcontent/portalsNews/news/press\\_reliz\\_05112013&lang=en](http://egov.kz/wps/portal/Content?contentPath=/egovcontent/portalsNews/news/press_reliz_05112013&lang=en)

<sup>18</sup> Kazakhstan was ranked 31st out of 135 countries on the global gender gap index. World Economic Forum. 2013. *The Global Gender Gap Report*. Geneva.

<sup>19</sup> Kazakhstan had a global information technology index score of 4.35 out of 5.00, or 55th out of the 144 countries being ranked in the World Economic Forum's *Global Information Technology Report 2013*.



**Table 3** Key Policy Areas to Leverage Information and Communication Technology for Women's Entrepreneurship

**Policy area:** Create an ecosystem where women entrepreneurs can effectively use and benefit from information and communication technology (ICT) for business.

*Examples of policy actions*

- Create women-friendly, culturally sensitive public access points for ICT (e.g., women-only internet clubs).
- Conduct awareness-raising campaigns to remove attitudinal barriers to ICT usage by women in rural areas.
- Support affordable ICT infrastructure, facilitating connectivity and targeting universal access.
- Ensure inclusive policy and project design and prioritization, so that women's needs and barriers of access and use are taken into account.
- Develop financing schemes to facilitate the adoption of ICT for business.
- Implement specific ICT skills-building programs, both basic (e.g., how to use the internet, e-mail, information search) and advanced (e.g., IT-related professional services, certification). Ensure ICT skills are part of all education support programs.
- Provide support services for women using ICT in their business, and make these support services accessible through various women-friendly channels.

**Policy area:** Leverage ICT to reduce barriers to accessing finance (e.g., low awareness, lack of information and financial literacy, limited access, perceived higher credit risk).

*Examples of policy actions*

- Support a regulatory framework conducive to agent and mobile banking by easing restrictions on who can provide financial services and act as agents, while ensuring consumer protection.
- Support the use of new forms of customer data to develop credit histories, enhance risk assessments, and develop better-tailored products.
- Increase women's awareness of relevant loan programs through the information channels that women entrepreneurs cite as their main source of information, news, and advice.
- Facilitate loan applications, disbursement, and repayment using ICT-enabled solutions (e.g., e-cards).
- Support SMS-based or internet-based financial literacy training, from basic personal budgeting information to tips on maximizing chances of obtaining loans, and comparing terms and conditions of loans.

**Policy area:** Leverage ICT to ease access to business development support services.

*Example of policy actions*

- Use ICT to increase outreach of programs, including new flexible delivery models—for example, over the internet or through mobile phones and radio.
- Use ICT to support mentoring programs for women entrepreneurs, linking women with national or international mentors.
- Support the development of SMS-based information alert services to enable women's business associations, government, and others to reduce barriers to access to information, especially in rural areas.

**Policy area:** Leverage ICT to access information, markets, and government services.

*Example of policy actions*

- Design SMS-based information alert services or apps for women entrepreneurs (e.g., latest information on prices).
- Build capacity for government agencies, women entrepreneurs' associations, business development support providers, and nongovernment organizations that work with women entrepreneurs to mainstream ICT to increase outreach and effectiveness of their programs.
- Customize skills development programs and individual technical assistance to support the online presence of women-owned businesses.
- Support the development of e-government services.

**Policy area:** Leverage the ICT industry as an opportunity for women to start ICT-related service businesses.

*Example of policy actions*

- Raise awareness of new ICT-enabled business opportunities (e.g., existing online outsourcing platforms like Elance.com) and empower women to detect and inform the authorities of potential risks of fraud.
- Design funding schemes and other incentives to support women's businesses in the ICT service industry.
- Customize ICT capacity-building programs to start ICT-related service businesses.

Leverage ICT to facilitate access to information and markets by

- supporting the development and piloting of SMS-based information alert services or mobile applications, ensuring that women entrepreneurs are consulted in the design phase.

Leverage the ICT industry as an opportunity for women to start ICT-based enterprises by

- implementing funding schemes (seed capital, guarantees, targeted lending) and other business support programs (e.g., incubator facilities) to support women's businesses in the ICT service industry.

Government stakeholders that can implement these actions include the ministries in charge of economic development, ICT, and women's economic empowerment. Other key stakeholders include civil society organizations involved in gender and capacity building. These interventions offer options for partnerships between government and the private sector, including mobile network operators and financial and BDS service providers.

## WAY FORWARD

ICT is a fast-changing area that can provide opportunities to catalyze women's participation in the economy. The role of the internet, use of mobile phones, increased affordability of ICT, and new opportunities associated with business process outsourcing models are just a few examples of the evolving landscape. At the same time, barriers to women's access and use of ICT should be recognized and reduced so that advances in ICT do not widen gender disparities.

ICT can bring important benefits by enhancing business performance and helping reduce barriers to women's business development. Increasing women entrepreneurs' use of ICT will raise overall productivity levels, increasing economic growth. Women's greater participation in business empowers them and promotes gender equality, which, in turn, will contribute to economic development.

The study's recommendations provide strategic direction for ADB and other stakeholders—development partners, governments, organizations involved in women's empowerment, and the private sector—on how best to support women's entrepreneurship through ICT policies, programs, products, and services. The fact that women represent an unmet market opportunity for the private sector opens up options to develop sustainable initiatives and services.

### About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to approximately two-thirds of the world's poor: 1.6 billion people who live on less than \$2 a day, with 733 million struggling on less than \$1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

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Asian Development Bank  
6 ADB Avenue, Mandaluyong City  
1550 Metro Manila, Philippines  
Tel +63 2 632 4444  
Fax +63 2 636 2444  
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