TECHNOLOGY ADAPTION IN FEMALE ENTREPRENEURS
Impact Assessment of TDAP Women Development Program

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(CGP # 06-250)

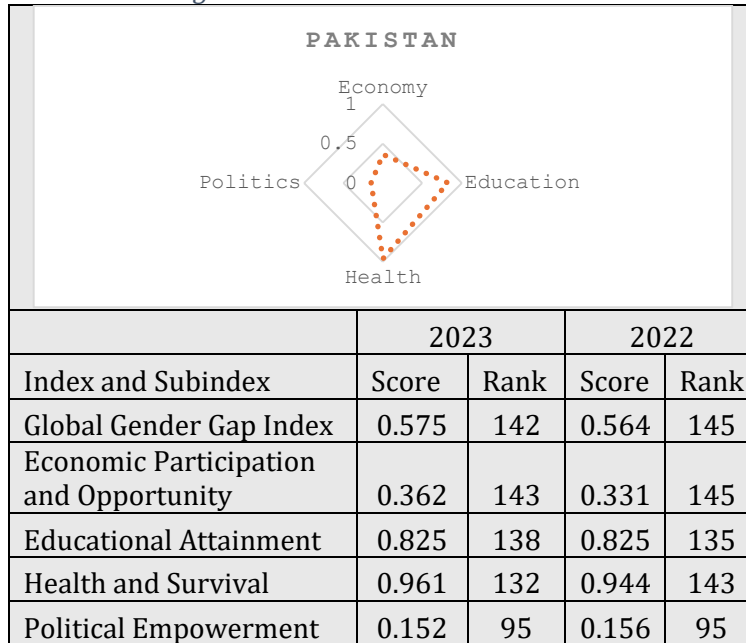*(This document is an unedited author's version submitted to RASTA)*

Over time, the adoption of digital technology has become the driver of gender equality and an enabler for promoting women-led businesses. The success or failure of entrepreneurs has become increasingly linked with their ability to effectively utilize technology to produce, market, sell, and innovate. However, the relentless underlying gender inequality means that women are left behind, not only in the landscape of business but also in the narrower field of technology adaptation. The problems in the adoption of technology by women entrepreneurs arise due to the unique challenges they face regarding knowledge, access, and usage of said technology. Considering this, the Trade and Development Authority Pakistan (TDAP) conducted a women entrepreneur training program all over Pakistan in three phases from 2023 to 2025. This policy brief examines the impact of training on the digital enablement of women entrepreneurs.

The insights from this research will be particularly beneficial as the Government of Pakistan aims to promote the use of ICT among women to empower them and bridge the digital divide.

INTRODUCTION

Women account for half of the population in Pakistan, but their economic participation is not very promising. Female entrepreneurship is even more severely lacking in Pakistan. It ranked 142 out of 146 countries in the Global Gender Index in 2023, with economic participation and opportunities one of the poorest in the world (Figure 1). Not just entrepreneurship but female labor force participation is one of the lowest in the world, ranking 167 out of 178 countries in 2023 (Figure 2). Moreover, as of 2016, only 25% of female university graduates joined the workforce (Source: Asian Development Bank). Another dimension of gender disparity in the business landscape is the wage difference, with women's median monthly pay being only PKR 12,000 compared to PKR 18,600 for men in 2023 (Source: International Labour Organization). Therefore, it is easy to see that the conditions of gender parity in Pakistan leave much to be desired.

Figure 1: Global Gender Index 2023

Index and Subindex	2023		2022	
	Score	Rank	Score	Rank
Global Gender Gap Index	0.575	142	0.564	145
Economic Participation and Opportunity	0.362	143	0.331	145
Educational Attainment	0.825	138	0.825	135
Health and Survival	0.961	132	0.944	143
Political Empowerment	0.152	95	0.156	95

There is a marked lack of governmental data on female entrepreneurship in Pakistan. However, according to the Global Entrepreneurship Monitor (GEM), only 5% of the total number of entrepreneurs in the country were females as of 2012. In the same vein, a survey conducted by the World Bank revealed that there are only 1% female entrepreneurs for every 21% male entrepreneurs in 2022.

Figure 2: Female Labour Force Participation, 2023
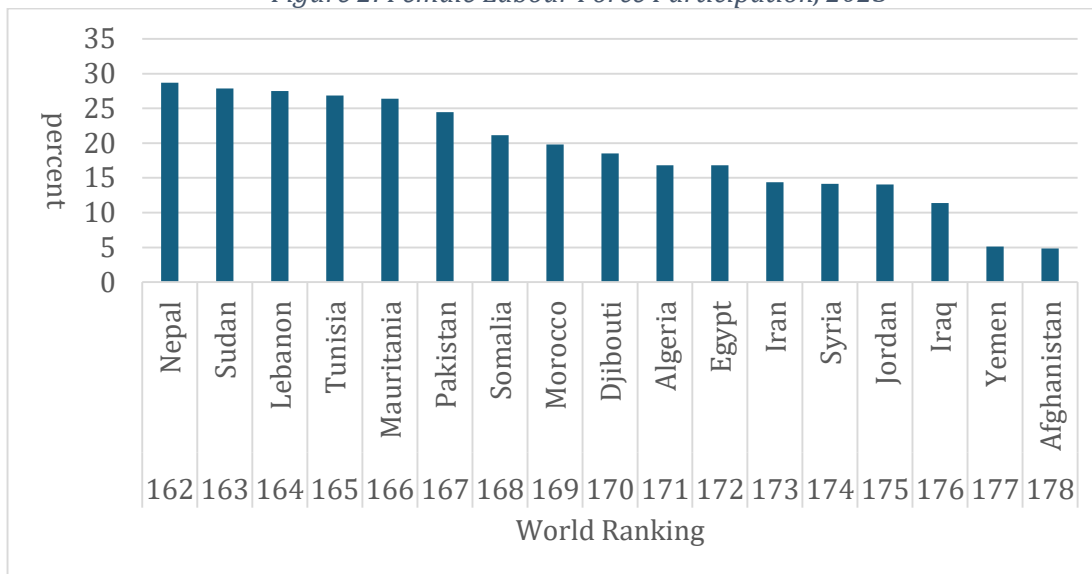
Source: The Global Economy.

DIGITAL SKILLS FOR FEMALE ENTREPRENEURS

As discussed, women's economic empowerment is less than ideal. However, this problem is caused and further exacerbated by the lack of women's access to digital tools and services. After all, if they are not afforded the same level of knowledge, their positions as entrepreneurs are not expected to be at the same level as their gender counterparts. As per the UNDP, in 2023, only 50% of women own a mobile, as opposed to 81% of men. Similarly, women are 45% less likely to use mobile internet than men. GSMA Consumer Survey in 2021 shows similar statistics (Figure 3). The GSMA Survey also revealed that only 49% of the Pakistani women who considered work an essential part of their lives thought owning a mobile phone helped them in their work. In contrast, 81% of men thought owning a mobile phone was helpful in their work. This clearly shows that women face challenges in leveraging technology in their work. These challenges may be digital literacy, socioeconomic norms, and resource access.

In addition, there are barriers to using the internet. In Pakistan, the main reasons for not using the internet are literacy and digital skills for both males and females. However, the second most important reason for males and females is different, with women facing family disapproval and men finding it irrelevant (Figure 4)

Figure 3: Mobile Ownership and Internet Use by Gender, 2021
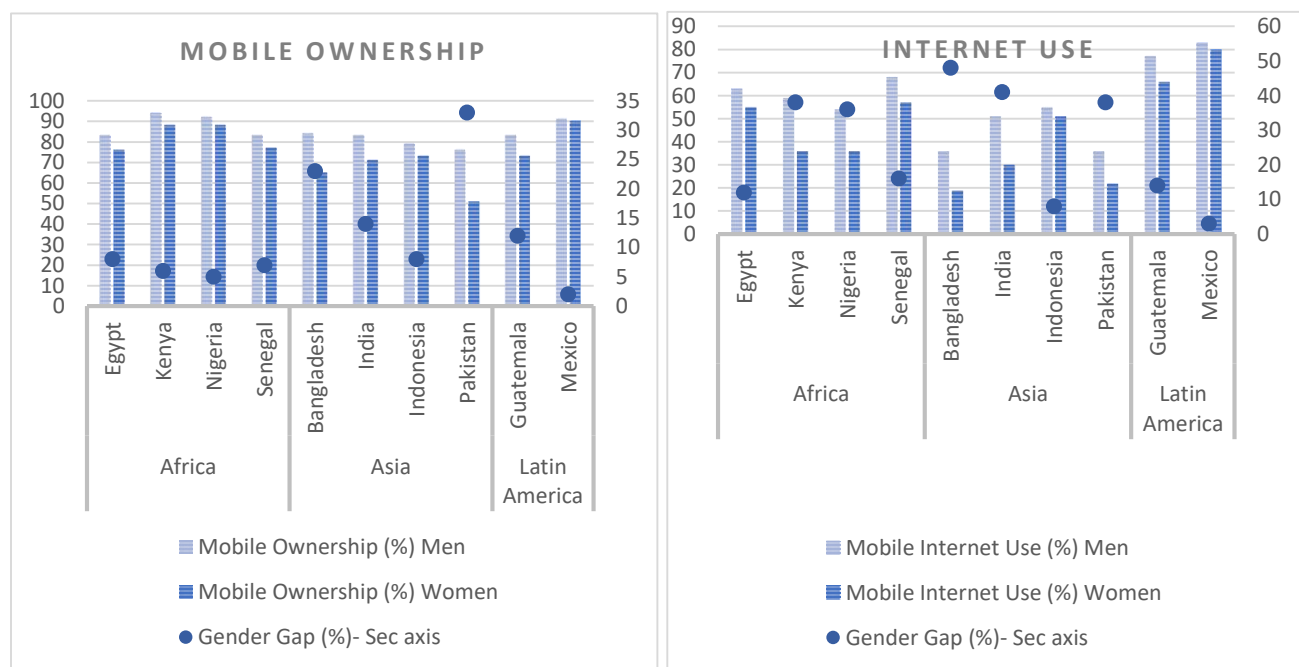
Source: GSMA Consumer Survey, The Mobile Gender Gap Report

Figure 4: Top Barriers to Internet Usage, 2021

Ranking	Bangladesh	India	Indonesia	Pakistan

	Women	Men	Women	Men	Women	Men	Women	Men
1	Literacy and digital skills	Literacy and digital skills	Literacy and digital skills	Literacy and digital skills	Affordability	Affordability	Literacy and digital skills	Literacy and digital skills
2	Safety and Security	Safety and Security	Affordability	Affordability	Literacy and digital skills	Safety and Security	Family disapproval	Relevance
3	Affordability	Affordability	Relevance	Safety and Security	Relevance	Literacy and digital skills	Relevance	Affordability

Source: GSMA Consumer Survey, The Mobile Gender Gap Report.

We adopted a mixed method to assess the role and impact of digital enablement on women micro-entrepreneurs. Focus groups and round table discussions were conducted with various stakeholders. For quantitative analysis, an extensive survey was conducted among the women microentrepreneurs who attended the digital skills training of WEDP (after 1 year). The results showed the efficacy of the digital skills training programs, which are illustrated using the following figures.
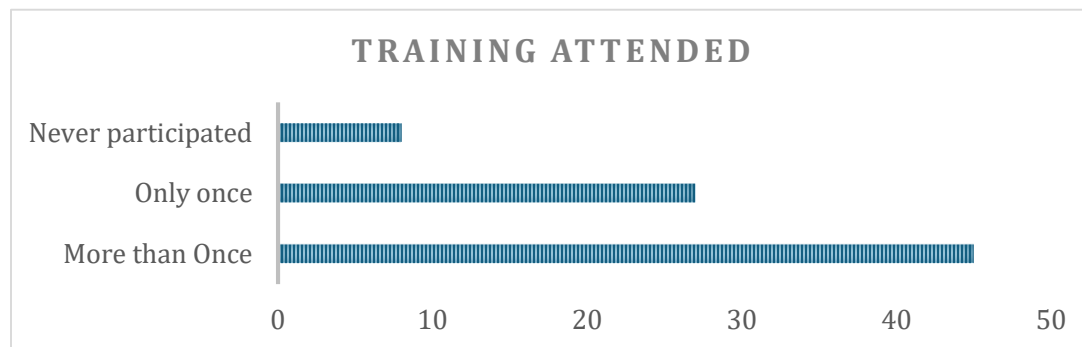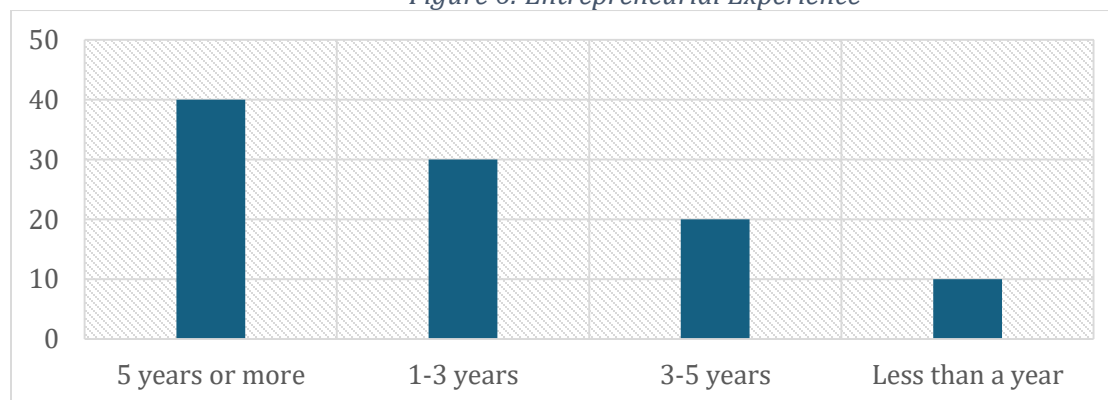
Figure 5: Participation in Workshops

Figure 6: Entrepreneurial Experience

Figures 5,6, and 7 show the basic demographic profile of the female microentrepreneurs who participated in the WEDP program; most had attended the digital skills training and were experienced entrepreneurs.

Figure 7 shows they have attended multiple training courses emphasizing social media marketing.

*Figure 7: Type of digital training received*
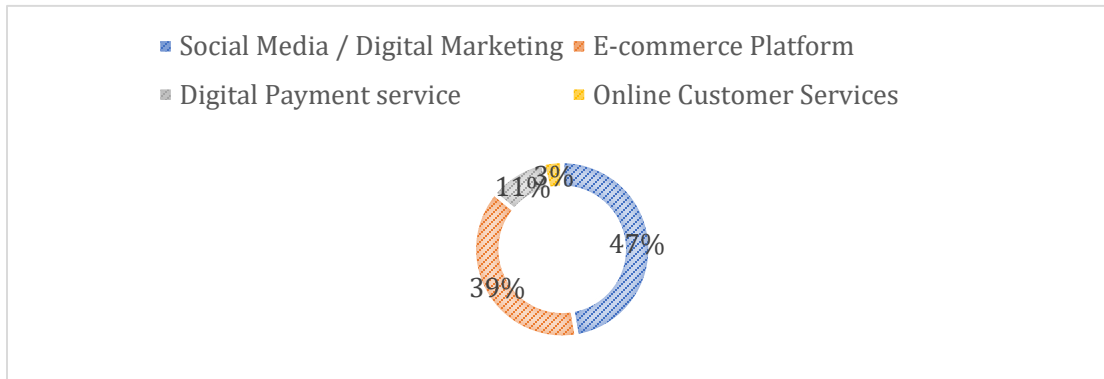
Figures 8 and 9 show the impact of these trainings on the utilization and improvement of digital skills to improve their business. As evident, most of the participants reported increased utilization of digital tools and services. Similarly, they are more confident about their digital skills, reporting an increase in how they rate their digital skills, with a decreased number of low ratings and an increased number of high ratings after attending the training session(s).

*Figure 8: Utilization of Skills Learnt*
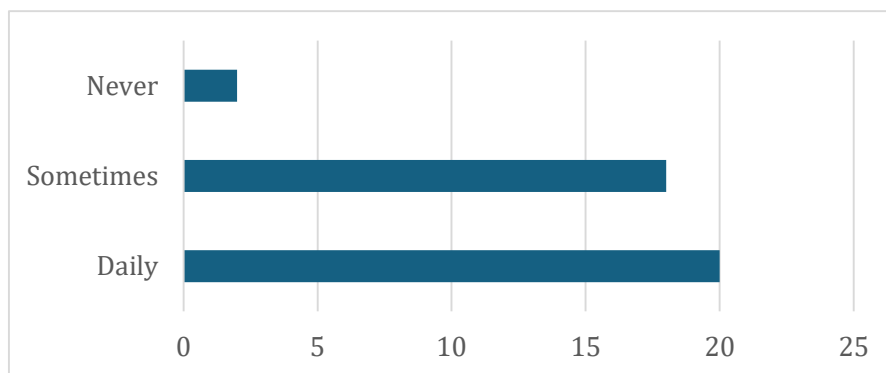
Figure 9: Training Impact on Skills Improvement
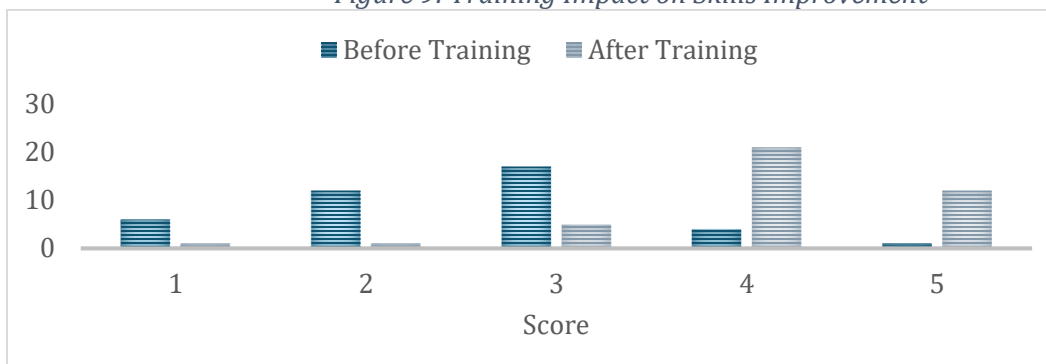
Figures 10 and 11 show quantifiable results of the efficacy of the digital skills training sessions. As illustrated, profit and sales show a marked increase due to digital skills attainment. Their sales and outreach have increased significantly through e-commerce platforms and social media marketing.

*Figure 10: Change in Profits following Training*
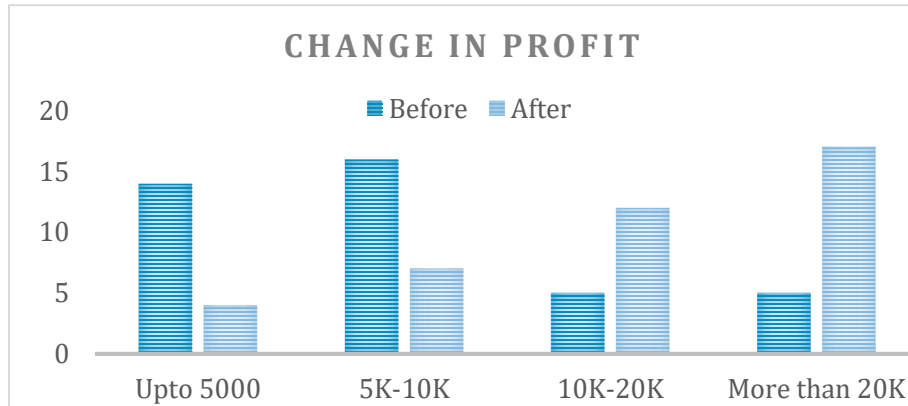

Figure 11: Change in Sales following Training

The impact of training sessions on forming social capital through increased confidence, their role in family decisions, access to a support network, self-reliance, and improved mental health are equally important. Figure 12 highlights the integration of participants into support networks. Similarly, participants also reported improved mental health following the sessions (see Figure 13).

Figure 12: Impact of Training on Support Networks

I feel more connected to support network after training workshop
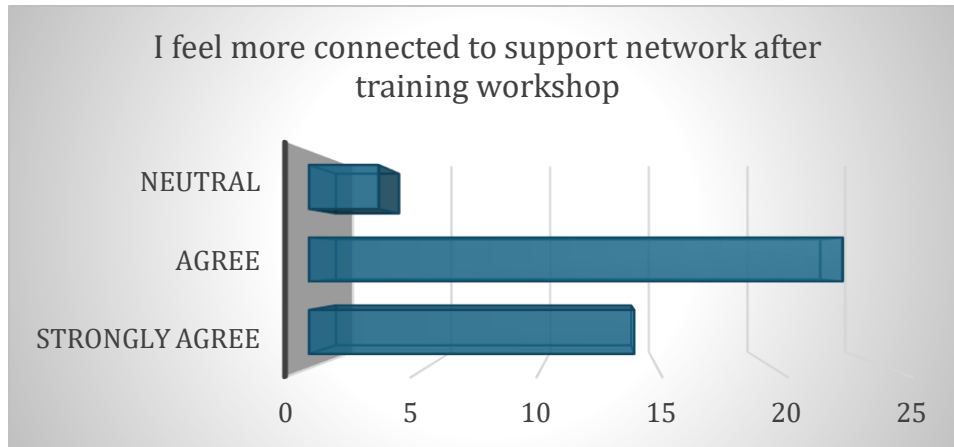
Figure 13: Impact of Training on Mental Health of Participants
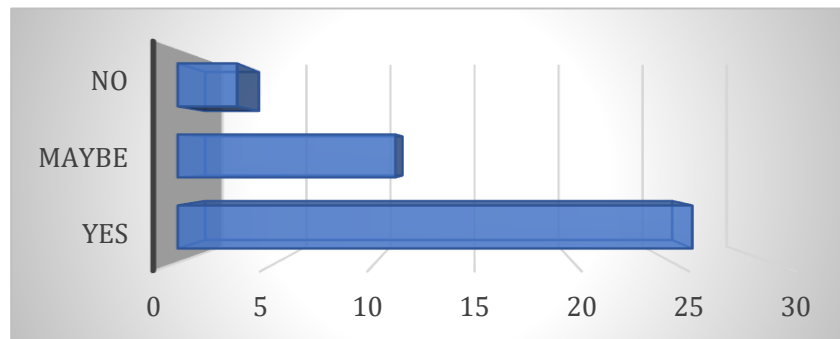
Although there is considerable research on the intersection between women's entrepreneurship and digital technology, there is a marked lack of such primary-level research in Pakistan. Therefore, the following are Policy prescriptions based on the survey results and the Roundtable Discussion with stakeholders.

1: Multi-Agency Cooperation

The networking between stakeholders is inadequate, resulting in isolated efforts for women's entrepreneurship. There is an urgent need for stakeholders to collaborate, pool resources, and strengthen the advocacy networks in Pakistan to support and promote women's entrepreneurial endeavors more effectively

2: Switching from Traditional Methods

Women in Pakistan are generally time-poor due to their responsibilities, so strategies must move away from traditional forms of training. This means innovative solutions must be adopted, such as speech-based assistance in apps, including speech-based AI chatbots in local languages, and curated training videos that can be shared via WhatsApp, allowing women microentrepreneurs to watch them at their convenience.

3: Training of Male Community Members

Men must also be trained to progress in women's entrepreneurship development truly. This can mean training community leaders, such as religious or local political leaders. The objective is holistic social development that will gradually but steadily pave the way forward for women microentrepreneurs.

4: Emphasis on Family Planning

Family planning must be central to all efforts involving women in Pakistan. Given the sociocultural norms of Pakistan, women's entrepreneurship cannot progress in an isolated environment, which makes it necessary to address other factors that heavily influence women's entrepreneurship simultaneously.

5: Comprehensive Policies

Efforts towards entrepreneurship seem isolated as 'events' rather than whole programs. The initiative and effort from the backend are .....

It is commendable, but the implementation is lacking. Therefore, contingencies, follow-ups, and feedback mechanisms must be built into policies to achieve maximum value and make these trainings more effective.

6: Further Research and Data Collection

There is a need to collect more data on the determinants of digital enablement and strategies for long-term improvement to empower women in Pakistan. Furthermore, investment in research will help understand the specific technological needs and challenges and help design customized training programs accordingly.

7: Awareness Campaigns

Launching comprehensive awareness campaigns is crucial for highlighting the benefits of technology adoption among women. To reach a broad audience, these campaigns should leverage various media channels, including social media, radio, television, and community outreach programs. Such initiatives will demystify technology and build a supportive community where women feel encouraged to explore and integrate technological solutions into their entrepreneurial ventures.

8: Online Platforms for Market Access

Just as training should move away from traditional methods, so should market access platforms for women entrepreneurs. User-friendly e-commerce platforms tailored for women should be developed to allow them to showcase and sell their products effectively