

RESEARCH IMPACT ASSESSMENT STUDY

UNIVERSAL SERVICE FUND



EMPOWERING COMMUNITIES



Gulalai Khan

INTERNET GOVERNANCE AND TECH POLICY EXPERT

Internet Governance conversations in Pakistan are limited and they also have an elite capture. I feel that the true essence of Internet Governance is multi-stakeholderism. So, more partners, more stakeholders, more diverse stakeholders, and more inclusion are the key to meaningful connectivity. The work that the Universal Service Fund Pakistan does is very critical in providing access to areas of true access gap- areas that do not make perfect business sense to telecoms or infrastructure companies or broadband companies. Therefore, the work that USF does through partnerships, subsidies, and even reaching out to those communities is very important.

Internet access and skills are key to the digital opportunity and transformation that Pakistan needs at the moment. This public good is also very closely linked to the fundamental constitutional rights of freedom of speech, freedom to access information, and equal opportunity to all citizens, without any discrimination, for education and other socio-economic rights. Hence, any digital investment that you make in Pakistan that focuses on enabling policies and regulations to provide opportunities for access and skills development is an investment into the future of Pakistan.

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EXECUTIVE SUMMARY

As organizational platforms and governments move to reconcile digital and physical identities, data points are being collected and profiles exchanged in ways that create logistical complexities at odds with peoples' right to control their own information. Internet users face a future where companies are expected to both have reliable, accurate information about their identity, and to provide transparency on data collection efforts. The COVID-19 Pandemic has further accelerated the disruption caused by the Fourth Industrial Revolution, which has increased the need for agility, adaptability, and positive transformation. This need has expedited the use of digital tools in the workplace and home. It has brought a new paradigm shift in terms of individual and collective use and response to digital communications despite the pandemic's debilitating impact on the creative value chain. The way creative content and information is created, produced, consumed, and shared has changed dramatically in the digital era, presenting both new challenges and opportunities.

Apart from enabling stakeholder capitalism, digital technologies have added new dimensions to corporate responsibility. Inclusion and empowerment in the digital economy, and responses to its ensuing automation and job losses, along with online safety, privacy, and responsible data management issues, are at the heart of the so-called "techlash".

Disruptive technologies are creating significant new value opportunities. According to the International Data Corporation, the "global datasphere" will grow from 33 zettabytes in 2018 to 175 zettabytes by 2025. In healthcare, generative AI assists in drug discovery and disease diagnosis, while in education, it helps generate personalized study materials for the teachers and students. The opportunities these technologies offer is abundant and exciting, hence, data protection has never been more widely discussed.

According to the Pakistan Telecommunication Authority, at the end of June 2023, nearly 55% of Pakistan's total population will be Mobile Broadband Subscribers³ with an average data usage per month (as in 2021-22) of about 6.8 GB per subscriber⁴. If Pakistan wants to make a significant contribution to United Nations' Sustainable Development Goals target of 75% global broadband-internet user penetration by 2025, then that will require innovative financing through public-private partnerships to build last-mile connections.

Although disparities in terms of access are prevalent, dividing urban and rural populations, the Universal Service Fund implements the deployment of telecommunication infrastructure for providing meaningful connectivity across the country, focusing on the unserved and underserved communities, and encouraging greater internet access and inclusion.

This access to the internet can fulfil a unique role as a vessel of knowledge and information and hence improving the wellbeing of the rural communities. Increasingly being recognized as a human right, growing internet user-base in Pakistan is fundamental to facilitating its digital future. Adequate and modern ICT infrastructure and the proliferation of powerful smartphones are central to developing a contemporary productive future economy and for fulfilling the vision of a Digital Pakistan. The Global System for Mobile Communications Association (GSMA) Intelligence publication 'Making Digital Pakistan a reality' informs that 80% of Pakistan's adult population lives in areas served by a mobile broadband (3G or 4G) network. It further analyses the importance of the surge in smartphone adoption as an essential feature underpinning the State Bank of Pakistan's Digital Financial Strategy.

The present impact assessment study is an evaluation of USF's NG-BSD program as being implemented in the following five districts: Lower Dir, Layyah, Ziarat, Mastung, and Sanghar, out of which four have been provided with 100% coverage, and one with 50% coverage. This program has been providing high-speed internet connectivity to the rural communities of these districts through solar-powered telecom towers, thereby reducing carbon emissions in line with United Nations Sustainable Development Goal 7⁵ pertaining to affordable and clean energy further advancing the climate action agenda in compliance with SDG 13.

The framework developed and used in this study is not to be seen as a static narrow product but as a dynamic process which can enable critical and constructive debate and revision of purposes, targets, and methods as a result of that debate. It will also make visible some undervalued areas, aspects, and activities.

INTRODUCTION

In a networked world multiple realities in the digital realm combines both a culture of participation and inclusiveness. As Information Communication Technologies (ICTs) evolve it is becoming ever more critical for the Government of Pakistan to understand the importance of making use of the digital platforms in cultivating social capital for the citizens. At this juncture, it opens a world of possibilities for millions of marginalized individuals to pull themselves out of poverty through earning better and decent livelihoods in consonance with United Nations Sustainable Development Goal 1 which aims for 'zero poverty'⁶. Therefore, the Universal Service Fund's mission to connect the remotest areas of the country through high-speed broadband network is crucial to meet the SDG targets. The ICTs and Services today are a necessity which have become imperative for achieving a better quality of life, both on the level of an individual and the society. Their present capacity and potential to influence and change human thinking, mindsets, and social processes is infinite. We know the positive and negative changes that they have already brought in human society and culture; changes in thinking and concentration patterns, knowledge generation, creativity, entrepreneurship, disinformation, mistrust, and numerous other mental and cultural problems, and various social trends in fashion, business, entertainment, information/knowledge sharing, etc. Since these technologies are here to stay and their penetration in human individual and social fabric is bound to go on increasing exponentially hence their positive potential for improving and changing life must be tapped intelligently and efficiently by individuals and organizations. Thus, using them to make a better, more correctly informed, and sensitized future for the present and next generations including societies.

This increasing influence of ICT is unleashing hidden potential of data that empowers societies. This potential is changing the nature of relationships, driving new paradigms and ideas by creating interconnected networks of individuals communicating and interacting through a diverse set of channels in a complex and intensively Networked World. The value of a network increases if spaces of shared experiences grow. Interactions within a networked society demand communication that influences the nature and direction of individuals, aligning them with the values which the Universal Service Fund adheres to. Today, audiences are immersed in an information environment that is context-driven and characterized by sources and the multiplexity of channels. While recognizing these changes, Universal Service Fund can utilize knowledge tools such as this Research Impact Assessment Study that includes community stories and key stakeholder interviews, to encourage and advocate for greater internet access and inclusion especially for the underprivileged and marginalized communities in rural areas of Pakistan. The Universal Service Fund is in a unique position to incorporate the dynamics of human experience in both digital and physical spheres in a creative manner through its projects.

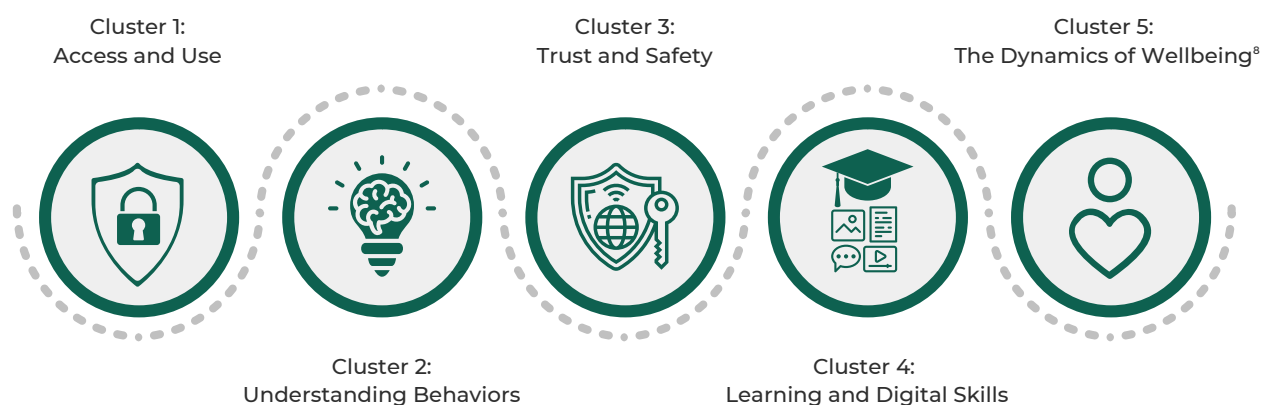
In collaboration with the private sector actors, the Universal Service Fund under the Next Generation – Broadband for Sustainable Development Programme is providing high-speed broadband and voice services in unserved and underserved areas across Khyber Pakhtunkhwa, Balochistan, Punjab and Sindh. This programme, designed to deliver access, is bridging the digital divide, and transforming the lives of those living in 19000+ mauzas in compliance with UN Sustainable Development Goal 9.c Universal Access to Information Communications Technology. People in these communities are increasingly expecting the technology to be personalized, convenient, and on-demand because of which they wholeheartedly embrace the implementation of the Universal Service Fund projects.

Communications Technology⁷. People in these communities are increasingly expecting the technology to be personalized, convenient, and on-demand because of which they wholeheartedly embrace the implementation of the Universal Service Fund projects.

The objective of the present study is to create a credible knowledge collateral for the Universal Service Fund that would provide relevant and meaningful data and information for its communication and outreach purposes. This study identifies and examines the specific socio-economic, behavioral and cultural impacts of the Universal Service Fund Programmes in the five districts of the four provinces of Pakistan. The targeted communities have been classified in terms of gender, age, education, and income. The impact assessment has been carried out through a mixed method approach, based on quantitative and qualitative methods and tools of data collection like surveys, questionnaires, key stakeholder interviews, and documents analysis. This study has:

- Utilized both primary (directly from the field) and secondary (existing secondary sources like previous reports, etc.) data sources.
- Examined existing performance indicators and identified new ones. Factors like the familiarity and measurement feasibility of indicators by the research team has been factored in during the process of assessment.
- Conducted evaluator-project recipient relationship during the assessment process, which was considered important, and was facilitated during the study to get more in-depth and credible information from the recipients.
- Communicated specific results and conclusions of the assessment process which should be clearly presented and communicated to all the stakeholders to initiate the process of rethinking existing practice and to informing and channelizing of future projects.
- Provided results of the effects of the projects implemented by the Universal Service Fund as part of informing decision-making for future investments in providing meaningful connectivity for unserved and underserved areas.

This study provides the decision-makers with a baseline understanding and systematic use of data as evidence for designing, implementation and monitoring for future connectivity projects or programmes. The study explores the following dimensions:



These clusters should meaningfully inform systematic evaluation of any future projects and interventions which should contribute to the effective implementation of Digital Pakistan initiative of the Ministry of Information Technology and Telecommunication of the Government of Pakistan.



Irfan Wahab Khan

CHIEF EXECUTIVE OFFICER TELENOR PAKISTAN

Telenor takes great pride in its partnership with the Universal Service Fund (USF) and the collaborative efforts undertaken in four provinces of Pakistan. This alliance allows us to witness firsthand the profound impact on marginalized communities residing in underserved areas. Telenor has implemented several initiatives, including online birth registration, in five districts. Surprisingly, we discovered that a significant portion of births in Pakistan, approximately 50%, remained unregistered or registered at a much later stage, typically at the age of 18 when a CNIC (Computerized National Identity Card) or passport is required. Leveraging technology, we successfully facilitated the registration of two million births through our SMS service.

In addition to our work in birth registration, Telenor has also undertaken the Taleemabad initiative, focusing on education. Our comprehensive curriculum, ranging from KG to Matric, has been thoughtfully developed to align with the cultural, linguistic, and ethical values of the communities we serve. This initiative aims to provide marginalized communities with a strong educational foundation. Furthermore, we have introduced the KhushHaal Zamindaar service, which offers weather forecasts and actionable advisories to farmers. This service delivers vital information in local languages, covering a wide range of crops, fruits and vegetables, fodder, and livestock. Our ability to create such transformative change is made possible through the support and services provided by the USF.

So, Internet for all is something that Telenor really believes in. But as a country, I think we need to think about this as a more strategic ambition. So, Internet for all is definitely a fundamental human right, but we need to adopt it as a nation.

GEOGRAPHICAL SCOPE AND UNIVERSAL SERVICE FUND TARGETS

The impact assessment study has been carried out with the rural communities in the following five districts of the four provinces of Pakistan: Lower Dir, in Khyber Pakhtunkhwa Province, Mastung in Balochistan, Ziarat in Balochistan, Layyah in Punjab and Sanghar in Sindh. The Universal Service Fund project were designed for 819 mauzas that includes over 180,000 households (Pacca 34,118; Semi-Pacca 47,520 and Katcha 100,900) in these districts. The families across these districts have gone through multiple crises in the past; from militancy, terrorism, sectarian violence to earthquakes, drought, and floods, they have faced these harsh conditions with courage and compassion, which is a testament of their strength and perseverance. The effort to provide them with access to the internet is not only transformative but changing their lives for better.



SANGHAR

Brief overview of Sanghar, Sindh

Some Background Facts :

- Sanghar is one of the largest districts of Sindh in terms of area.
- It was created in 1953 from Tharparkar (Thar and Parkar districts at that time) and Nawabshah districts.
- Its population according to 2017 census is 2,057,000 persons with male proportion being 51.7% and female being 48.3%
- Its literacy rate is 47% with female literacy at only 30% and male literacy at 63%
- 56.5% of its population is engaged in Agriculture and allied livestock breeding. 25.7% of the populace is involved in elementary occupations while service and shop sales workers are 7.8%
- Some of the main crops grown in the district are cotton, wheat, rice, and sugarcane
- It has 2 industrial estates with 48 cotton factory units.
- Only 52% of households in the district have electricity.

USF Intervention

Sanghar district has 271,529 households (2017 census), out of which 110, 857 households in 296 mauzas were targeted by the NG-BSD program. These households included 18,489 pacca, 41,999 semi-pacca and 50,369 katcha households.

USF Project Areas Stats – Type of House Unit

Province	District	Pacca	Semi-Pacca	Katcha	Total
Sindh	Sanghar	18,489	41,999	50,369	110,857

USF Project	Targets	Implementing Partner	Current Status of Target Achievement
NG-BSD Sanghar	332 Mauzas	Telenor	Completed 100% Network Deployed

LAYYAH

Brief overview of Layyah, Punjab

Some Background Facts :

- Layyah district consists of a semi-rectangular block of sandy land between the Indus and Chenab rivers in the Sindh Sagar Doab.
- The town was founded around 1550 by Kamal Khan, a Mirani Baloch, and a descendant of Ghazi Khan, who laid the foundation of the city 'Dera Ghazi Khan'.
- According to the 2017 census, its population is 1,824,230 persons, with the male proportion being 50.7% and the female population being 49.3%
- Its literacy rate is 64% with male literacy rate at 77% and female at 49%
- Major economic activity is agriculture and connected livestock breeding in which 52.2% of the population is engaged. 20.4% is involved in construction and 14.9% in community/social and personal services
- Some of the main crops grown in the district are sugarcane, wheat, and cotton
- It has 16 telephone exchanges
- It has 25 large, medium, and small enterprises including 8 cotton ginning and pressing units and 8 flour mills.
- 46.6% of the households in the district have electricity

USF Intervention

In Layyah district, NG-BSD project aimed to cover 53,757 households in 330 mauzas, out of a total of 232,308 (2017 census) households. From these 11,088 were pacca, 4,383, semi-pacca and 38,286 were katcha households.

USF Project Areas Stats - Type of House Unit

Province	District	Pacca	Semi-Pacca	Katcha	Total
Punjab	Layyah	11,088	4,383	38,286	53,757

USF Project	Targets	Implementing Partner	Current Status of Target Achievement
NG-BSD DG Khan	330 Mauzas	PMCL/Jazz	Completed 100% Network Deployed

MASTUNG

Brief Overview of Mastung, Balochistan

Some Background Facts :

- The word 'Mastung' in Brahui language means 'mountain hole' which refers to its geographical location.
- Population: 266, 461
- Literacy rate: 59%, Male: 75% Female: 38%
- Main economic activities are agriculture and connected livestock breeding (50%), community, social and personal services (18.3%), construction (10.2%), mining (of iron ore and marble) and manufacturing (carpet industry) are also being carried out.
- Main crops include, wheat, barley, sunflower, some spices, and pulses
- It has 2 telephone exchanges and 567 broadband connections in 2018-19 (Balochistan Development Statistics)
- Houses with electricity: 72.7%
- Traditional handicrafts made by women in home
- % of households with computer/mobile/internet as of 2019-20: 4.14%, 94.74%, 21.24%

USF Intervention

Mastung has a total of 33,285 (2017 census) households, out of which USF project had the target of covering 12,051 households in 143 mauzas, which includes 998 pacca, 839 semi-pacca and 10, 214 katcha households.

USF Project Areas Stats – Type of House Unit

Province	District	Pacca	Semi-Pacca	Katcha	Total
Balochistan	Mastung	998	839	10,214	12,051

USF Project	Targets	Implementing Partner	Current Status of Target Achievement
NG-BSD Mastung	143 Mauzas	PTML / Ufone	In-Progress 75% Network Deployed

ZIARAT

Brief Overview of Ziarat, Balochistan

Some Background Facts :

- Ziarat is the smallest district of Balochistan in terms of its area.
- According to the 2017 census its population is: 160,422 persons
- Its male population is 51.3% and the female population is 48.7%
- Literacy rate is 39% out of which the male literacy rate is 55% while the female literacy rate is 21%
- 45.9% of its population is engaged in Agriculture and connected livestock breeding, fishing, and hunting. 32% is involved in providing community/social and personal services.
- Some of the main crops grown in the district are wheat, barley, rapeseed, and mustard.
- It has 3 telephone exchanges providing 336 broadband connections
- It has not industrial estate and no manufacturing except flour mills
- 81.9% of households have electricity

USF Intervention

In Ziarat, out of 27,941 households, USF's NG-BSD program had the target of covering 1835 households in 30 mauzas, majority (N=1464) of which were katcha, 270, semi-pacca and only 101 pacca.

USF Project Areas Stats – Type of House Unit

Province	District	Pacca	Semi-Pacca	Katcha	Total
Balochistan	Ziarat	101	270	1,464	1,835

USF Project	Targets	Implementing Partner	Current Status of Target Achievement
NG-BSD Ziarat	30 Mauzas	PTML / Ufone	Completed 100% Network Deployed

LOWER DIR

Brief overview of Lower Dir, Khyber Pakhtunkhwa

Some Background Facts :

- In 1947, it was a princely state ruled by Nawab Shah Jehan Khan
- A relatively new district formed in 1996
- Has more plain areas but is still a mountainous terrain
- Agriculture, horticulture, mining, and construction are main sources of income for the population
- Potential sources of revenue; livestock, embroidery, forestry
- Police stations: 20
- Village councils: 182
- Literacy ratio: 45% in rural areas
- % of households with computer/mobile/internet as of 2019-20: 10%, 98.38% and 36.29%

USF Intervention

In Lower Dir, out of a total of 149,250 (2017 census) households, USF project had the target of covering 4038 households in 20 mauzas, which includes 3442 pacca, 29 semi-pacca and 567 katcha households.

USF Project Areas Stats – Type of House Unit

Province	District	Pacca	Semi-Pacca	Katcha	Total
Khyber Pakhtunkhwa	Lower Dir	3,442	29	567	4,038

USF Project	Targets	Implementing Partner	Current Status of Target Achievement
NG-BSD Chitral (includes Chitral, Upper Dir and Lower Dir) Project	20 Mauzas	Telenor	In-Progress 50% Network Deployed

The data provided in the tables above are taken from multiple government sources that includes the Universal Service Fund of the Ministry of Information Technology and Telecommunication .

Despite limited exposure and experience, the rural communities in these Districts, contrary to a popular belief of being conservative, slow to adopt modern practices, and resistant to change, have clearly displayed the following:



Understanding of how to use digital devices such as smartphones, desktops, and laptops



Know how to use email to communicate effectively



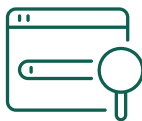
Know how to access and use the internet to find information and communicate with others despite linguistic barriers



Understanding of how to navigate and use a web browser to access information online



Ability to create and manage a social media account



Understanding of how to use search engines to find information online



Understanding of how to use social media platforms and other online tools

For these rural communities, digital literacy is becoming an essential skill for full participation in social, economic, and civic life. Internet usage among women in these communities is a positive development as it signifies that they are presumably closing the digital gap, which could potentially help in reducing the disparities between rural and urban areas. This research study indicates meaningful impact of the NG-BSD Programme in the lives of the individuals participating in this study. However, it is important to note that the data does not represent the entire population and should be interpreted with caution.



Naila Bibi

LAYYAH, PUNJAB

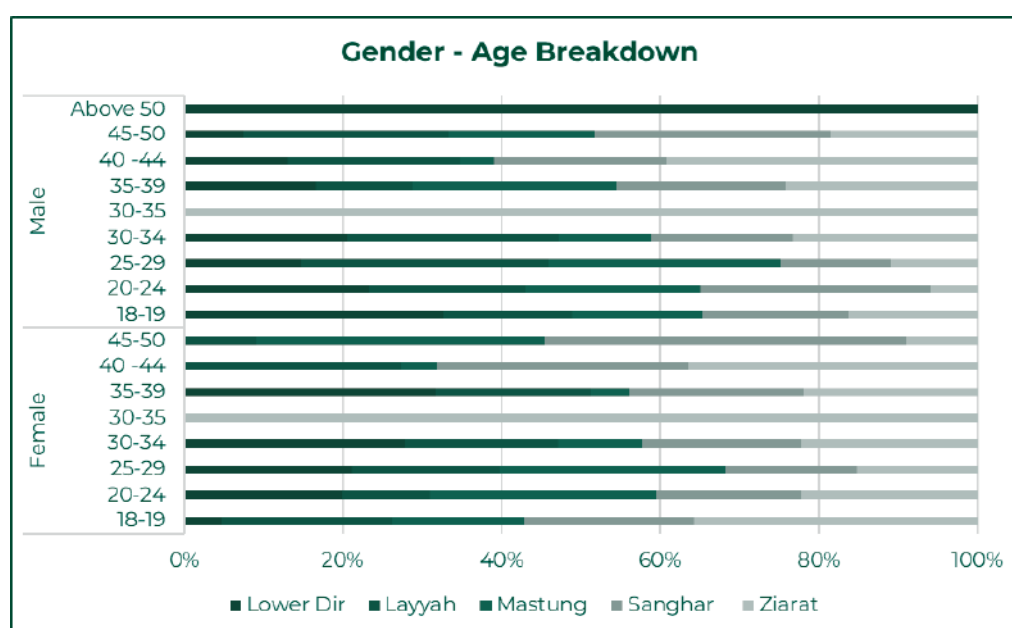
Having acquired secondary education, Naila relies on a television and her smartphone to access news bulletins from the former and entertainment from the latter through social media. She believes that internet technology is now vital in Layyah because it has reduced the distances between people, and earlier it was difficult because just reaching out to someone with a message took a very long while.

Naila Bibi has a WhatsApp group where she regularly posts health-related news, occasionally accompanied by herbal remedies for everyday small ailments like headache, fatigue etc. She really wants her daughters to become doctors because she feels health is a selfless sector which is in dire need of our attention.

“Very soon we will get rains again, and there will be mosquitoes everywhere leading to Malaria and Dengue. I will start posting voice notes and messages in the group about ways to keep one safe from these two,” she shares. Naila Bibi also watches YouTube channels to learn different ways to raise awareness about health-related issues and incorporates it into her messages to make them concrete.

DEMOGRAPHIC COMPOSITION OF TARGET COMMUNITIES

The sample of 1000 respondents^otaken from all the five districts was carefully chosen to represent gender parity. There were 499 females and 501 males who responded to the quantitative survey. Interestingly, three districts (Lower Dir in KP, Mastung and Ziarat in Balochistan) in economically and socially less developed provinces had more female respondents (N=101, N=104, N=109) than male (N=99, N=96, N=91), while Layyah (Punjab) and Sanghar (Sindh) in the more developed and progressive provinces had more male (N=114, N=101) than female (N=86, N=99) respondents. Among the surveyed sample, the highest proportion of individuals (69.1%) belonged to the age category of 20 – 35 years, with females comprising 38.3% and males 30.8% of this group.



Marital Status & Children

Most of the respondents, 62%, were married while 36.7% were never married. A total of 112 respondents out of 1000 had between 5 and 12 children¹each.

Marital Status	% of the Total Respondents	Sum of Number of Children
Divorced	04	13
Married	620	1792
Never Married	367	0
Separated	01	05
Widow	08	17
Grand Total	1000	1827

KEY TAKEAWAYS

Increase in the internet usage of women in these rural communities indicate a fast closing of the gender digital gap. Majority of the respondents (73.3%) use a smartphone, with more than a year of using mobile internet connectivity. Most respondents predominantly access different services via data plans from their homes, 45.6% of whom happen to be women. The use of mobile internet while travelling through the remotest areas of Pakistan indicates the need for and importance of connectivity.

Rural communities increasingly prefer seeking information online using mobile connectivity. 70.3% individuals are aware of the online world of information and interactions experiencing a strong desire to be online. Interactions due to the ease and accessibility of communication tools like email, messaging apps, and social media may reflect a broader pattern of gendered communication and social roles.

41.7% women more than men recognize the positive impact of internet. Many of them report participating in online self-help groups and would access medical professionals for health-related issues. This is due to accessibility of information, opportunities for remote work or learning, connecting with others across distances and thereby engaging in new forms of communication.

Changes in internet access affected the emotions of the target rural communities. 27.8% individuals reported negative emotions when internet service is either disrupted/restricted/slow; on the contrary, when the service is fast and reliable it has a positive impact on the majority of the individuals' emotional states. It is worth noting that emotional responses to internet disruptions and slow speed may vary depending on the content and individual experiences.

Gender gap observed in accessing internet-based learning opportunities. Substantial proportion of individuals (56%) have shown keen interest in online learning prospects although, fewer women (20.3%) access them compared to men (35.7%). This interest is also reflected in individuals seeking religious advice or guidance.

20.3% women from these rural communities used the internet to access job training resources. And although fewer individuals participated in online groups/pages on economy and business, but a significant proportion of them experienced a positive impact of internet use on their finances. Most have accessed the internet for travel purposes with a higher percentage of men than women.

55% of individuals from the target communities were using the internet for offering services and selling products. 63.8% is actively engaged in online financial activities such as banking, investments, and bill payments through various applications. Meanwhile, low percentage of individuals accessing e-commerce platforms potentially indicates a lack of awareness. .

Farmers from Lower Dir, Sanghar and Layyah have been successfully using their smartphones to find and learn from online resources. Apps like 'Bakhabar Kissan' and 'Engro E-Kissan' have helped these farmers gain information about their crops along with weather updates and tips on disaster management.

Women and men in the rural areas of the target districts use social media; 95.1% use WhatsApp, which is the most popular messaging app used to connect with family and friends. This increasing number of people using smart or feature phones with mobile internet connectivity indicates that these devices are becoming more affordable and accessible.

Increasing accessibility and availability of high-speed internet has enabled 64.5% of the target population to use internet for streaming videos and audio content, audio/video services (conferencing and video chat apps), as well as email communication.

There is a growing demand for learning new digital skills, especially e-commerce, online marketing, graphic designing, and freelancing, especially in women more than men, which indicates the potential growth of internet use in future for this purpose. It also suggests there is equal potential for men and women to benefit from the internet in terms of acquiring skills.

A significant proportion of individuals have concerns regarding online privacy and security when conducting financial transaction, while the majority have not personally experienced any online security breach or identity theft nor have, they heard of such incidents happening to anyone in their house. Considerable number of individuals have not reported any incident related to online harassment and cyberbullying. However, very few have reported such incidents, and some have chosen not to disclose. Despite these concerns, 59.7% individuals trust online applications and services and a majority even engage in online sharing and collaboration.

CLUSTER: 1

ACCESS AND USE

73.3%

SMARTPHONE USERS



90%

ACCESS MOBILE INTERNET FROM HOME



87.4%

USE THE INTERNET DAILY



73.29%

INCREASED INTERNET USE IN THE LAST SIX MONTHS



45.8%

USE THE INTERNET WHILE TRAVELLING



95.1%

USE WHATSAPP TO CONNECT WITH FAMILY AND FRIENDS





Mohammad Irfan

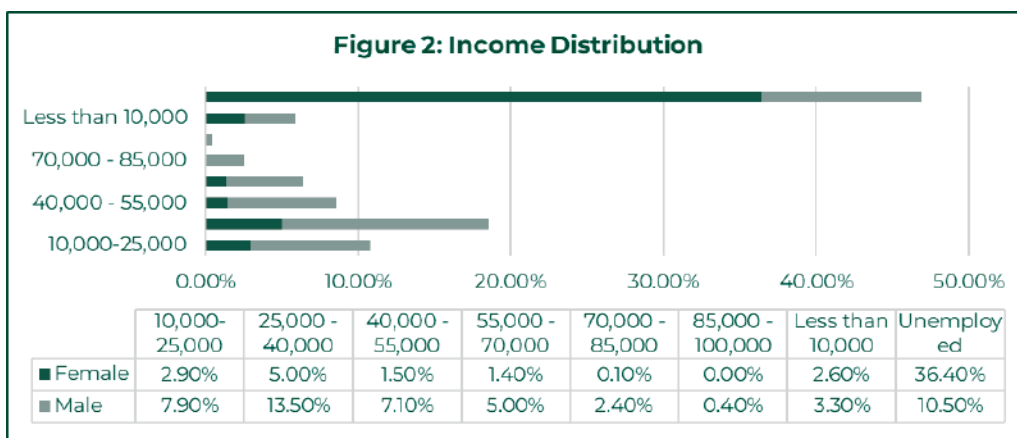
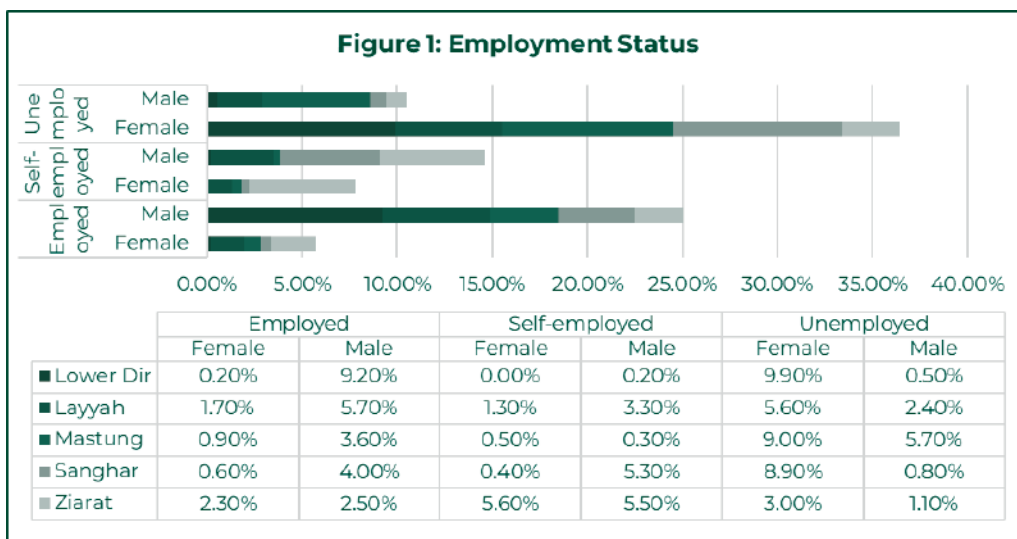
LAYYAH, PUNJAB

Having witnessed the lasting impact of climate change, Mohammad Irfan of Khooni Kolro in Layyah wishes he could appeal to people to pay heed to its reality through his smartphone. In his early 30s, Irfan believes that many job opportunities can be found through the internet and that can be a great incentive for a community to make room for ICT: "Earlier we would rely on newspapers or networking to find out about any job posting, but now our phones are able to help us in this regard. My friends have been able to access work because they were able to find a job that suited their interest. It is quicker and we can reach potential employer through such groups. Similarly, at my own work, we have our office Whatsapp group through which we send work updates and monitoring has become easier for all of us." Irfan is enthusiastic about this because he feels that there has been very limited scope for work in the region but now due to access to internet, people are exploring more options to expand their work.

Employment Status Across Districts and Income Distribution

The data suggests that there may be gender-based disparities in employment opportunities and/or access to resources needed to secure employment.

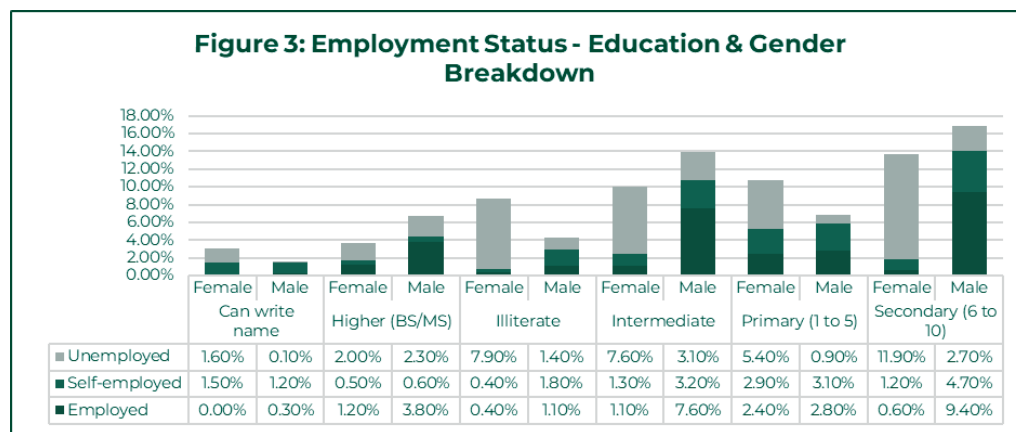
- Out of 1000 respondents, 30.7% were employed and 22.4% were self-employed.
- 18.5% individuals were earning between Rs. 25,000-40,000 per month, 10.8% had a monthly income between Rs. 10,000-25,000, 8.6% between Rs. 40,000-55,000, 6.4% Rs. 55,000-70,000, 5.9% earning less than 10000 and a mere 2.5% managed to earn between Rs. 70,000-85,000.
- 46.9% were unemployed and were mostly from Mastung (14.7%) followed by Lower Dir (10.4%).
- Amongst the 46.9%, 36.4% were women and 10.5% men.



Further Contextualizing Employment Status In Relation To Education And Gender

The following observations came to light while looking at the data on the employment status of both men and women across the entire spectrum of educational backgrounds:

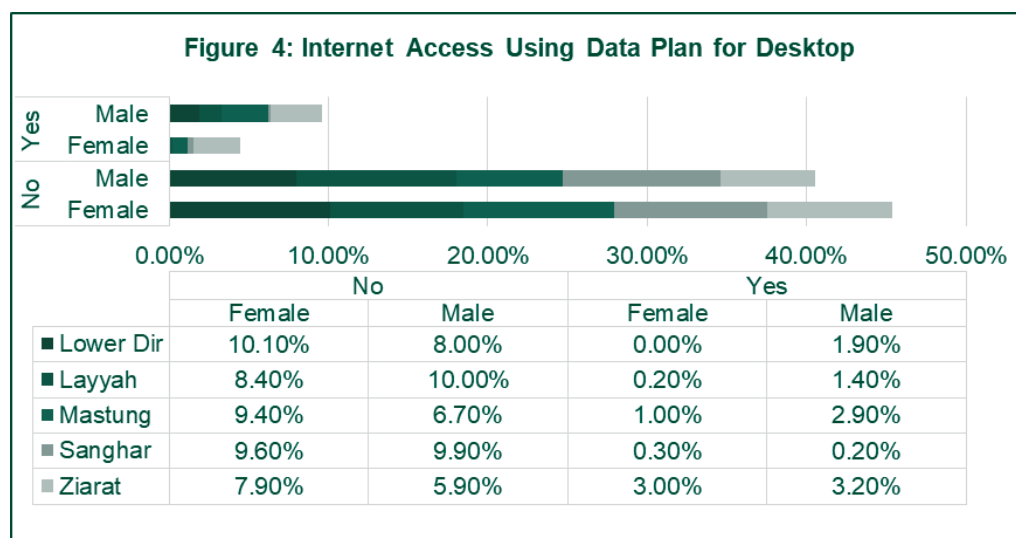
- A higher percentage of men are employed or self-employed (39.6%) compared to women in all education categories.
- The percentage of unemployed women is higher in all education categories, including the category of illiterate (7.9%).



Internet Access Using Data Plan For Desktop

The following figures¹³ from the survey reveal that desktop computer usage is relatively low compared to other devices which may be due to factors such as cost or availability:

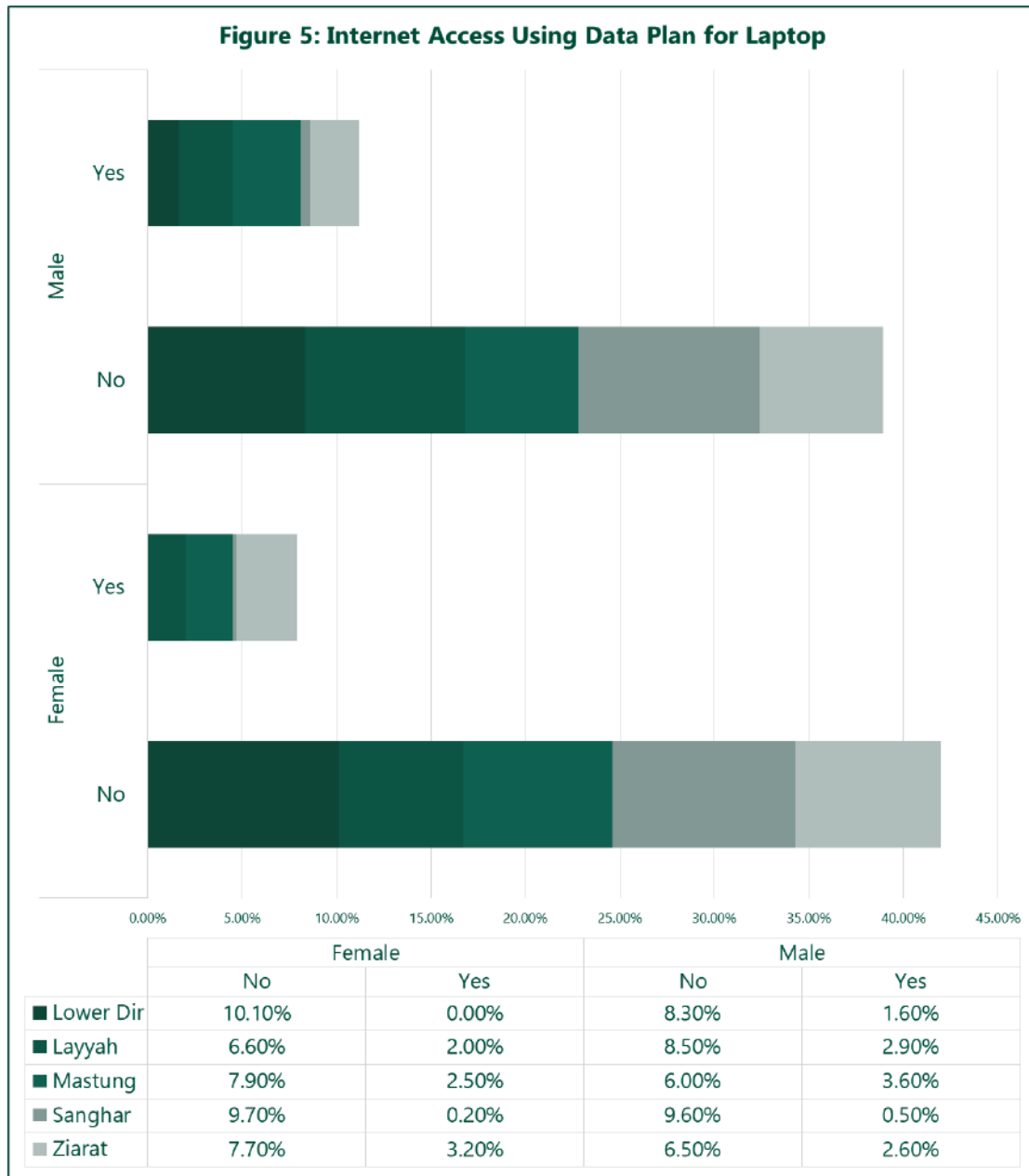
- 14.10% access internet using data plan for desktop.
- Respondents from Ziarat, 3.2% men and 3% women, were most prominent users of a desktop computer.



Internet Access Using Data Plan For Laptop

Compared to smartphones, laptop usage was much less in the sample population⁴. One of the reasons could be affordability.

- 19.10% of people access internet using data plan for laptop, out of which 11.2% are men and 7.9% women.
- Female respondents, 3.2% from Ziarat, featured most prominently as ones accessing and using laptops followed closely by 2.5% from Mastung.



Observation : 1

In the data gathered, it so appeared that devices such as a personal computer, laptop or an Ipad/Notebook were not a preference in Sanghar.

Use Of A Smartphone Device

In the target population, 73.3% use a smartphone device, out of which 37.8% were men and 35.5% women. wherein all the female respondents from Lower Dir and Sanghar reported its usage followed closely by Layyah, Mastung and Ziarat.

The other devices in combination included Android TV, Radio, Desktop Computers, Ipad/Notebook, TV, Normal Mobile Phone. This suggests that multiple devices were used by some of the individuals, for instance, TV and a smartphone 21.8%. Normal Mobile Phone along with a smartphone and TV by 16.1%. Household members having access to multiple devices provide individuals with greater flexibility, convenience, and efficiency in their daily lives.

Nearly a quarter of unemployed individuals mostly digitally savvy in rural areas live in households with six to ten members, an aspect which requires strategies to address unemployment using ICT-based solution.

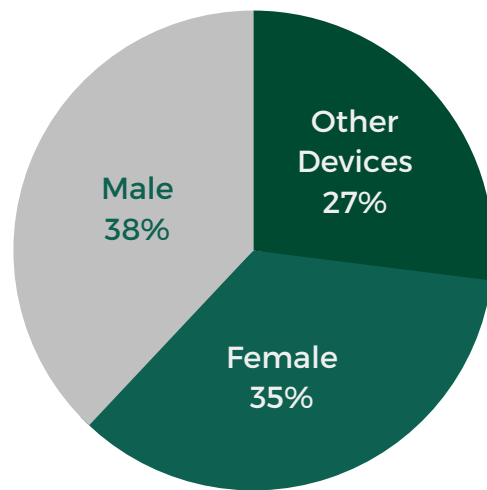
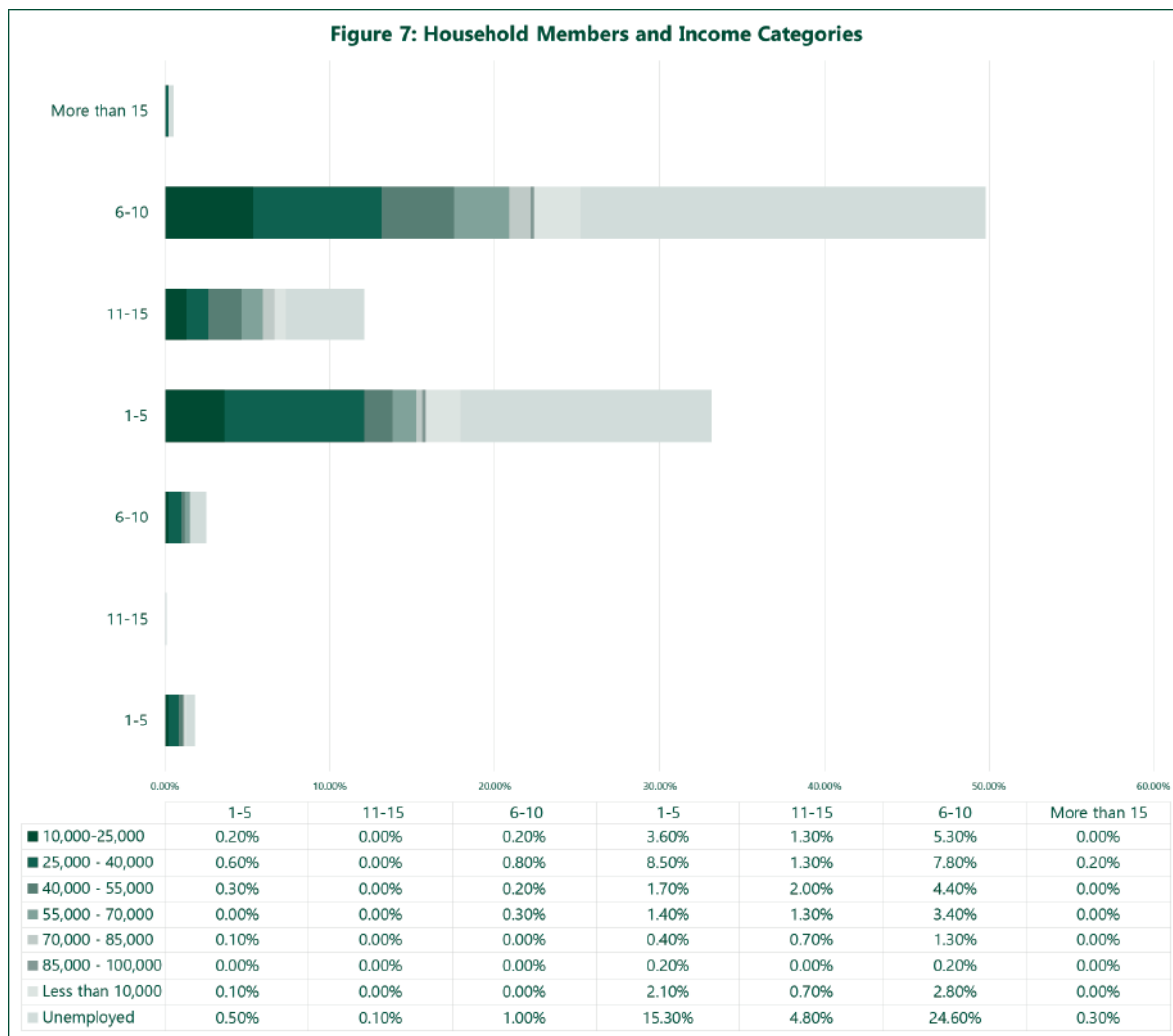


Figure 6:
Smartphone Users





Rukhsana

WARCHOM, ZIARAT

Rukhsana lives in Warchom, Ziarat in a family of more than ten people. Now in her thirties, Rukhsana was in her teens when her elder sister taught her sewing and she never thought of pursuing it more than a hobby due to her studies.

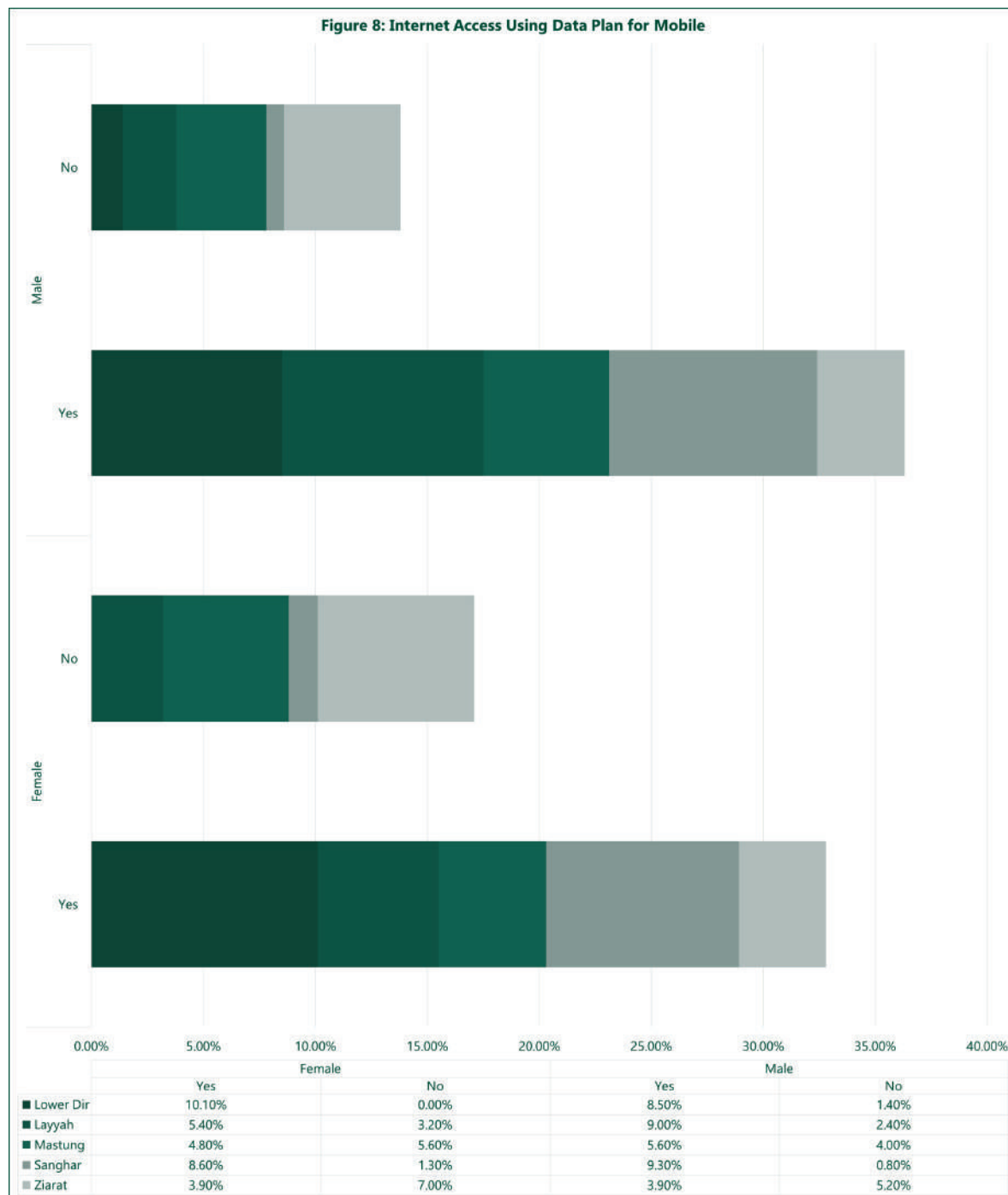
However, when the pandemic struck the world, and everyone was confined to their homes, Rukhsana took out her trusted sewing machine, and started sewing clothes for everyone in her family.

“My stitching is very neat, and I make sure that all my pieces are done with attention. When word got out that I am stitching clothes and they are great, my neighbors reached out to me, and it hit me that I can turn this into a venture especially because I was usually home. I got a separate sim and phone just for this and started taking orders from people, and I would sew for both men and women because I didn’t want to restrict myself,” she says.

Rukhsana would usually get orders on WhatsApp where she could communicate her pricing, and the customers would drop off their clothes, and then later send her dimensions as well as a design, which they would have in their minds. “Many times, they would share a design that seemed complex to me, so I would find out its name, type it in YouTube and learn to sew that one. This added to my credibility as I could also stitch new and fashionable designs, all by sitting at my home,” she says happily.

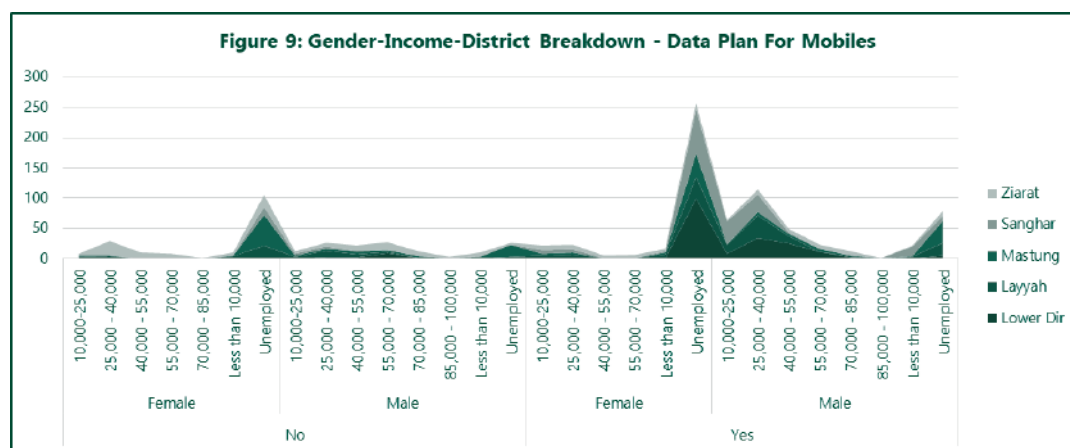
Internet Access Using Data Plan For Mobile

69.1% users access the internet percentage of respondents with internet access using data plans for mobile is Lower Dir 18.6%, followed by Sanghar using data plan for their mobiles, out of which 36.3% are men and 32.8% women. The district with the highest 17.9%, Layyah 14.4%, Mastung 10.4%, and Ziarat having the lowest percentage at 7.8%.



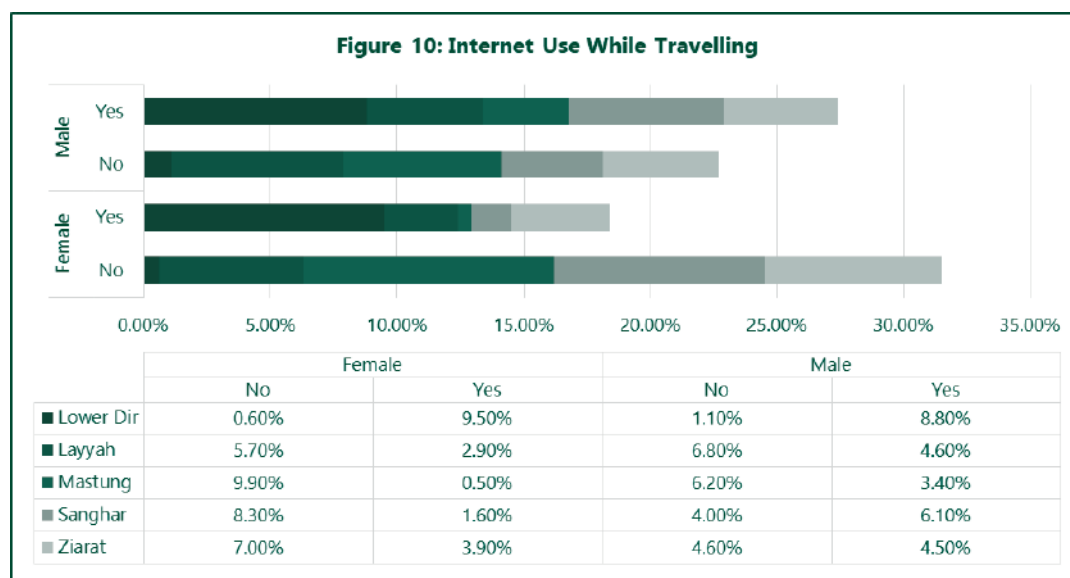
Further Contextualizing Data Plan For Mobile In Relation To District, Income And Gender

This table shows the percentage distribution of respondents based on their internet access using a data plan for mobile, categorized by their income range, employment status, gender, and location. It is worth noting that majority of unemployed respondents, 33.5%, access the internet using a data plan for mobile, out of which 25.6% were women. This number when compared to male respondents, 7.9%, is significantly higher. This could perhaps mean that internet access using mobile is particularly important for unemployed women in these areas; they could be using it for social networking or accessing educational resources and/or for entertainment purposes.



Use Of The Internet While Travelling

Overall, 45.8% have been using the internet even while travelling, and this includes 18.4% women and 27.4% men. Among females, the highest percentage of internet usage while travelling was in Lower Dir with 9.5%, and the lowest in Mastung with 0.5%. The percentage of respondents who do not use the internet while travelling is higher among females (30.5%) than males (27.4%), with highest for women being Mastung at 9.9%, and 6.8% for men in Layyah.

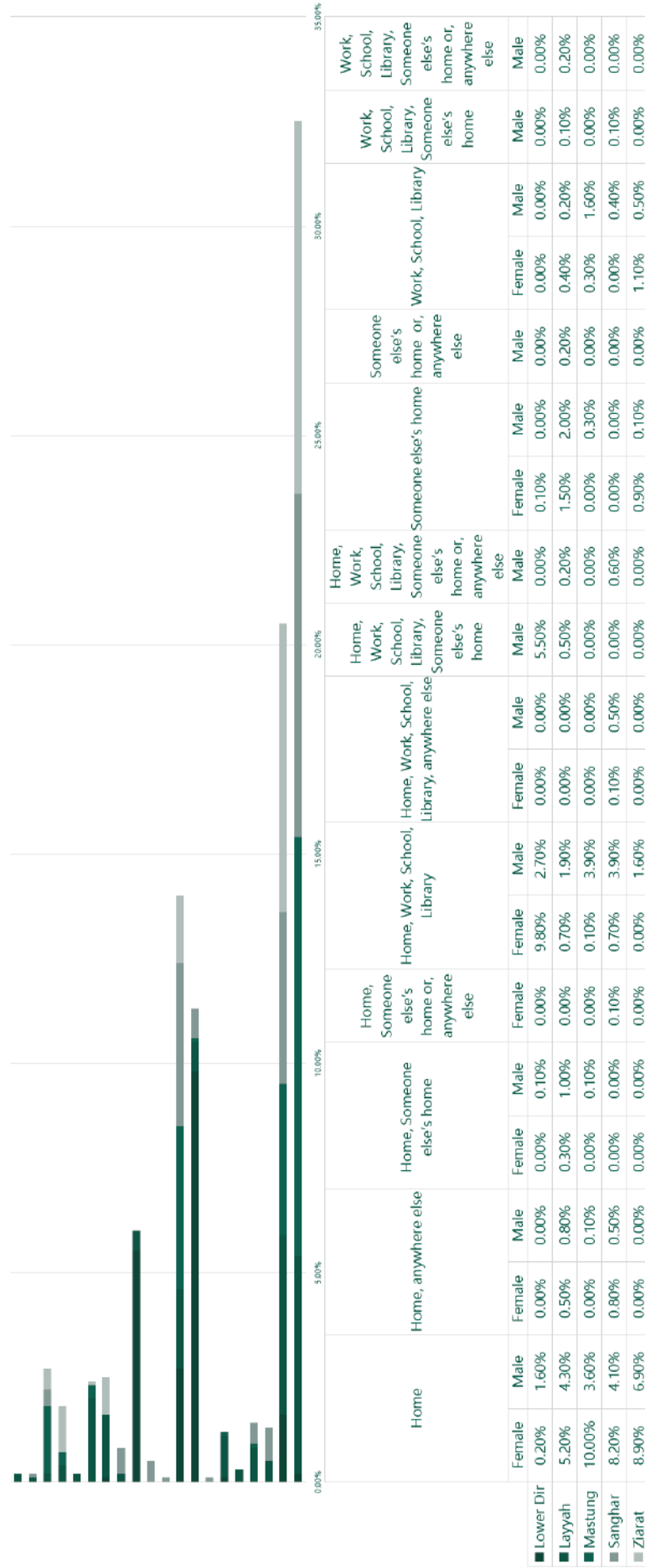


Location Of Access

The table below provides insights into the internet usage patterns in terms of infrastructure, availability of internet services, and socio-economic conditions:

- In the target demographic, 90% access the mobile internet from home, out of which 45.6% are women.
- Amongst 45.6% female respondents 32.5% accessed the internet from their homes; out of these the highest, 10%, are from Mastung followed by Ziarat (8.9%), Sanghar (8.2%) Layyah (5.2%) and Lower Dir (0.2%). This is higher than the male respondents, 20.5% of whom access the internet from their homes only. 25.3% of the respondents accessed the internet from their homes, workplaces, and school/library, out of which 14% are male and 11.3% female.

Figure 11: Location of Access





Shabana Zahid

LAYYAH, PUNJAB

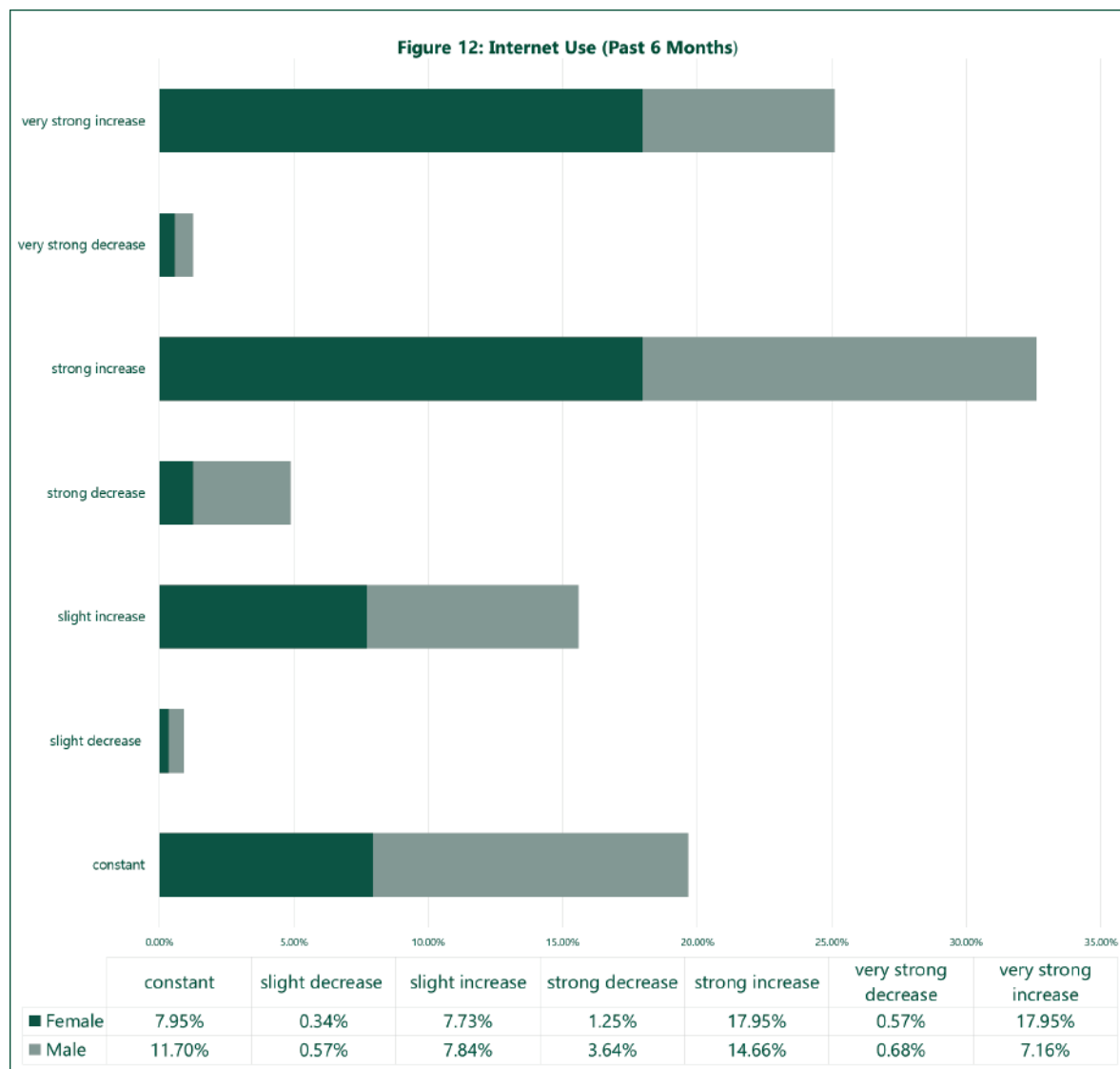
Shabana Zahid who is in her early thirties has two children, a son and a daughter, and is a resident of Layyah. Shabana was also among many who finished their MSc during Covid-19 and used online learning platforms to attend classes.

“I think we all have been used to the physical setting for studies and this shift took its sweet time. But once I shifted to it, I realized there were so many benefits of distant learning as well. I didn’t have to travel which saved both my time and money. Also, many times the sessions were recorded so it was easier to go back and forth if any part had been missed,” she recounts her experience. She added that online educational platforms could bring about a vast change in communities because traveling can be a big challenge especially for women and accessing classes without going anywhere can open many doors for them.

Usage Of Internet In The Past Six Months

When all the respondents were asked to report if their internet usage had increased or decreased in the last six months, and its magnitude, they reported the following:

- 73.29% have increased their usage of internet in the last six months, of which 43.63% of women reported the surge.
- 32.61% (N=287) reported a strong increase and 25.11% (N=221) said they experienced a very strong increase.
- The number who reported their internet use being constant during this period were 19.66% (N=173).
- The number who reported slight increase and slight decrease were closer, 15.57% (N=137) and 0.91% (N=8) respectively. The individuals who reported slight, strong, and very strong decrease were a total of 62.
- Overall, a constant and increased usage was the dominant experience of most of the respondents.



Frequency Of Use Of The Internet

87.4% used the internet daily, of these 45.3% were men and 42.1% women, of which 27.2% reported to be either always online or between 2-5 times daily.

According to the survey, 18.2% of the total male respondents use internet 2-5 times daily, 9.8% are almost always online, which is a lesser percentage when compared to female respondents at 11.7%. While 32.2% of the respondents use the internet once a day and 7.7% never use it.

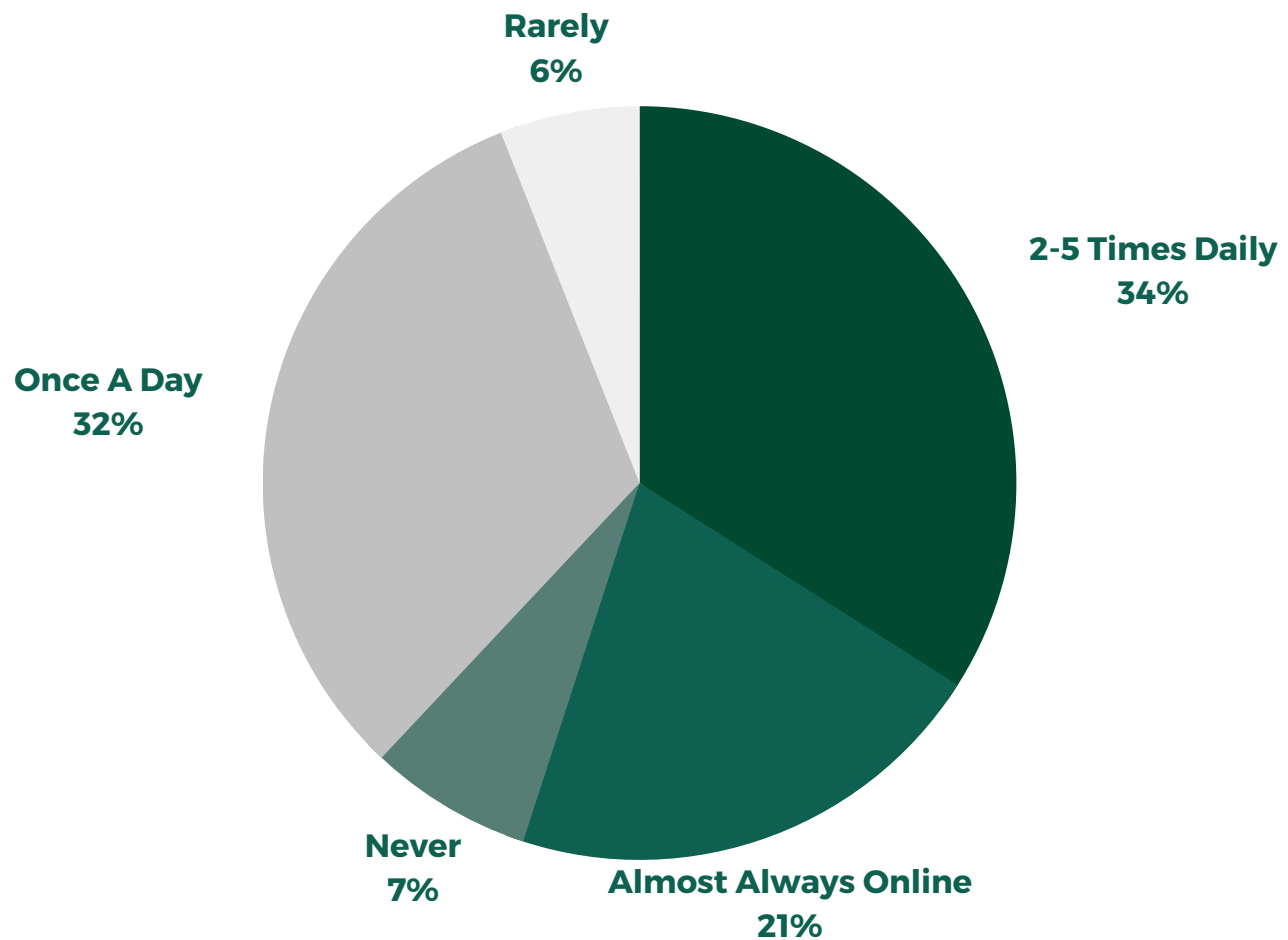


Figure 13: Frequency

Further Contextualizing Frequency In Relation To District, Gender, And Income

The data shows, of those employed, 18.7% use the internet at least once a day, 17.3% do so 2-5 times daily, 9.5% are almost always online, 3% rarely and 4.7% preferred not to be online. The 34.3% unemployed women with basic digital literacy a potential that could be carefully harnessed providing them with relevant competencies improving their economic prospects could be a valuable intervention.

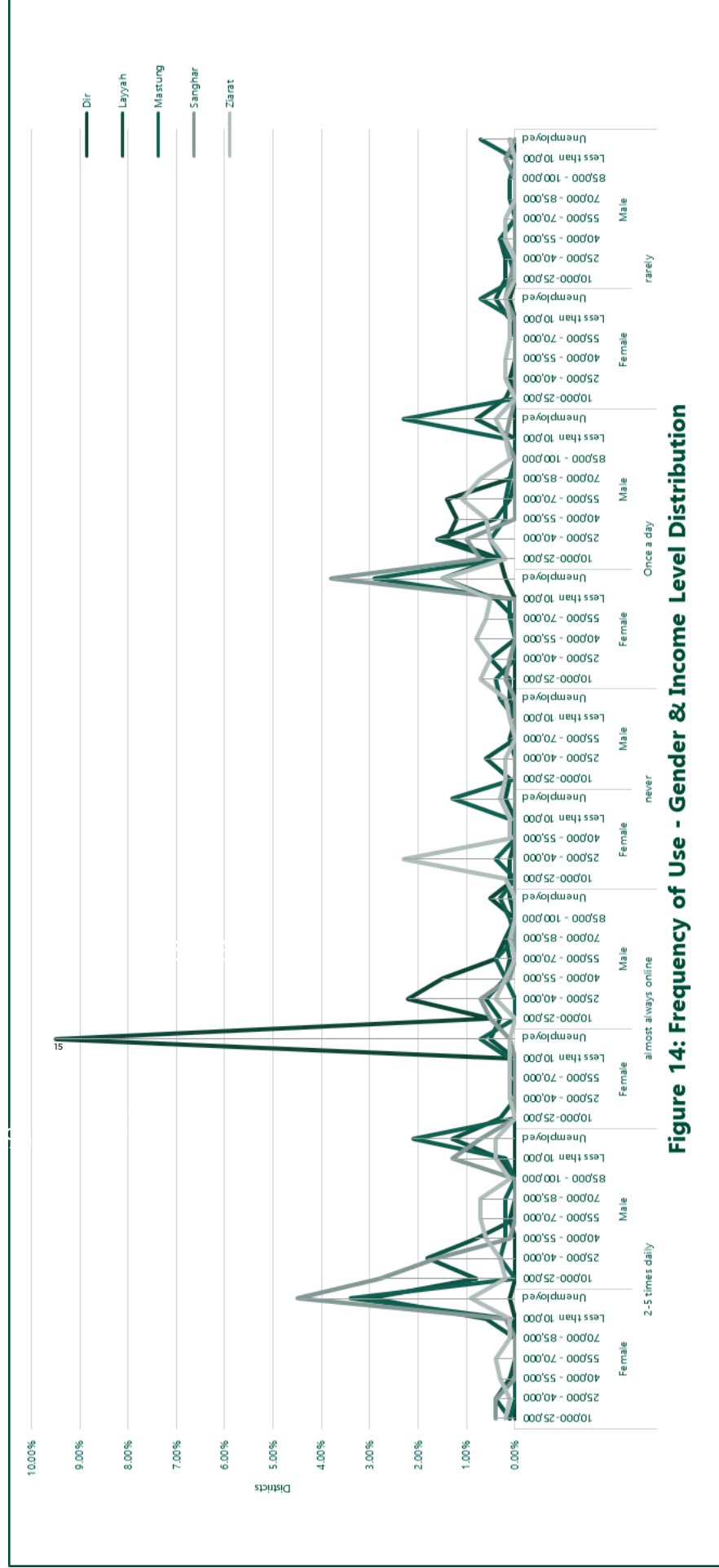
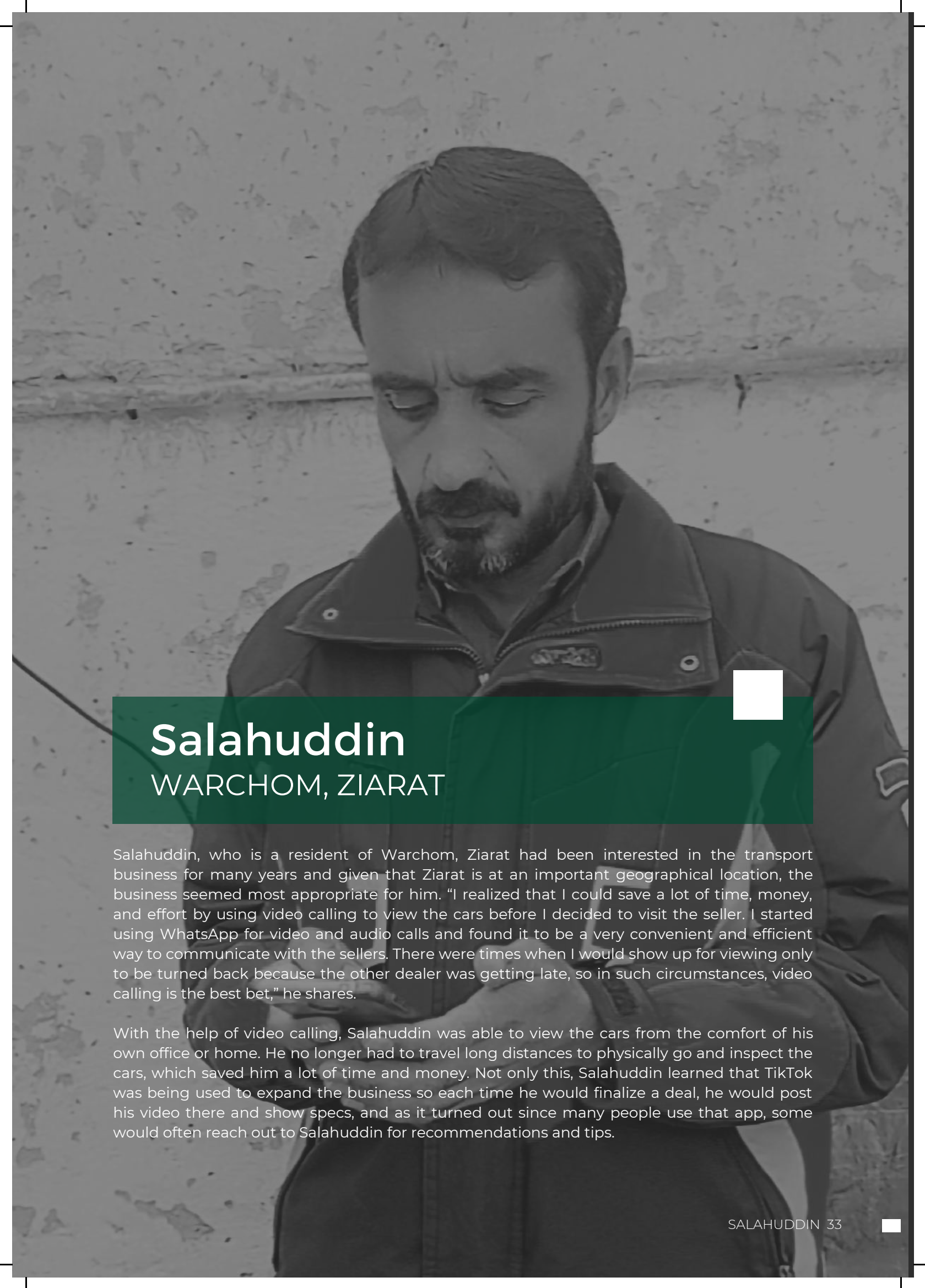


Figure 14: Frequency of Use - Gender & Income Level Distribution



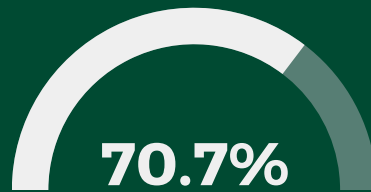
Salahuddin

WARCHOM, ZIARAT

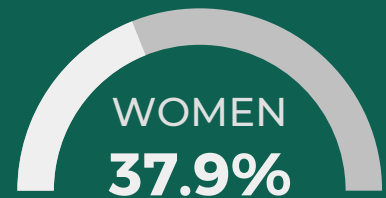
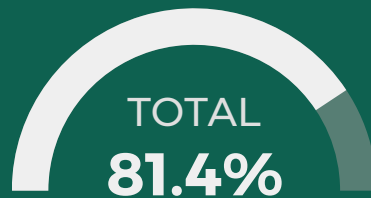
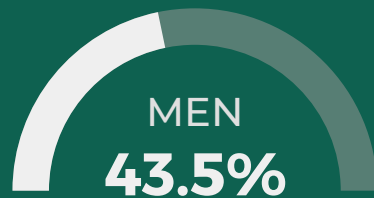
Salahuddin, who is a resident of Warchom, Ziarat had been interested in the transport business for many years and given that Ziarat is at an important geographical location, the business seemed most appropriate for him. "I realized that I could save a lot of time, money, and effort by using video calling to view the cars before I decided to visit the seller. I started using WhatsApp for video and audio calls and found it to be a very convenient and efficient way to communicate with the sellers. There were times when I would show up for viewing only to be turned back because the other dealer was getting late, so in such circumstances, video calling is the best bet," he shares.

With the help of video calling, Salahuddin was able to view the cars from the comfort of his own office or home. He no longer had to travel long distances to physically go and inspect the cars, which saved him a lot of time and money. Not only this, Salahuddin learned that TikTok was being used to expand the business so each time he would finalize a deal, he would post his video there and show specs, and as it turned out since many people use that app, some would often reach out to Salahuddin for recommendations and tips.

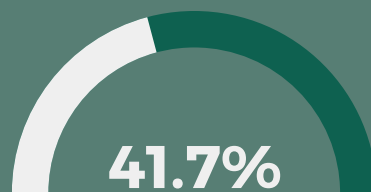
CLUSTER: 2 UNDERSTANDING BEHAVIORS



USING INTERNET TOOK PRIORITY OVER
OTHER LIFE ACTIVITIES



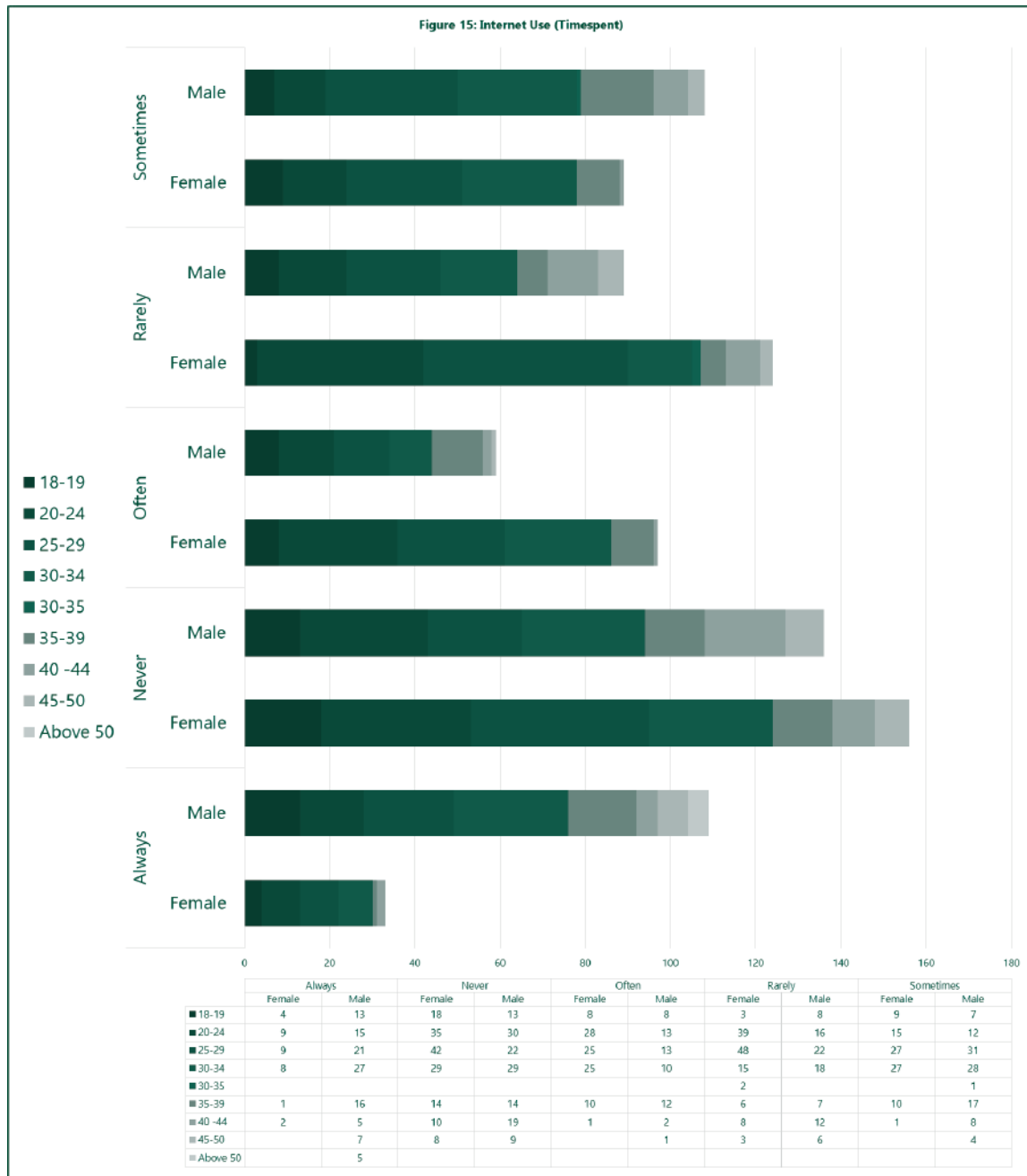
USE SOCIAL MEDIA



WOMEN RECOGNIZE THE POSITIVE
IMPACT OF INTERNET

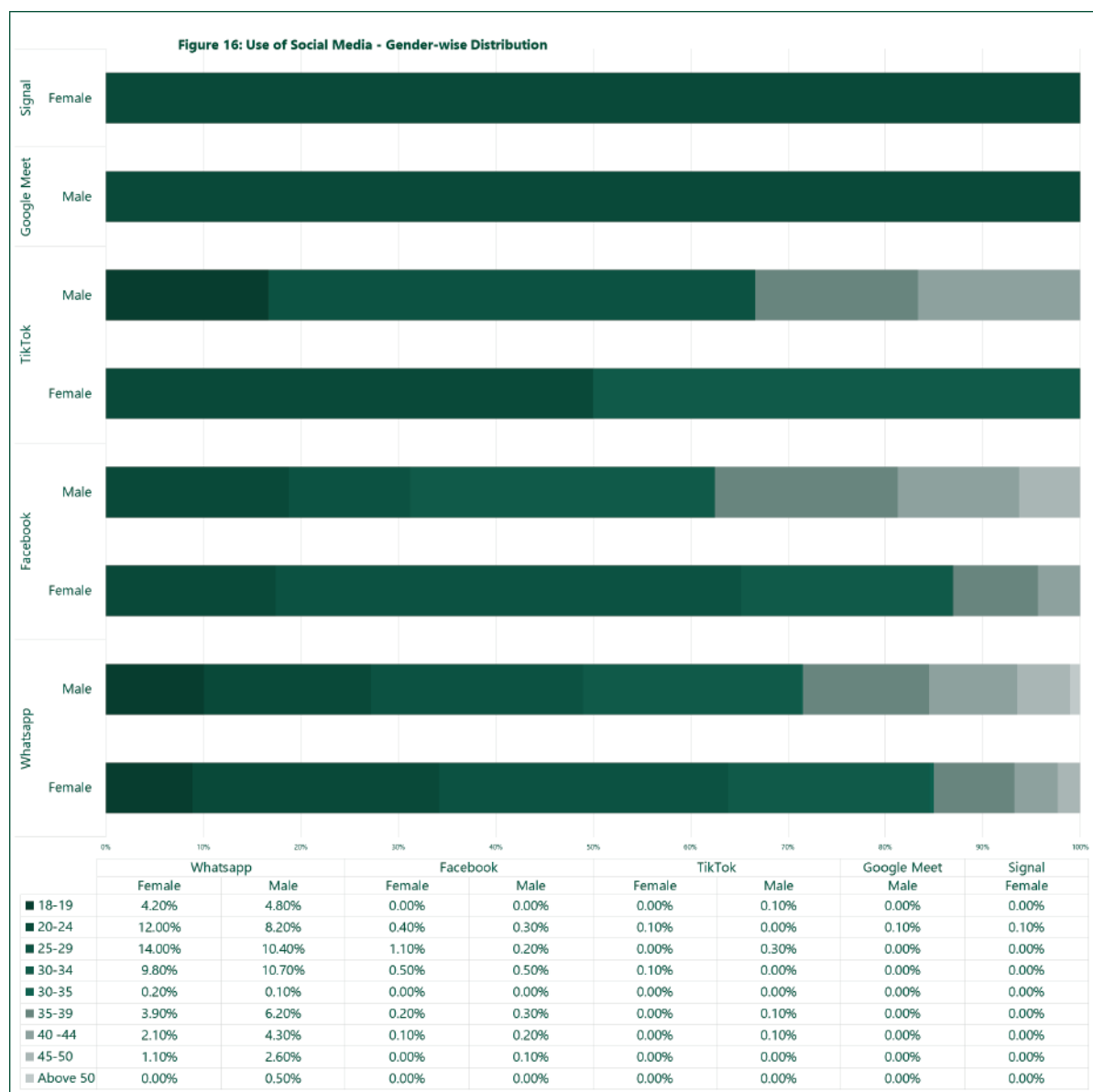
Making The Most Of The Internet

70.8% spent more time on the internet than originally planned meanwhile 29.2% of the respondents reported never spending more time on the internet than what they had originally planned. Almost 410 respondents said rarely and sometimes their time spent exceeded the time they had originally planned to spend on the internet. The proportion of individuals who always exceeded the time limit they had in mind was 14.20% of which 9.7% were employed and self-employed.



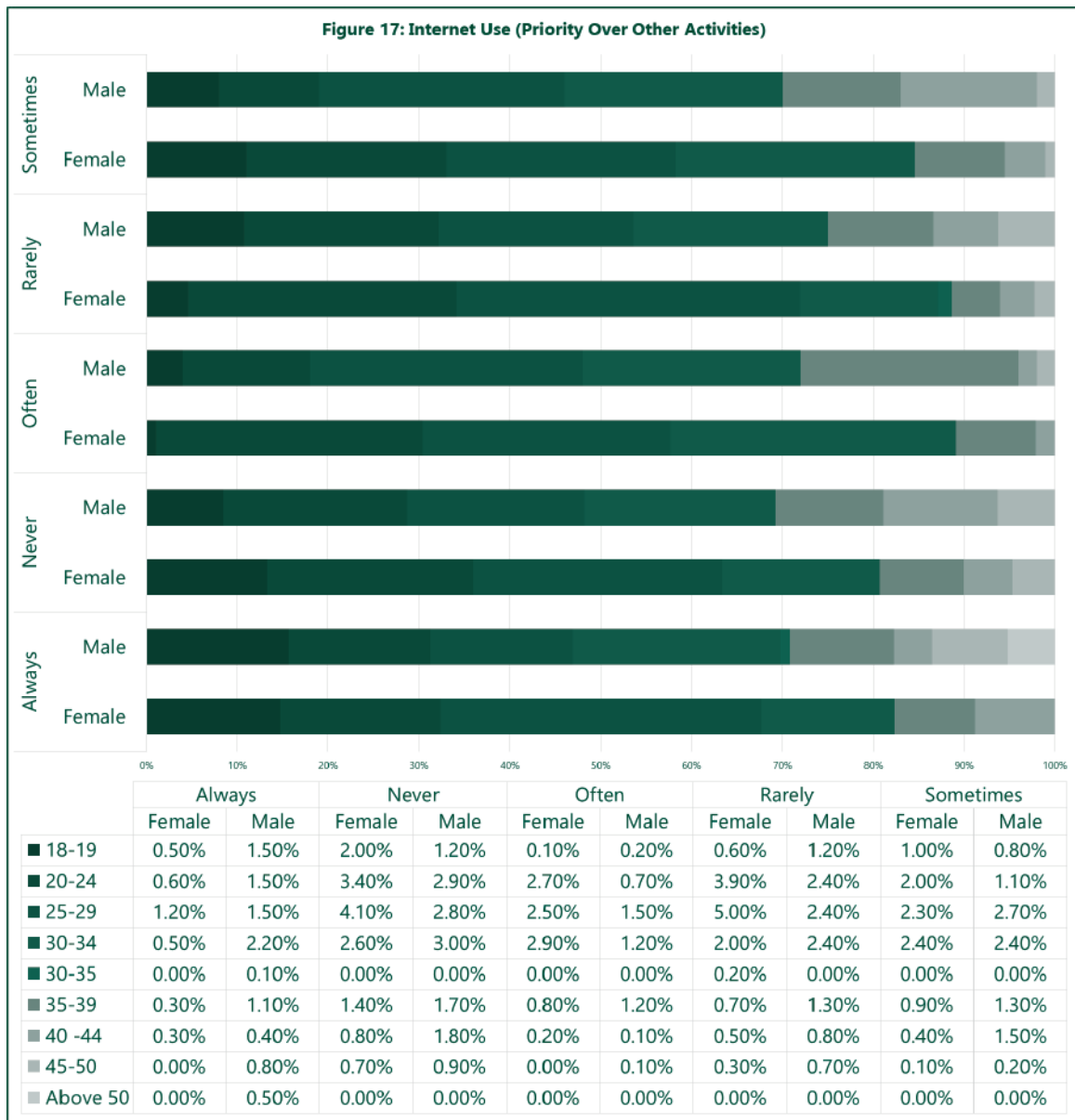
Social Media Platforms To Connect With Friends And Family

95.1% used WhatsApp to connect with their family and friends; 47.8% of them being men and 47.3% women. When asked about which social media platforms⁶ the respondents preferred using for connecting with their friends and family; 65.1% belonging to the 20-34 years age category said WhatsApp. A mere 3.9% reported using Facebook, 0.8% TikTok, 0.1% Google Meet and Signal.



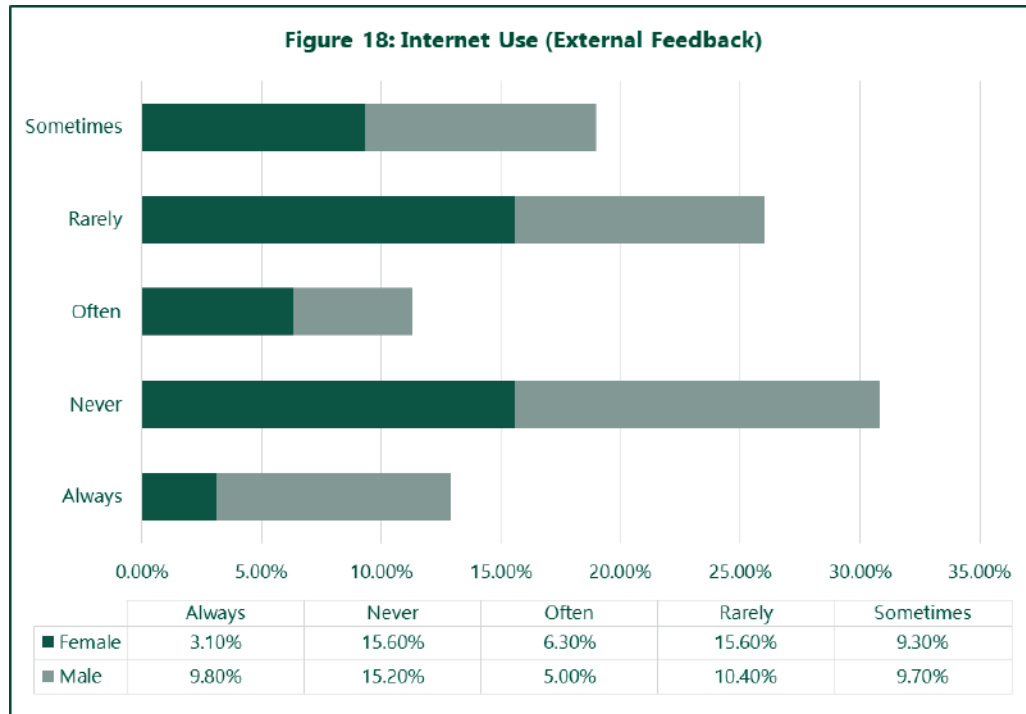
Precedence Over Other Life Activities

For 70.7% of the respondents using internet took priority over other life activities such as watching TV, meeting friends, household work and other pass time. 24.4% of the respondents, most significantly in their twenties felt it rarely took priority and 19.1% reported that sometimes it did take priority. The number reporting 'often' and 'always' were lesser, 19.1% and 13% respectively.



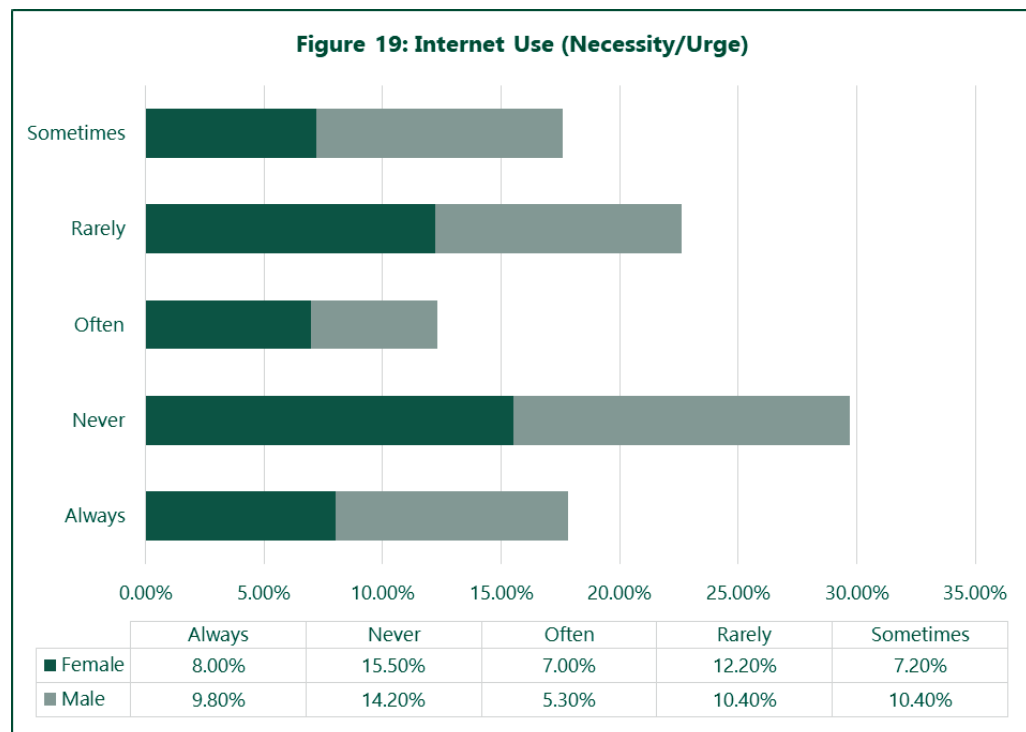
Embracing Constructive Feedback

30.8% respondents reported that there were never faced any external complaints about their internet usage, which suggests that their digital engagements are potentially self-regulated. Meanwhile 26% said there were rarely any external complaints.



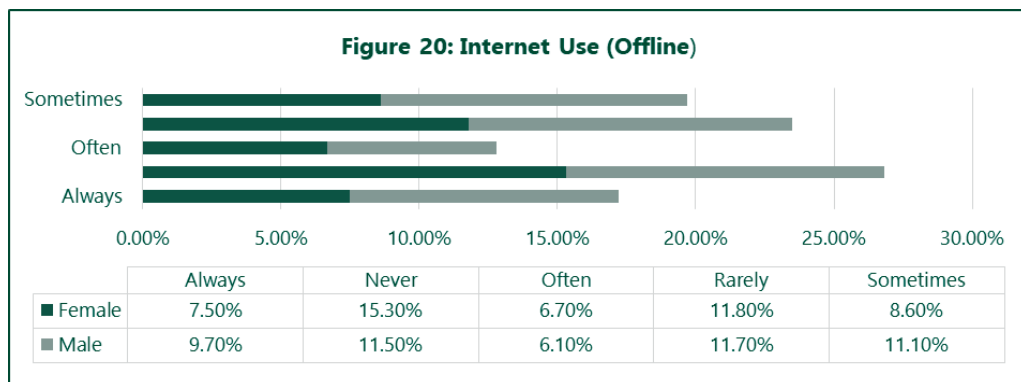
Harnessing The Power Of The Internet

The survey results revealed that many people feel the need to go online, even when they are not using the internet. 70.3% of respondents said they felt this way while 17.8% of them claimed to have felt this way all the time.



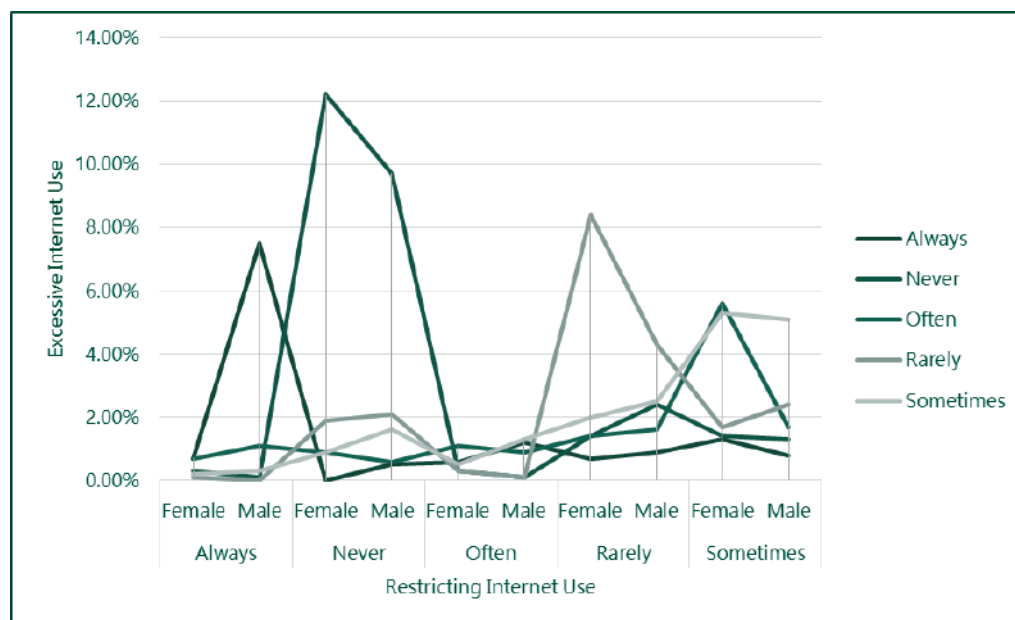
Internet, A Catalyst For Curiosity And Fascination

73.2% respondents were preoccupied with thinking about online activities when not using the internet. Notably, female respondents (38.6%) displayed considerable inclination compared to their male counterparts (34.6%). On the other hand, 23.5% experienced these thoughts periodically while its worth mentioning that 26.8% confirmed that they were rarely or were never stimulated about the online world even during moments of disconnection.



Managing Internet Consumption

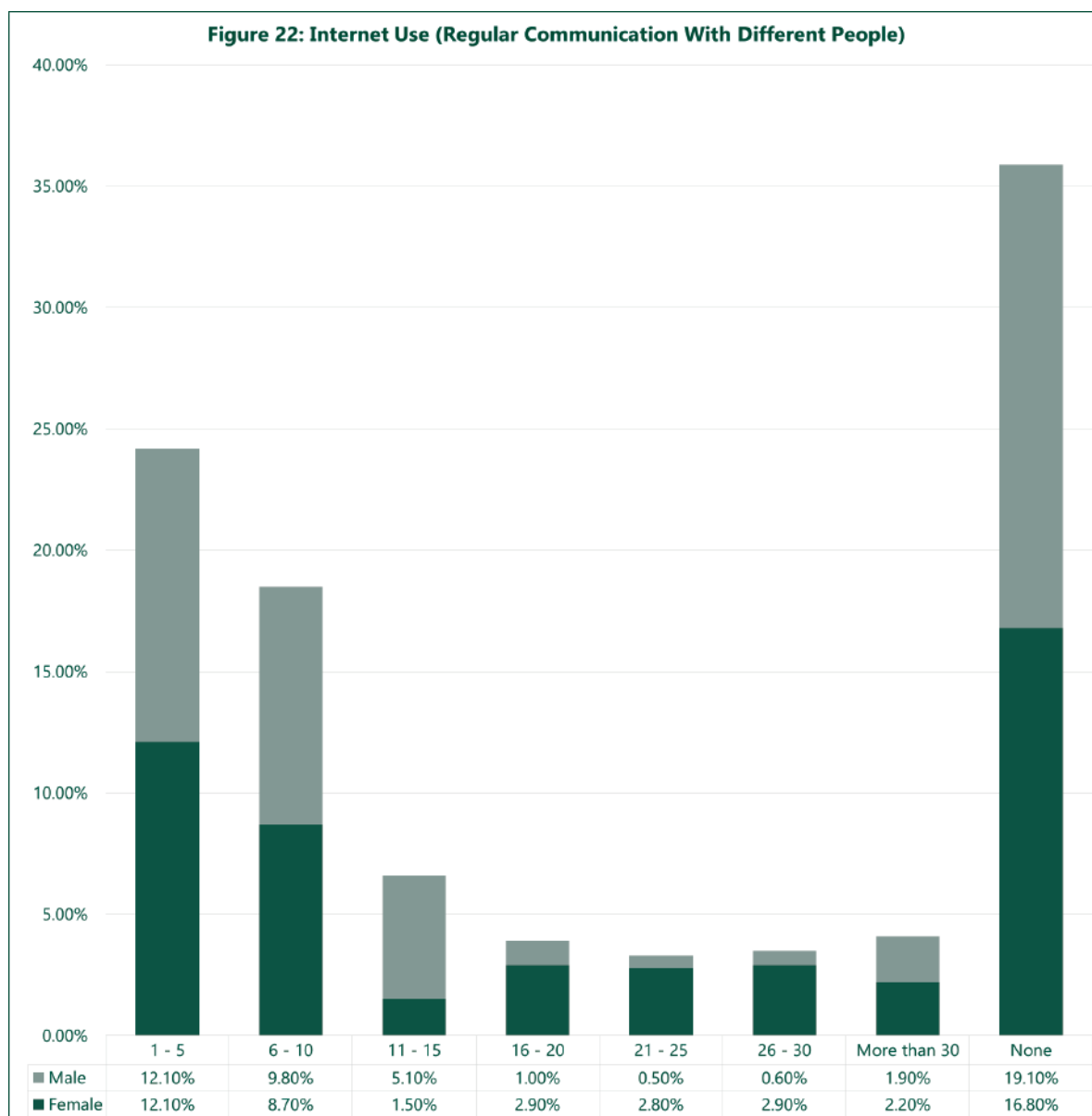
The data suggests that people are aware of the negative consequences of excessive internet use and make a conscious effort to maintain a healthy balance¹⁷. 69.6% of respondents said they limit their use. However, 21.9% of respondents said they would neither restrict nor go past the originally scheduled time.



SOCIAL INTERACTIONS AND COMMUNICATION

Connecting Online With Different People

The mobile internet connectivity has made it easier for the rural communities to connect with people from all over the world. 64.1% were in regular communication with different people on the internet of which 33.1% were women and 31% men. 24.2% were able to communicate regularly with one to five individuals. However, a considerable proportion of respondents, 35.9%, had no regular communication with different people on the internet.



A man with dark hair and a beard, wearing a white shirt and a grey jacket, is looking down at a smartphone in his hands. The background is a plain, light-colored wall. The image is overlaid with a semi-transparent dark green banner containing text.

Hasan Ali

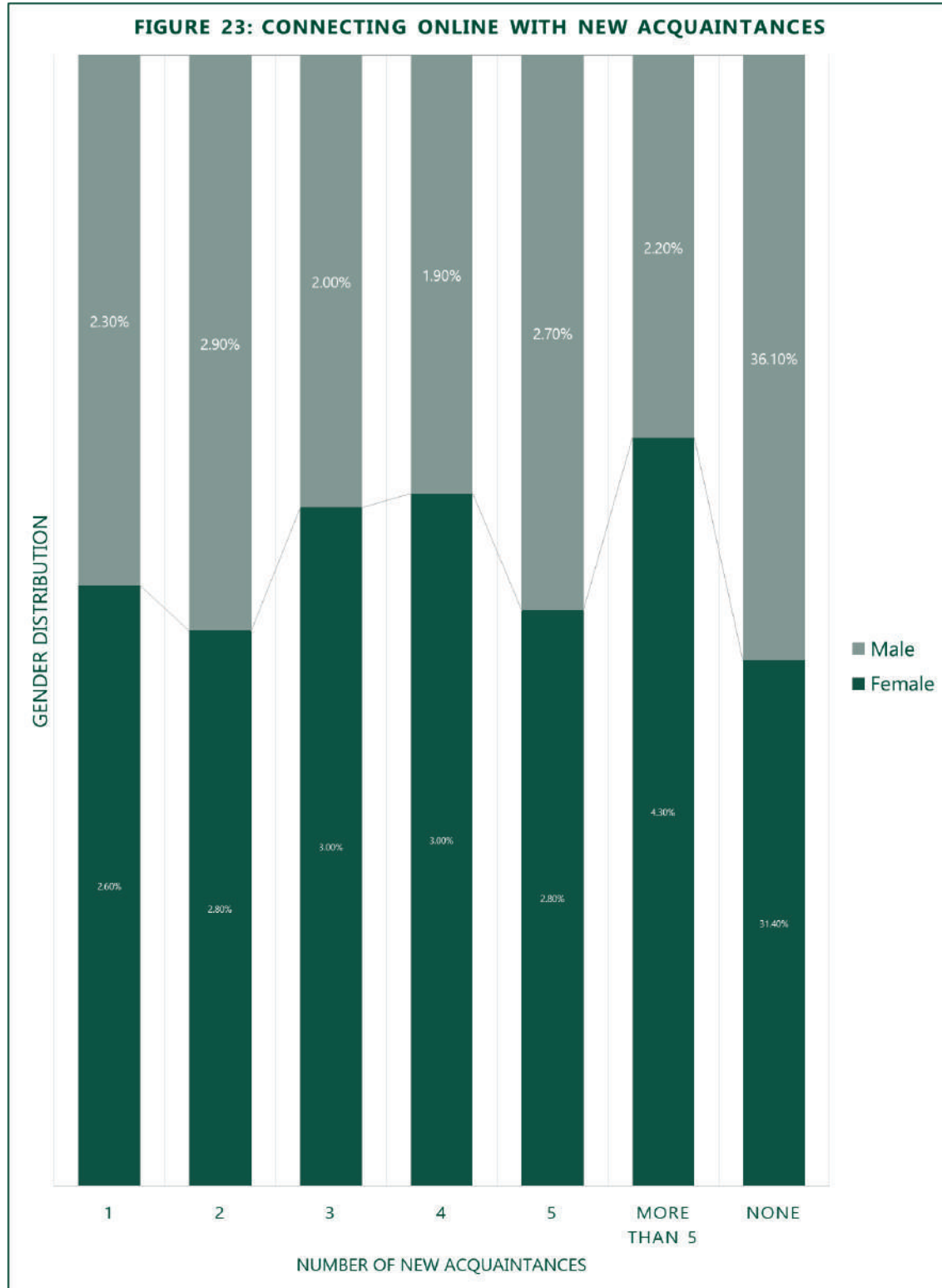
LAYYAH, PUNJAB

Having completed his graduation successfully, Hasan Ali owing to his nature of helping people around him, Hasan has also learnt new apps from his phone that can help people in his village.

“Thanks to the plethora of videos available online, the community elders are also showing willingness to learn new and easier farming methods from what they see online. I watch these videos and apply them to my own crops. The videos help me save water and make sure that the crops do not die out. Later I also make sure that I spread the knowledge with other in my area so that they also implement these techniques. Similarly, when I need to know about the different types of manure, seeds, their pricing, I watch online programs that help me differentiate as to what works for my field. I take pride that I can bridge the gap between two generations by using the information available on my phone,” Hasan explains.

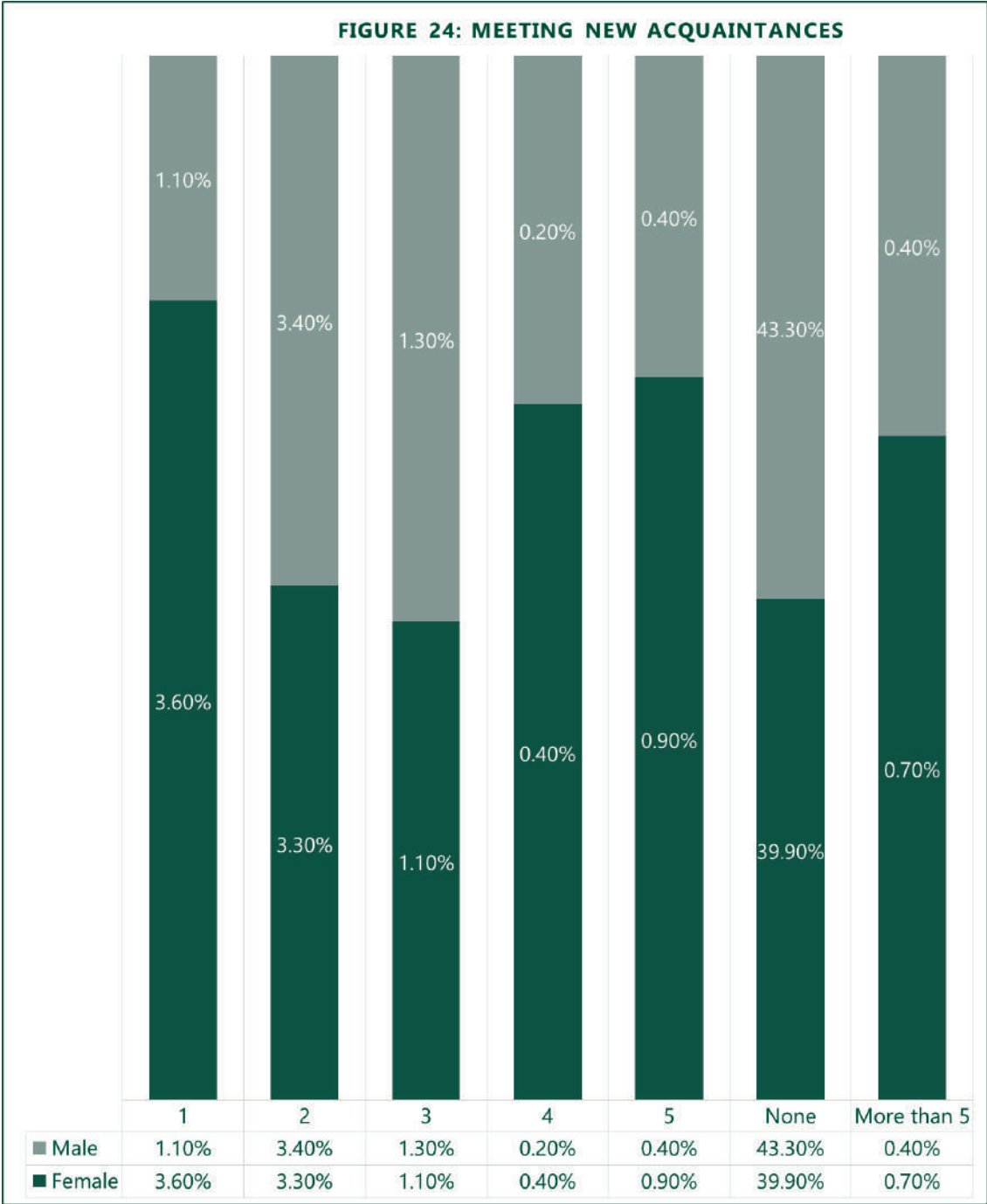
Connecting With New Acquaintances

Majority of the respondents, 68.74%, did not make any new acquaintance via the internet. And only around 26.1% individuals were able to make between one and five acquaintances solely through the internet. There are number of online communities and forums where people share similar interests.



Meeting New Acquaintances Connected Online

83.2% did not meet any of their new acquaintances personally. 6.7% of them met just two acquaintances personally and 4.7% only one. Overall, the data indicates that there was no serious effort to meet the online acquaintances personally. This may perhaps be a reflection of the sociocultural dynamics of these rural communities, which may be a barrier in translating online experiences into a physical reality.





Ahmed Ali

MASTUNG, BALOCHISTAN

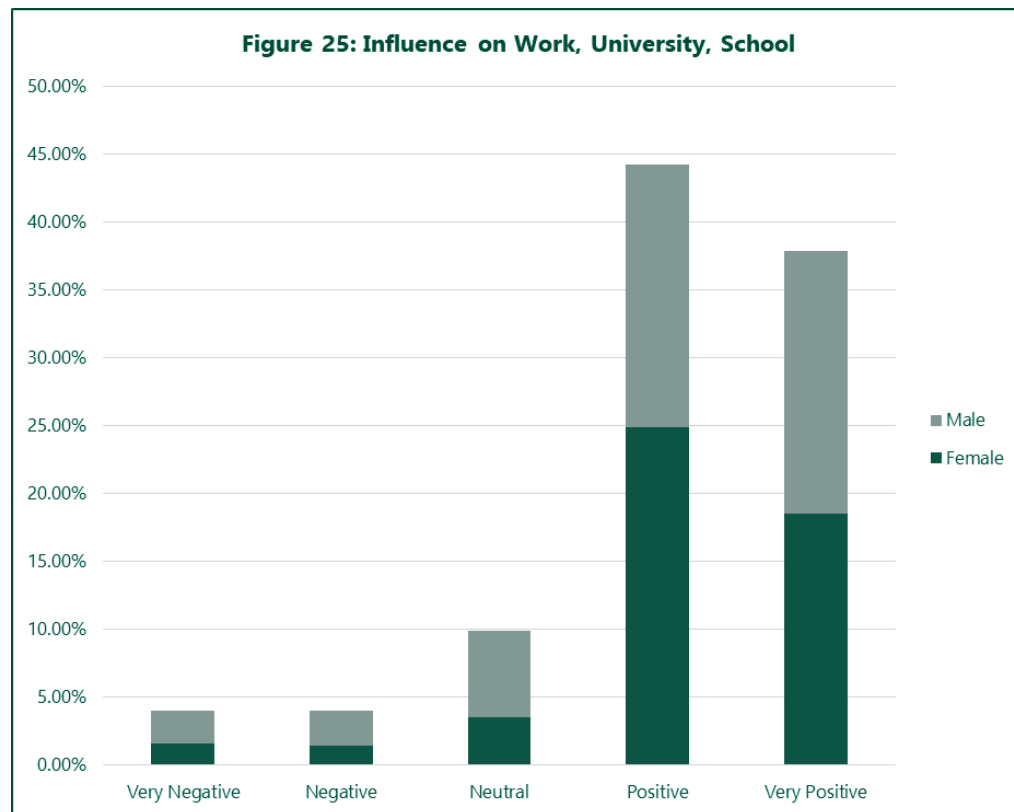
Now in his early forties, Ahmed Ali from Mastung runs his family consisting of his six children with a limited salary. He has worked hard to get access to some technological devices for his family including the smartphone which he owns, a television and a cellular phone in case someone must reach him. While Ali is, yet to acquire many IT based skills he is greatly interested in learning basic computer courses, which in today day and age, are expansive and would help Ali in the future: "I would like to learn MS-Word and MS-Excel because I feel they would aid me in my office work. I wouldn't mind exploring other aspects of ICT as well because it still seems new to me one should never stop learning about innovative tools." An avid Facebook user, Ali uses the platform to connect to people in his life.

"When we were hit by the pandemic, I felt it was imperative to spread information about the symptoms and the conditions. Our localities are quite small so it is not always possible to spread the information evenly, so I made sure that I used Facebook and other such platforms to raise awareness about Covid-19 and felt grateful to such apps through which I could also address myths around the virus," he shares.

INFLUENCE

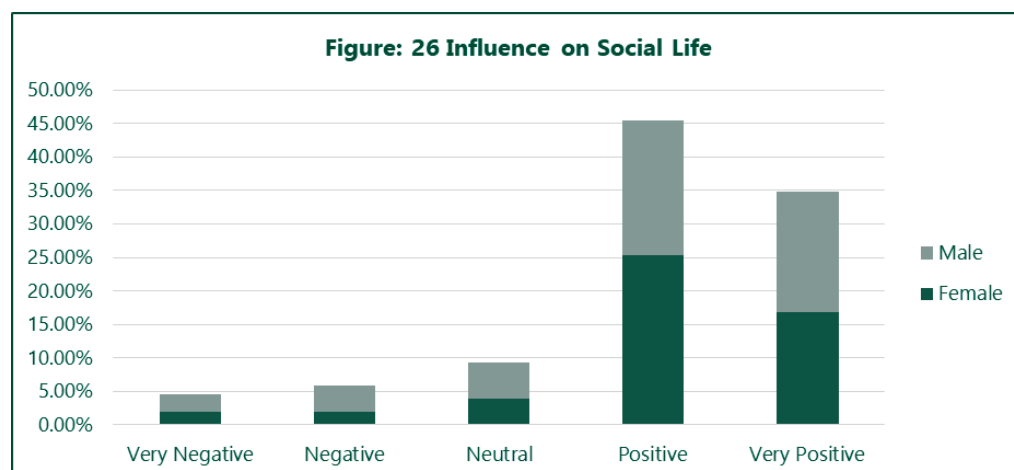
Work, University, School

Positive impact of internet on work, university or school was reported by 82.1% out of which 43.4% were women while 38.7% being men. 37.9% individuals found its impact to be very positive and only 8% of the individuals participating in the survey found the impact negative while 9.9% remained neutral.



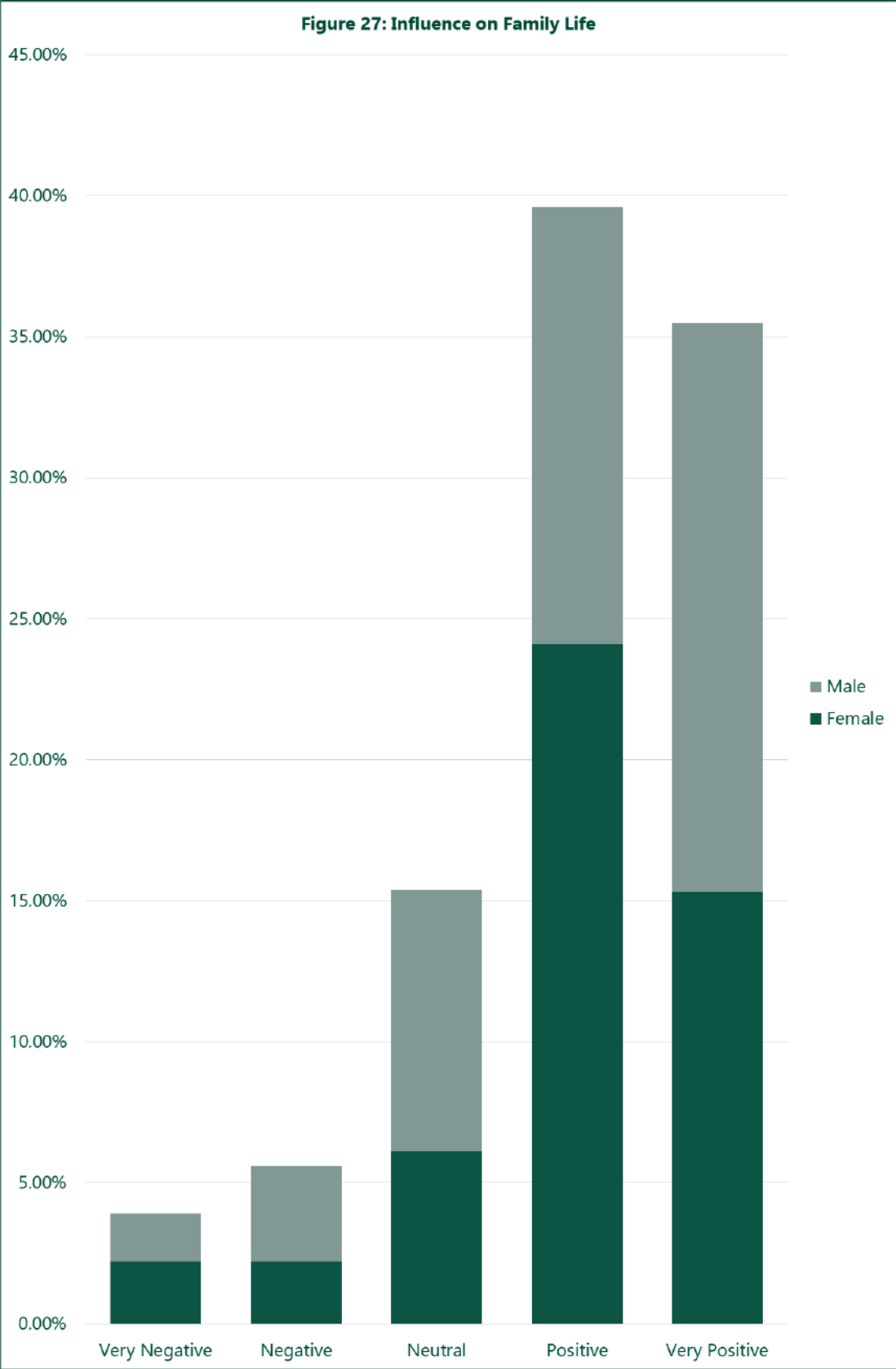
Social Life

80.3% individuals reported a positive impact of internet use on their social life. Gender difference in how individuals perceive this impact is remarkable. Women slightly more than men perceive a positive impact on their social life (meeting friends, recreational activities, etc). The negative impact was viewed by only 10.4% respondents.



Family Life

A significant proportion of respondents, 75.1% found the influence of internet use on family life (relationship with partner, children, etc) as positive out of which 39.4% were women and 35.7% were men. 15.4% respondents were neutral about the influence





Bibi Naseema

MASTUNG, BALOCHISTAN

Bibi Naseema now in her late twenties usually follows a set schedule which also has room for some leisure attributed to her smartphone when she scrolls through Facebook and TikTok. While she does have a TV at home to watch news bulletins and other such programs, she uses social media to know more about health and entertainment. Bibi Naseema feels that technology doesn't necessarily have to be bad, rather it has made life so much easier for everyone that we must incorporate it into our lives: "This is why whenever someone wishes to expand connectivity in our area, we welcome them with open arms because it is for our benefit."

Bibi Naseema often watches videos that are related to health issues especially about women. Once her children are busy with their toys, she wears her earphones and listens to different doctors explaining about health problems. "I recently learnt different yoga poses and exercises which can help women during certain days or if they have pain during them. I then shared them with other women in my community and explained to them the benefits because I tried them at home. But I make sure to only follow simple ones because complicated ones are not to be done without supervision," she shares.

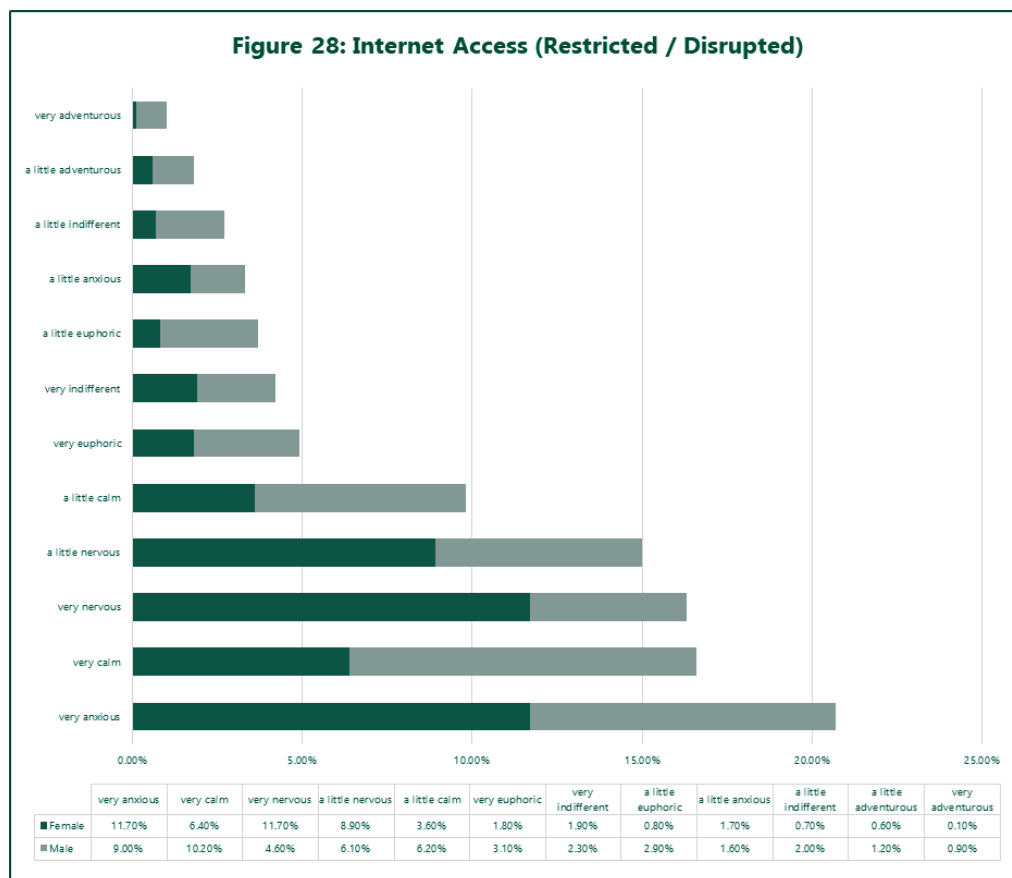
Bibi Naseema heavily relies on WhatsApp, YouTube and Facebook because there are communities on two out of three apps, and she feels connected to them.

INDIVIDUAL STATE OF MIND

Restricted Access Due To Disruption In Internet Connectivity

Respondents were asked how restricted or disrupted internet connectivity affected their mental state. The following was reported:

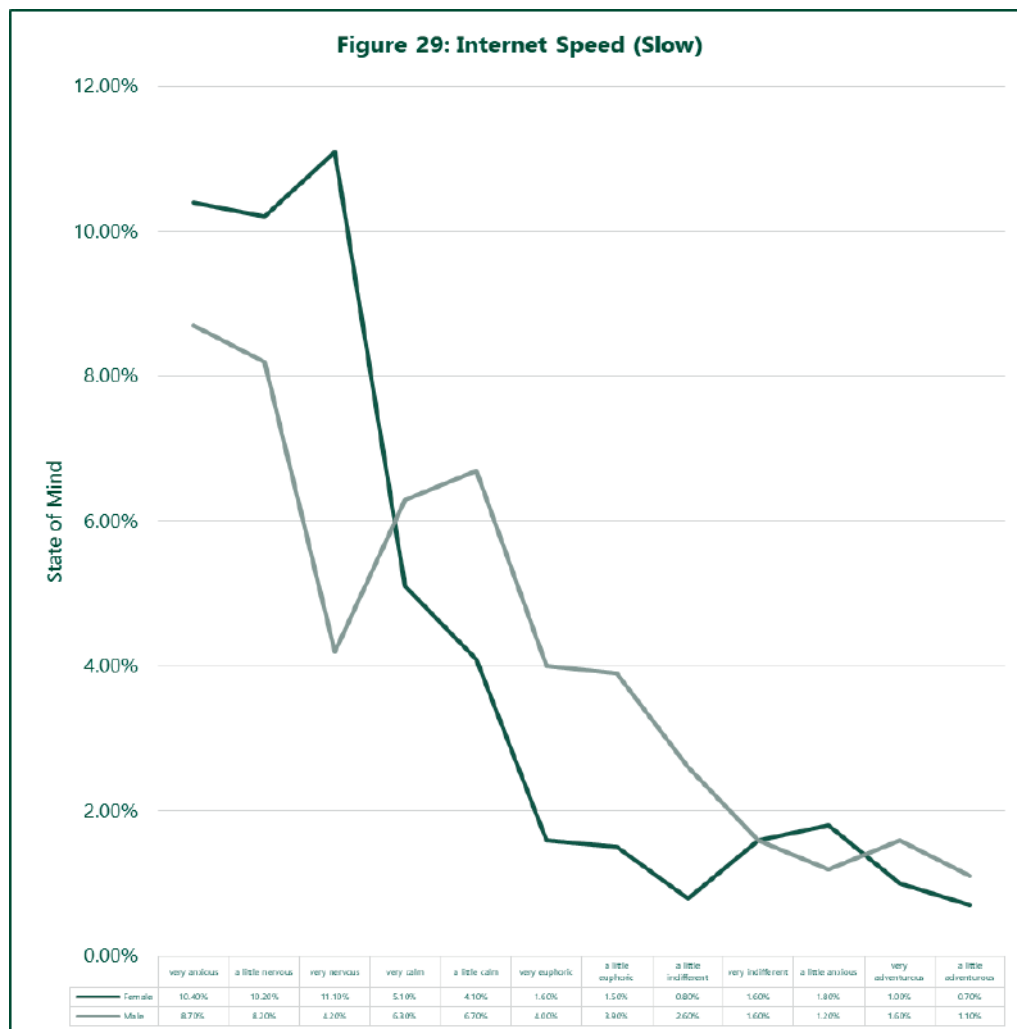
- Internet disruption or restricted access made 24% anxious and another 31.3% nervous.
- The relatively large proportion (20.7%) reported becoming very anxious that included 11.70% women which was more than men (9%).
- Very calm state of mind was reported by 16.6% of individuals; 10.2% men and 6.4% women. Very and little nervous states of mind were reported by 31.3% of respondents and again the proportion of women in these states of mind (20.6%) was more than men (10.7%).
- 6.9% of the respondents were a little and very indifferent to disruption in access and the proportion of men (4.3%) in this was more than women (2.6%).
- Very and little euphoric states of mind were reported by 8.6% respondents, and the proportion of men (6%) reporting these states was more than women (2.6%).
- Overall, women seemed more anxious and nervous compared to men when internet connectivity was disrupted. Similarly, more men were indifferent to disruption compared to women.



Internet Is Slow

When the respondents of this study were asked about their mental states if the internet became slow, they reported the following:

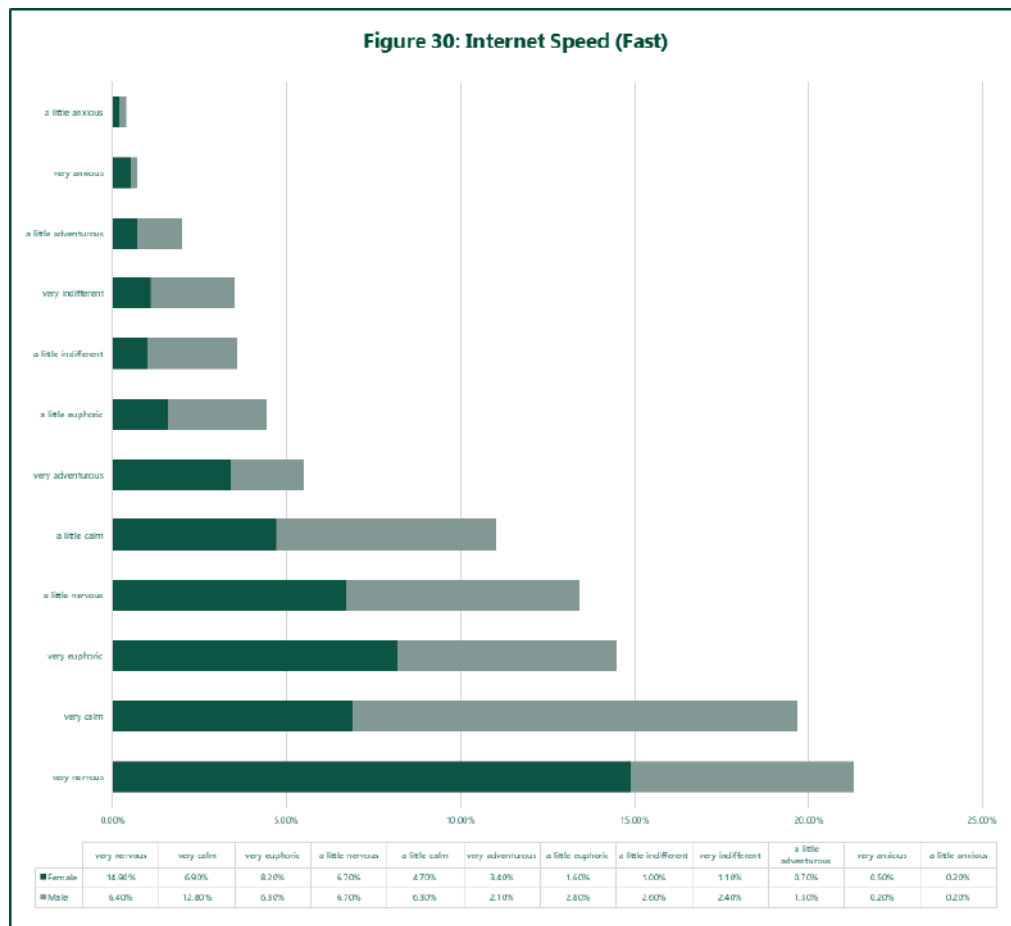
- 22.1% said they became a little or very anxious, and female proportion (12.2%) with this state of mind was higher than that of male (9.9%). So, women became more anxious than men when internet speed became slow.
- A considerable proportion (33.7%) also reported nervousness (little and very) when the internet speed became slow. More women (21.3%) experienced a nervous state of mind compared to the 12.4% men who experienced it.
- A calm (little and very) state of mind was reported by 22.2% of participants, of which male proportion (13%) was more than the female (9.2%). Consequently, women compared to men were less calm when the internet became slow.
- Indifference to the slowdown of internet was reported by 6.6% individuals and this state of mind was experienced more by men (4.2%) than women (2.4%).
- A euphoric (little and very) state of mind was reported by 11% of the respondents, with men (7.9%) experiencing it more than women (3.1%).



Internet Is Fast

A fast internet affected the mental states of respondents in the following manner:

- 34.7% of the respondents became both little and very nervous. The proportion of women (21.6%) experiencing this state of nervousness was more compared to men (13.1%).
- On the other hand, faster internet speed also induced little and very calm states of mind within 30.7% of the respondents. And here the proportion of men (19.1%) experiencing calm was more than that of women (11.6%).
- A euphoric (little and very) state of mind associated with faster speed of internet was reported by 18.9% of individuals, and this was experienced by almost an equal proportion of men (9.1%) and women (9.8%).
- With an increased internet speed an adventurous (little and very) state of mind was experienced by 7.5% of the respondents, with the female number (N=41) being slightly more than the male number (N=34).
- A negligible proportion (1.1%) of individuals reported anxiety (little and very) due to faster internet speed.



A man with dark hair, a beard, and glasses is looking down at a smartphone in his hands. He is wearing a light purple shirt and a dark blue vest. The background consists of horizontal blinds. A semi-transparent green box is overlaid on the image, containing text.

Muhammad Hussain

LAYYAH, PUNJAB

“My phone is my wallet and saves me the cost of employing two chaps,” quips Muhammad Hussain who lives in Khooni Kolro in Layyah with his wife and two daughters. In his early thirties, Hussain takes pride in being self-employed with his work circumventing the tricky business of selling items on installments. With a smartphone placed next to him, Hussain shares that he usually gets his information from television and social media, relying on the former for local news and sports.

He becomes very serious at the prospect of cutting off technology and says that it would be impossible to get by: “All of my work is done through this device. I receive payments from my clients through mobicash and I can track my accounts easily too.

He adds that even for distant learning, students can avail a lot with less capital and save their time on traveling. Hussain’s happiest moment in life was when he commenced his business, but he yearns to learn more by acquiring skills like promoting his work online and developing a website in future.

COMMUNITY INSIGHT - 1

Whether Communities In Future Will Prefer The Online World Over The Real One¹⁸

All participants of the qualitative sample answered this question in the affirmative and their explanations were quite contemporary and indicative of how they interact with technology and how it has influenced them. The main comments and reasons they cited for their answer are as follows:

- People prefer and should prefer the online world because it is less costly, requires less investment, saves time, and needs no specific place or physical presence.
- People who cannot show their talent in the real world can display, impart, and share their talent and skills online with the whole world.
- Since everything is online today and most things can be done with the click of a button; business and financial transactions, education, trainings, communication with others, and all kinds of other works and services, which have made people's lives easier and full of comforts, hence there is both a need and requirement to prefer the online world.
- Since the world has changed and become a global village so preferring the online world is necessary for walking alongside the rest of the world, otherwise we will be left behind. A prosperous future requires an informed, and educated community which can achieve its goals more efficiently through the online world.
- The facility of having all our data, records and all kinds of knowledge and educational content within our reach and available whenever we want it makes the online world subjectively preferable for our communities.
- According to Bibi Fazila from Mastung district, our communities will prefer this world, but we first need to have money to buy computers and smart phones.

These answers reveal that all respondents prefer and see the online world as not only beneficial for their communities and people but necessary for moving alongside the rest of the world. The real grassroots benefits of technological penetration can be seen in these communities. It is a growing trend which needs to be facilitated and scaled up. Interestingly, the most progressive and distinct answers were received from Balochistan and KP. The participants from Mastung answered this question in grammatically correct English which was very informative and motivating.

Living Without A Smartphone And In A TIME Without Technology

Except for two respondents all the others said they did not want to go back to life without smartphones. The respondents who preferred the post-tech life with smartphones shared not only its numerous benefits but the disadvantages when smartphones were not there. Some respondents were of the view that due to less interconnection, communication, information, knowledge and facilities; life was quite tough, hard and intensive (in terms of physical labor) in the villages. Without smartphones, one was cut off from the world so one could not update oneself. Since there was more time at hand and no entertainment so spending time was difficult, which led to poor utilization of time.

On the other hand, most of the respondents were clear that the unparalleled and unprecedented comfort of working, paying one's bills through various apps, accessing information, knowledge, entertainment, awareness of the world (current affairs) and then unlimited and regular interaction with family, friends, and colleagues, would not have been possible without smartphones. Since smartphones had become an integral part of people's lives in general and their use had become a habit generating serious dependency for almost every task at hand, so life without them was viewed as colorless, meaningless and very boring.

The sentiments of our respondents reveal that overall, in majority of the respondents there was no preference or desire to go back to life without smartphones or time without technology but only the desire to advance forward along with the rest of the world. The numerous social and economic benefits of smartphones and internet were the main focus and very few negative aspects were expressed. Such experience-based sharing by end users makes a good case for further rural penetration of internet and smartphones.

Community Perception Of The Universal Service Fund

All the 30 respondents reported that they along with other people in their communities see ICT infrastructure and service providers with respect as they serve the interest of the community by putting up towers which improve and strengthen internet signals which enable people to stay always connected with the world. According to them, the work of these ICT service providers increased the value of their community and made their lives easier. The facility of rent payment to families living in the areas where towers were put up was also considered a good and positive act because it provided income to local people. In fact, putting up of towers itself was seen as an economically beneficial activity because it provided employment to people in the community.

A black and white portrait of Muhammad Mudassar Aqil, a middle-aged man with glasses, wearing a dark suit, white shirt, and striped tie. He is gesturing with his hands as if speaking. A small badge is pinned to his lapel. The background is blurred.

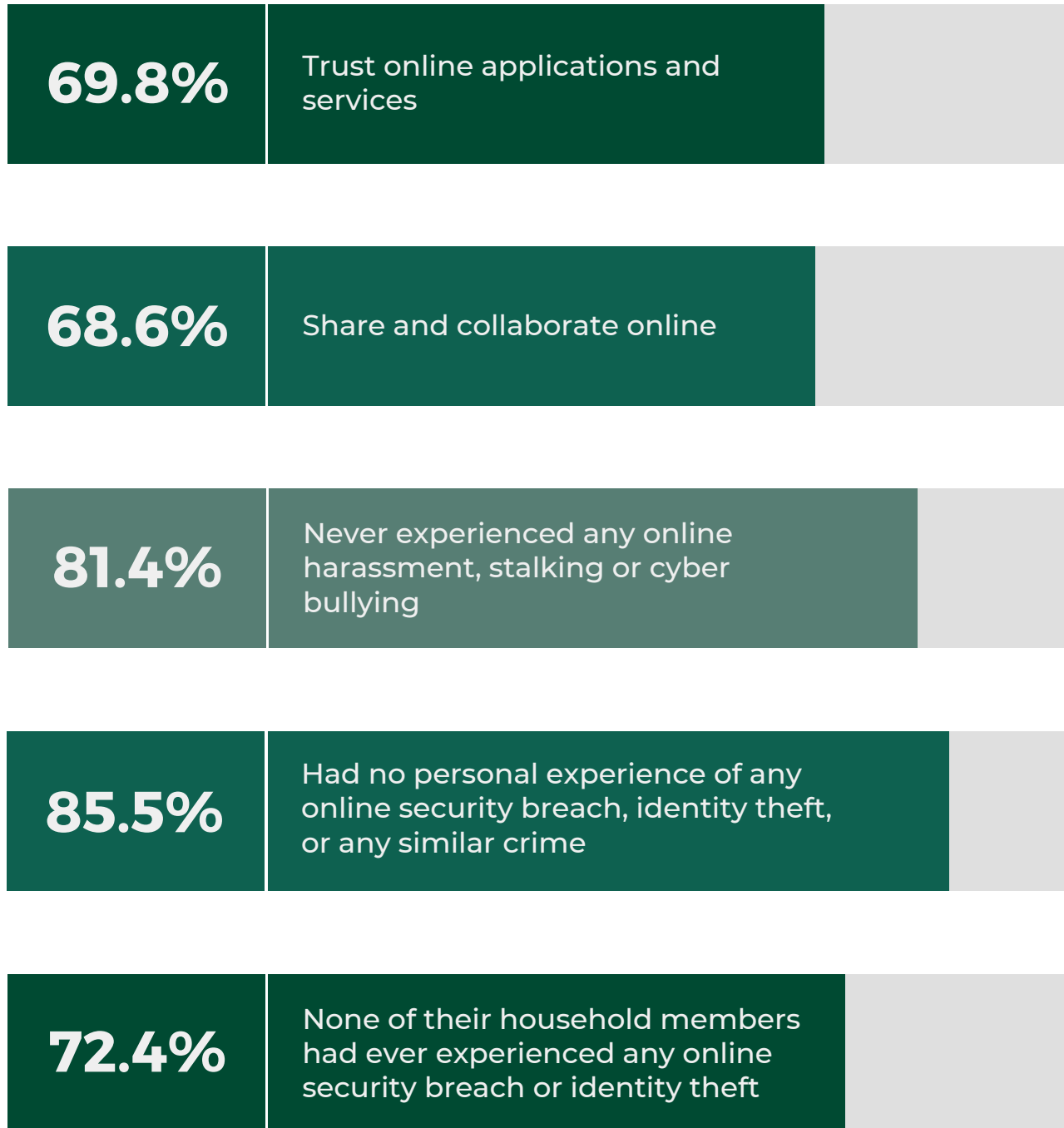
Muhammad Mudassar Aqil

CHIEF EXECUTIVE OFFICE TELENOR MICROFINANCE BANK / EASYPISA

Pakistan is a large country. People live in the mountains, by the seaside, in villages and only 30% of Pakistanis have access to financial services. So, 70% of Pakistan remains financially excluded. Our mission is to make sure that every Pakistani gets access to basic financial services. The Universal Service Fund is playing an extremely important role to make sure that digital connectivity is available to every Pakistani. I think I was looking at the numbers, I was amazed to see that back in 2013, about 1% of our population had access to the Internet, that number today stands at 55%. So, I think USF has played a tremendously important role in this regard and continues to play this role to make sure that every Pakistani has access to mobile connectivity and data available to them. That really opens new doors of opportunities, including financial inclusion, in the area that we work in.

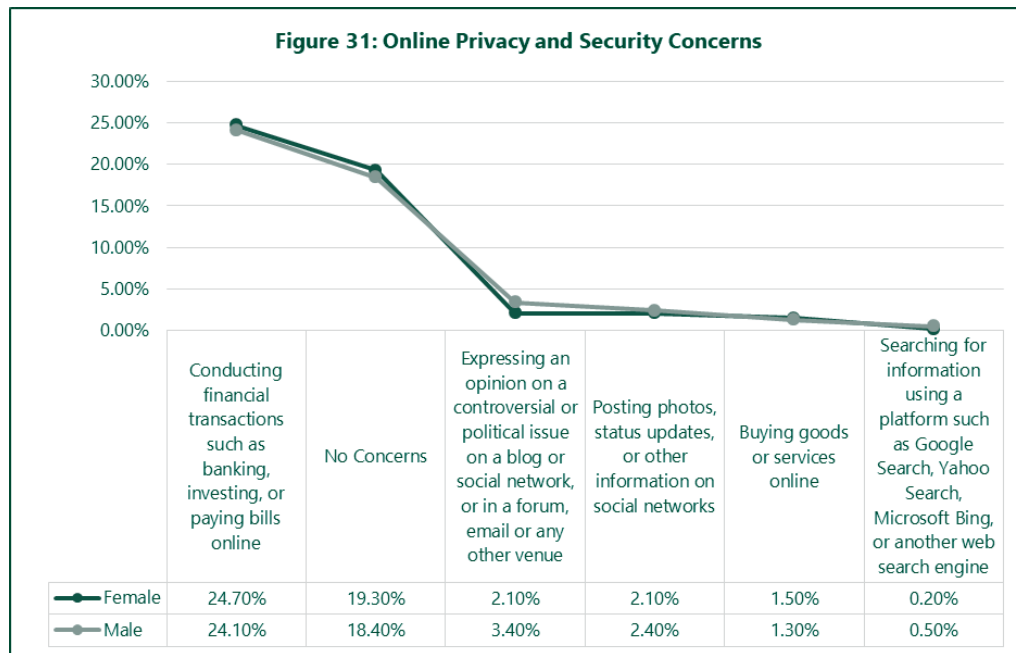
CLUSTER: 3

TRUST AND SAFETY



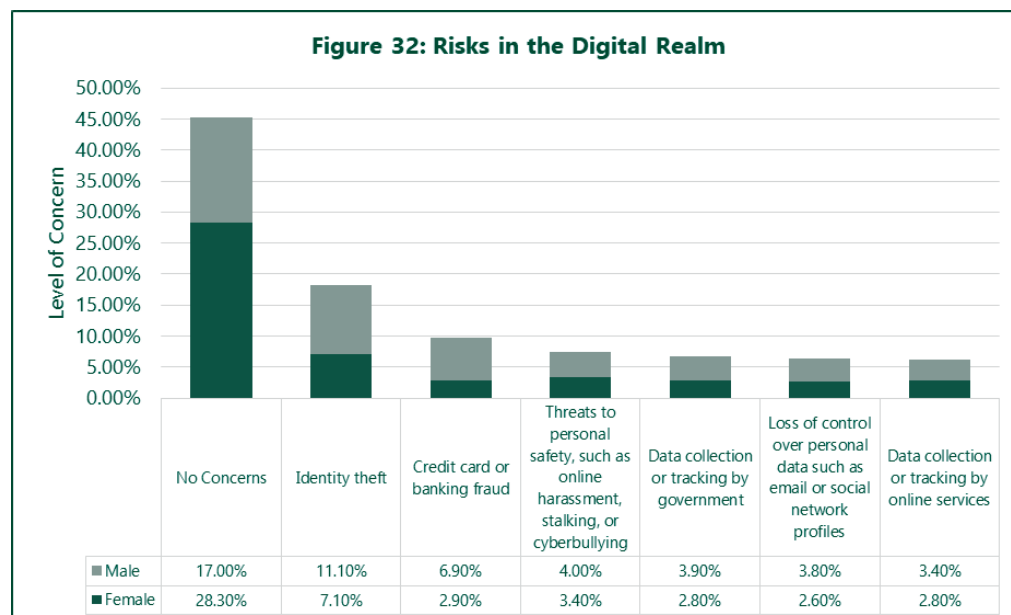
Online Privacy And Security²¹Apprehensions

48.8% expressed concern while conducting financial transactions such as banking, investing or paying online bills, however significant portion of 37.7% indicated a sense of confidence in online activities. Smaller subset of individuals was hesitant of expressing an opinion on a controversial or political issue on a blog, social network, etc. A negligible number of women and men reported their concern while posting photos, status updates, etc., on social networks or buying goods or services online or searching for any information.



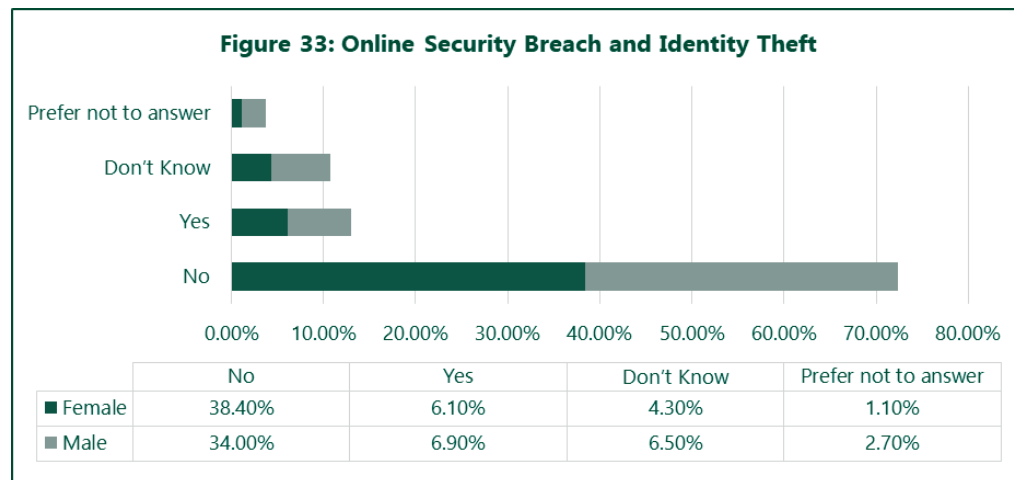
Risks In The Digital Realm

45.3% respondents indicated lack of concerns with reference to identity theft, credit card or banking fraud, or threats to personal safety to do with online harassment, stalking, data collection or tracking by government or online services, and loss of control over personal data.



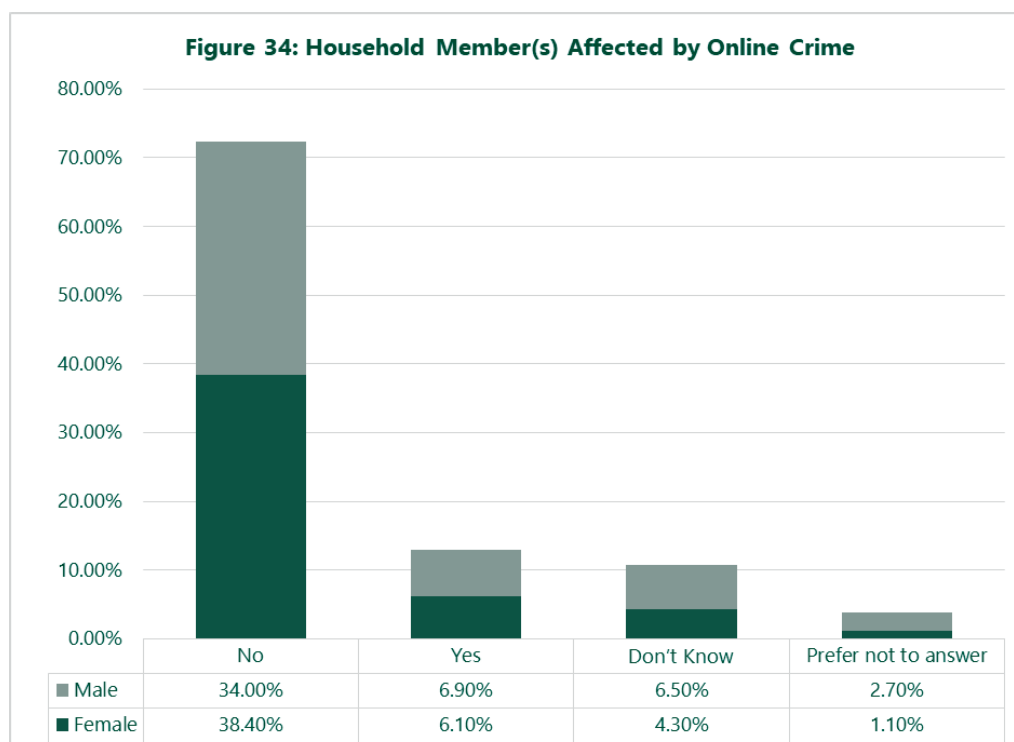
Individual Experiences Of Online Security Breach And Identity Theft

85.5% respondents had no personal experience of any online security breach, identity theft or any similar crime. However, 11.9% reported to have personally experienced security breach and identity theft.



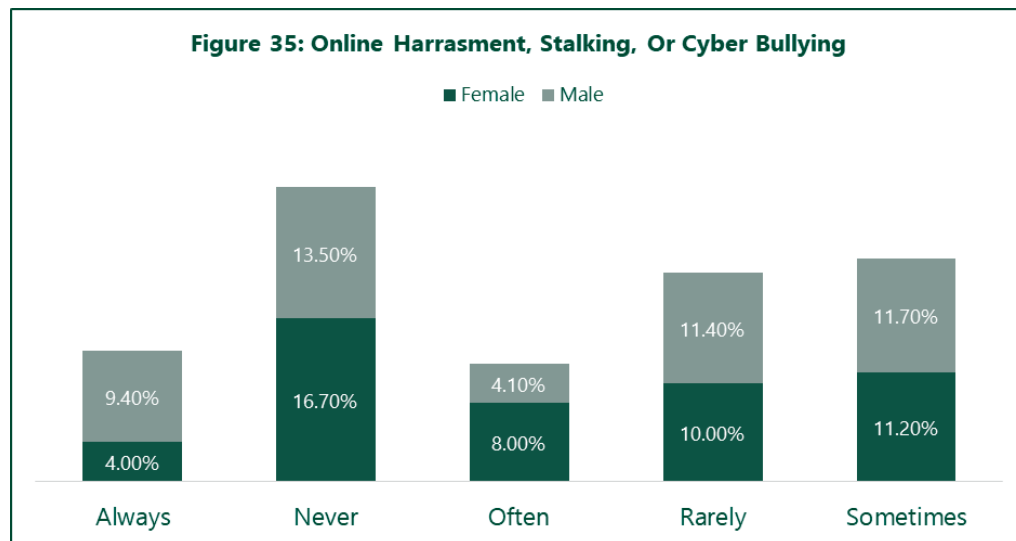
Household Member Affected By Online Crime

72.40% reported that none of their household members had ever experienced any online security breach or identity theft, of which 38.4% were females and 34% males. A small proportion (3.8%) preferred not to answer this question. While 10.8% preferred 'don't know', which means they could not identify or did not know about such online breaches and thefts.



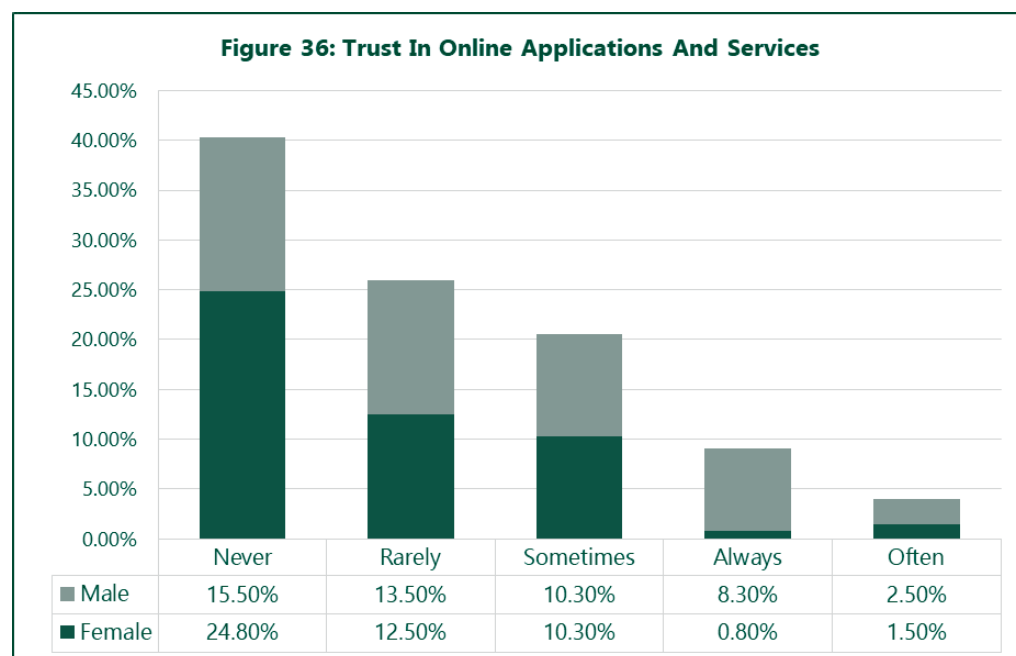
Individual Experience Of Online Harassment, Stalking or Cyber-Bullying

81.4% respondents never experienced any online harassment, stalking or cyber bullying. Only 14.2% individuals, including 7.4% women and 6.8% men, had experienced such harassment, stalking and bullying while 4.4% preferred not to answer.



Individual Trust In Online Applications And Services

59.7% trust online applications and services while 40.3% of the total respondents said they could never. The proportion of males (8.30%) who always trusted was far more than the proportion of females (0.80%), which tells us about the insecurity and lack of trust that exists in the minds of women in our society due to various socio-cultural, and economic factors and situations.



Relevance Of Trust In Addressing Concerns

69.8% trust online application and services and show no concern regarding activities such as conducting financial transactions that includes banking, investing, or paying bills online, buying goods or services online, posting photos, status updates, or other information on social networks, expressing an opinion on a controversial or political issue (on a blog or social network or in a forum), email, searching for information using a platform such as Google Search, Yahoo Search, Microsoft Bing, another web search engine are important factors contributing to individual confidence²². The 25.6% that showed no concern would engage in online activities 7.8% would do it always, 6.6% rarely, 5.7% often, and 5.5% sometimes. However, 8.4% female respondents of the 15.4% would neither trust online applications or services and nor conduct financial transactions such as banking, investing, 13.1% did sometimes trust and use applications for financial matters. The 12.1% who did not show any concerns also preferred never to trust.

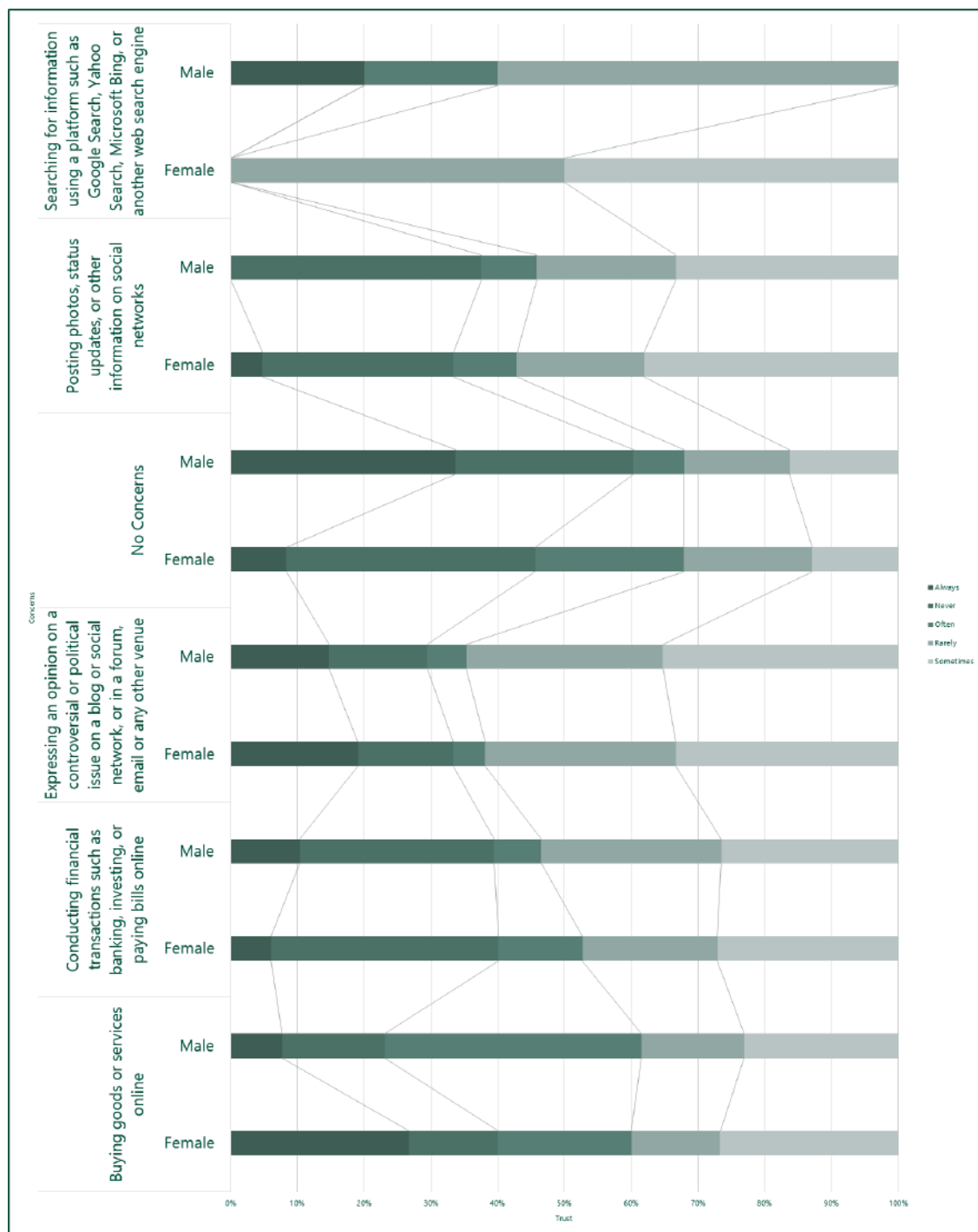
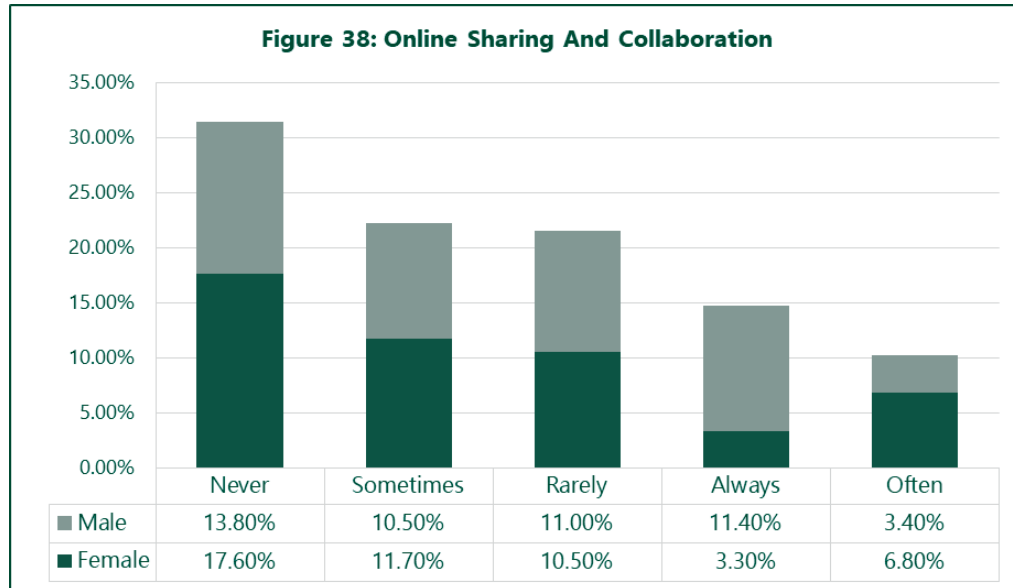


Figure 37: Responses Indicate How Trust Affects Online Experiences

Digital Engagement And Online Collaboration

68.6% respondents reported that they would share and collaborate online, while 31.4% claimed to never do it.



Relevance Of Trust In Online Cooperation

68.6% respondents trust in online application and services, indicate willingness to share & collaborate²³ 18.9% of the individuals would do it sometimes, 17.3% rarely, 13.2% always and 11.1% often. The survey suggests that the 13.1% of the 22.1% that would neither trust nor engage in sharing or collaborations were the female respondents.

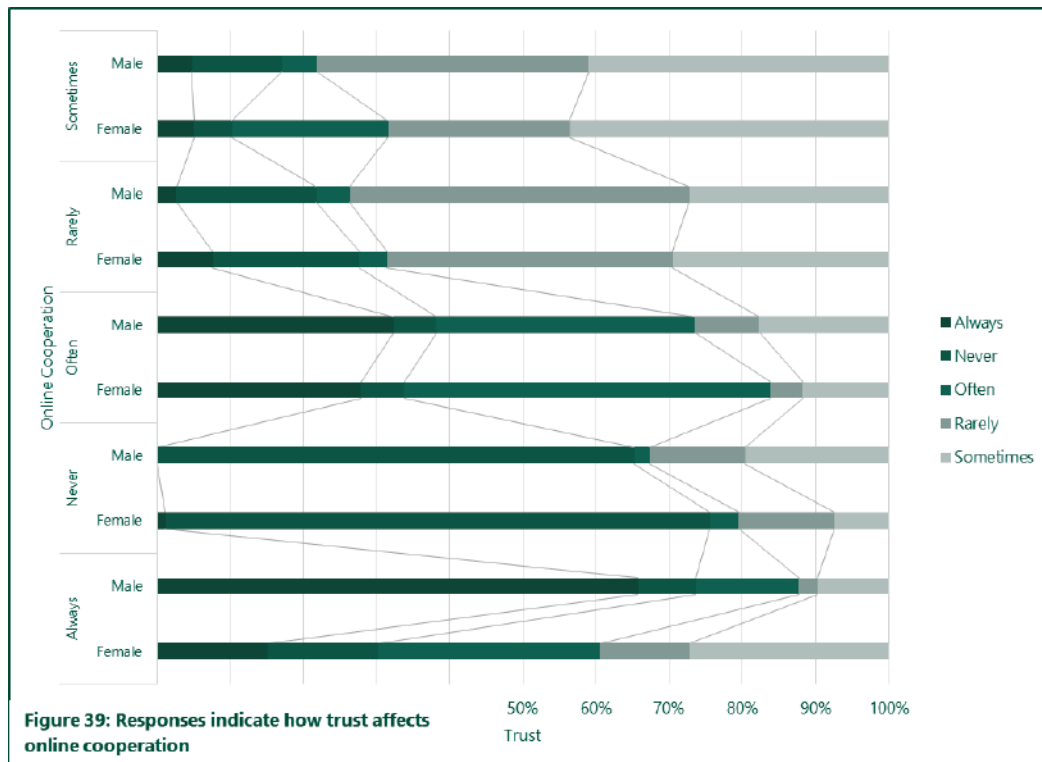


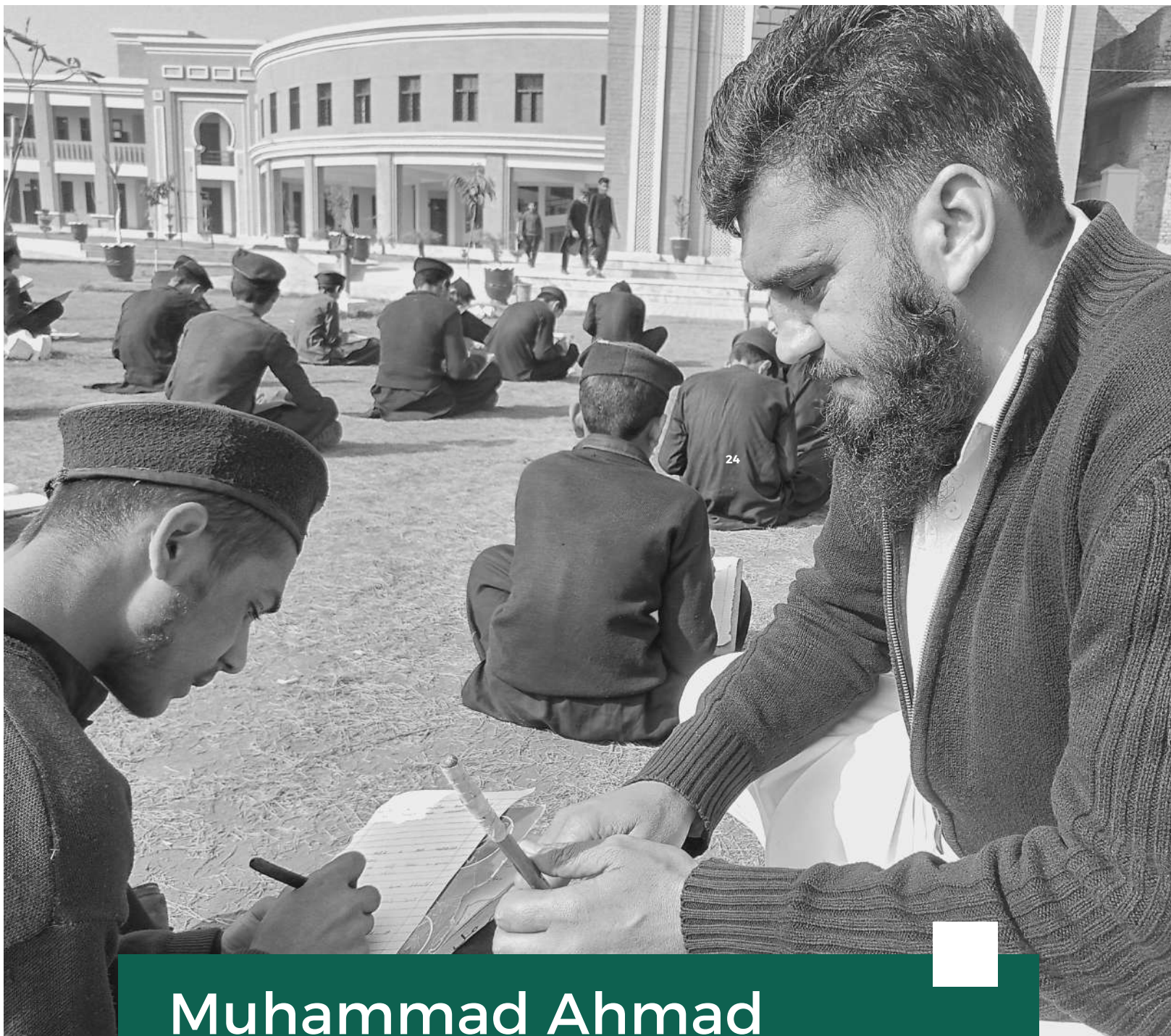
Figure 39: Responses Indicate How Trust Affects Online Cooperation

COMMUNITY INSIGHT - 2

Behavior Regarding The Use Of Strong Phone Protection Measures²⁴

Except for one individual in Ziarat who did not know about phone protection the rest of the participants knew about and used phone protection measures. The most popular measures were number lock, fingerprint and pattern used by all the participants. For instance, Bibi Naseema, from district Mastung, in Balochistan, is very specific about her phone protection and puts a lock on her phone through both pattern and fingerprint to ensure that the device is protected. She believes that her device is as precious as her other important belongings and must not be shared without consent. The use of phone cover for exterior protection was used by four individuals only. There were four individuals who did not share their smartphone with anyone and therefore did not feel the need to use any protection measures.

The fact that many participants of this survey used not one but three measures like number lock, fingerprint and pattern for phone protection informs us of the serious value they assigned to their phones. Since it was a means for their economic and social emancipation hence their desire to keep it safe.



Muhammad Ahmad

LOWER DIR

Muhammad Ahmad sits with one of the students from the group he provides counseling to. Hailing from Lower Dir, Ahmad realized the importance of guiding young people especially in career advice and helping them narrow down fields of profession.

Ahmad runs a small Facebook group where he would guide parents and students about career prospects,” he shares.

“I met a few friends who have been working in different institutions. I asked them if they would be comfortable sharing different job openings with me. I also then found out about websites like Rozee.pk and a few others. I started my own WhatsApp group where I charge a very nominal fee from my members and in turn, I post relevant job postings according to experience and career path. I also give them tips and connect them to different recruiters,” he explains.

CLUSTER: 4 LEARNING AND DIGITAL SKILLS

Growing Demand For Learning New Digital Skills;



E-Commerce



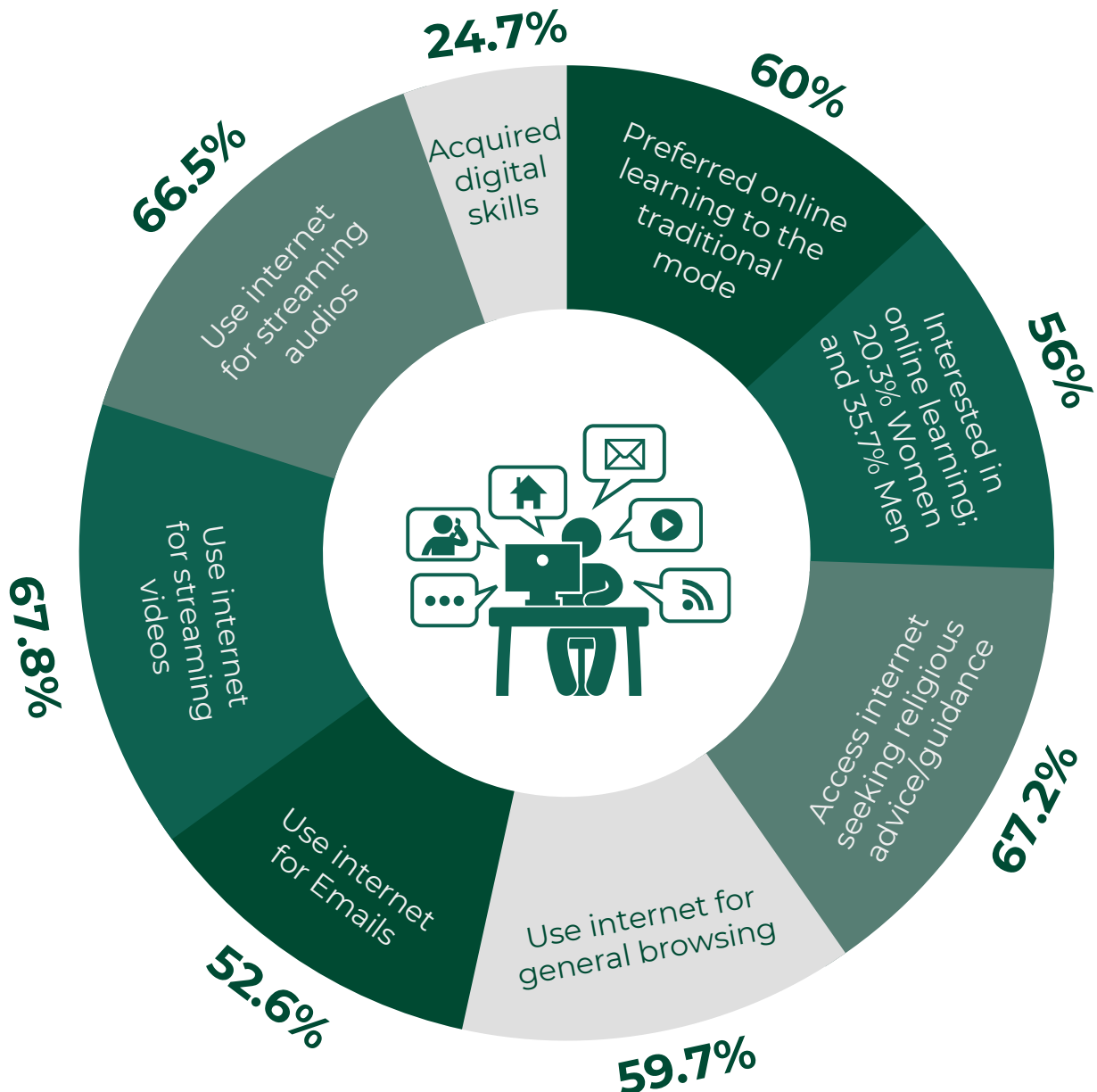
Graphic Designing



Freelancing



Online Marketing





Muhammad Faheem

MASTUNG, BALOCHISTAN

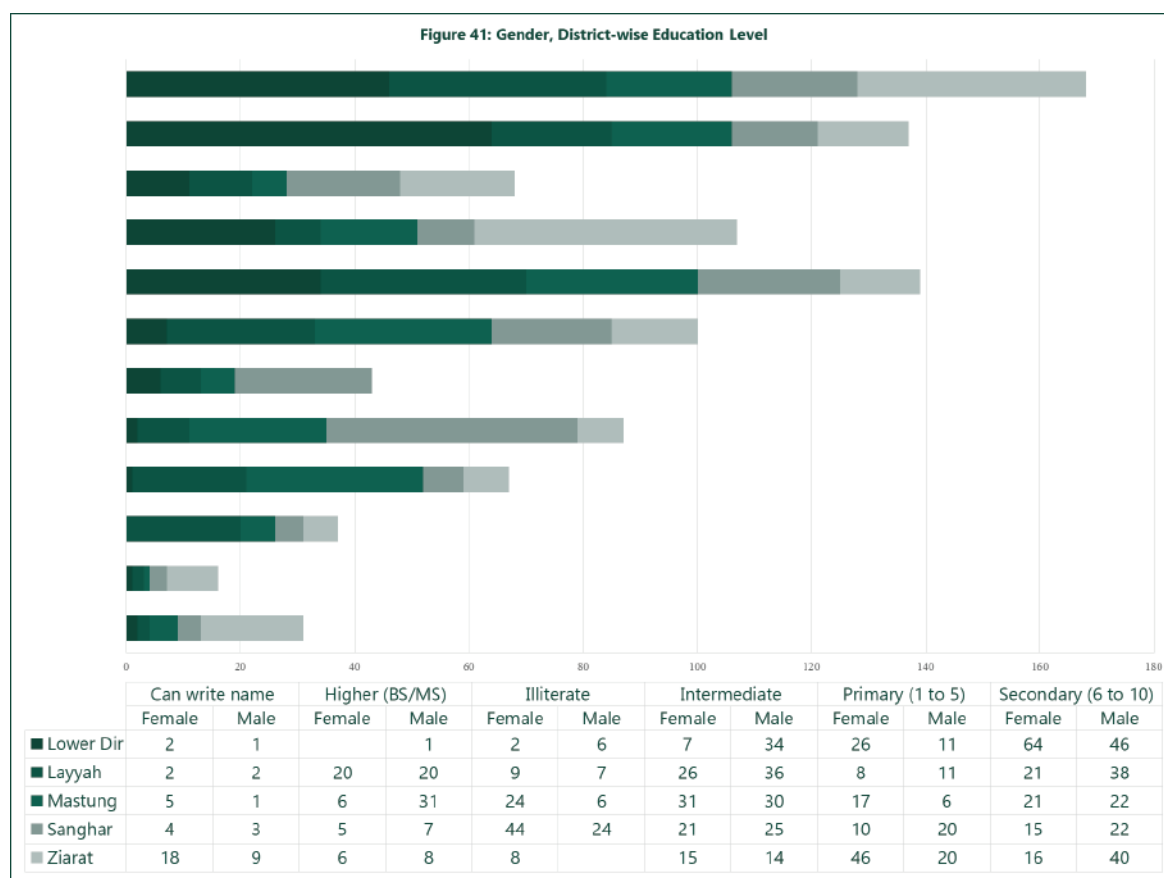
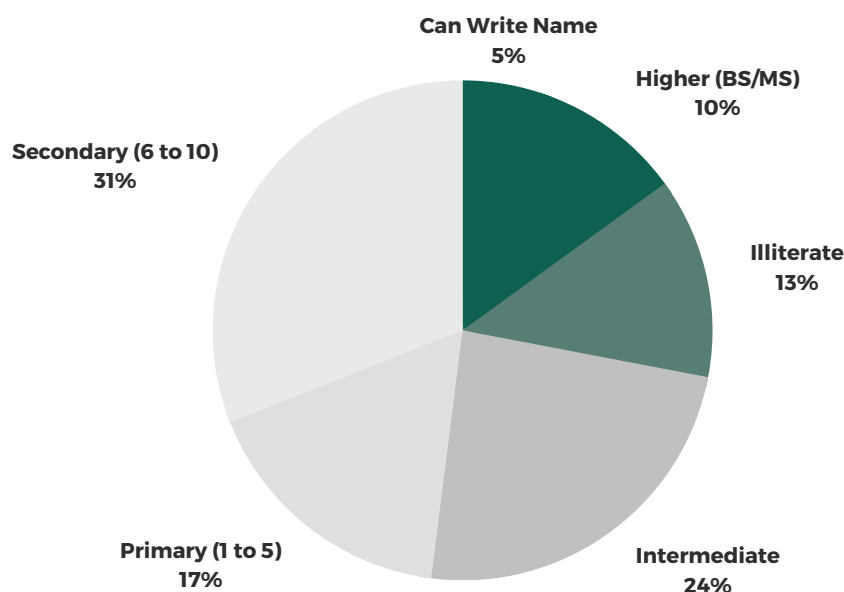
Born in the age of information, Muhammad Faheem a resident of Mastung believes that communication and technology hold the key to the future and shuns the prospect of going back to a life without phones because his community must take steps further and not backward. In his late twenties, Faheem who is a married man with a son and a daughter is self-employed at his construction company. His household devices include a television, laptop, a cellular phone, and a smartphone which he uses happily. He watches news bulletins to receive both local and international news and is keenly interested in politics, entertainment, and environmental news. Faheem thinks that life without technology painted a bleak picture as there was lack of information and communication as well as poor utilization of time.

“ICT has opened many doors for everyone in my community especially the youth. We do not have the development that has been witnessed by other areas, so we make do with what is available to us, and thankfully, smartphones are the biggest aid in this regard. Accessing knowledge has become easier because earlier I would buy books that would cost in thousands and now due to apps, I buy the same book for a few hundreds. I believe that I need to learn more to strengthen my skillset so accessing these books is very important for me and I am glad to use my phone for it,” he says.

He believes that e-learning has boosted his confidence and he is able to lift others as well using the knowledge he accesses through affordable books.

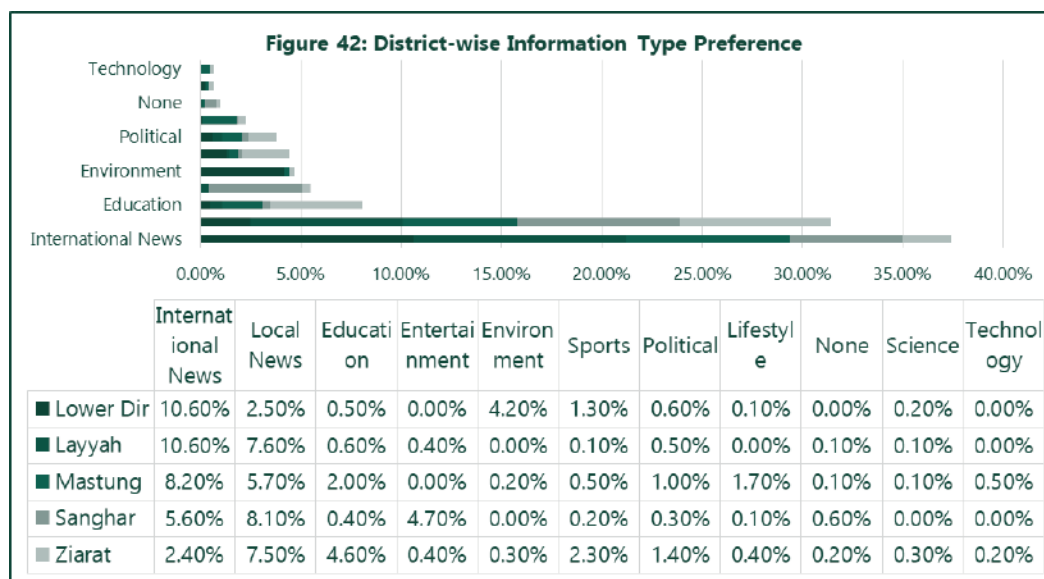
Education level

The education level of respondents is an important basic indicator for measuring the nature and extent of ICT access and use. And to see its positive and negative impacts in correlation with other indicators. The survey revealed that 13% (N=130) of the respondents were illiterate while 4.7% (N=47) could write their names. The highest proportion, almost 31% (N=305), had gone up to secondary school (6 to 10), followed by 23.90% (N=239) who went up to intermediate. 175 respondents had been to primary school (1 to 5) and 104 had done their Bachelors (BS) and Masters (MS).



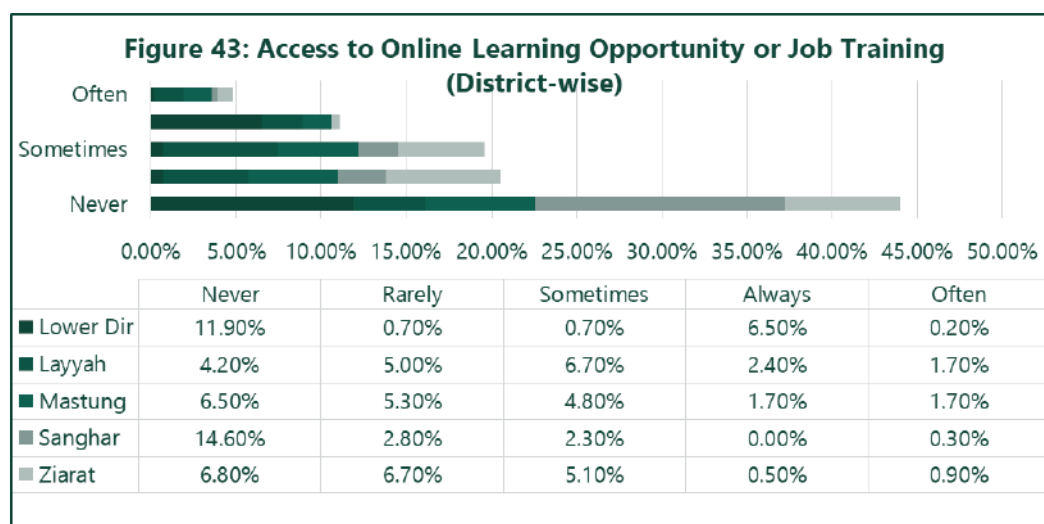
Individuals Interested In Education (Formal) Related Information Online

8.10% expressed their interest in online educational of which 6.60% were women from Ziarat and Mastung. Female participants from Mastung and Ziarat in Balochistan were more prominently inclined towards online educational content when compared to other female participants of the study in the remaining districts.



Using The Internet For Online Learning (Skill Enhancement) Opportunities And Job Training

56% respondents accessed the internet for online learning opportunities and job trainings. Proportion of respondents who used it always and often was 15.9%, the largest proportion (6.70%) being from Lower Dir. Across the five districts, 44% of the total respondents had never used the internet for tapping online learning opportunities or job trainings. Rare usage for this purpose was 20.5% with the highest proportion of individuals (6.7%) being from Ziarat followed by Mastung (5.3%) and then Layyah (5%). 19.60% used it sometimes with the largest proportion 6.7% being from Layyah.





Hassan Ali

LOWER DIR, KHYBER PAKHTUNKHWA

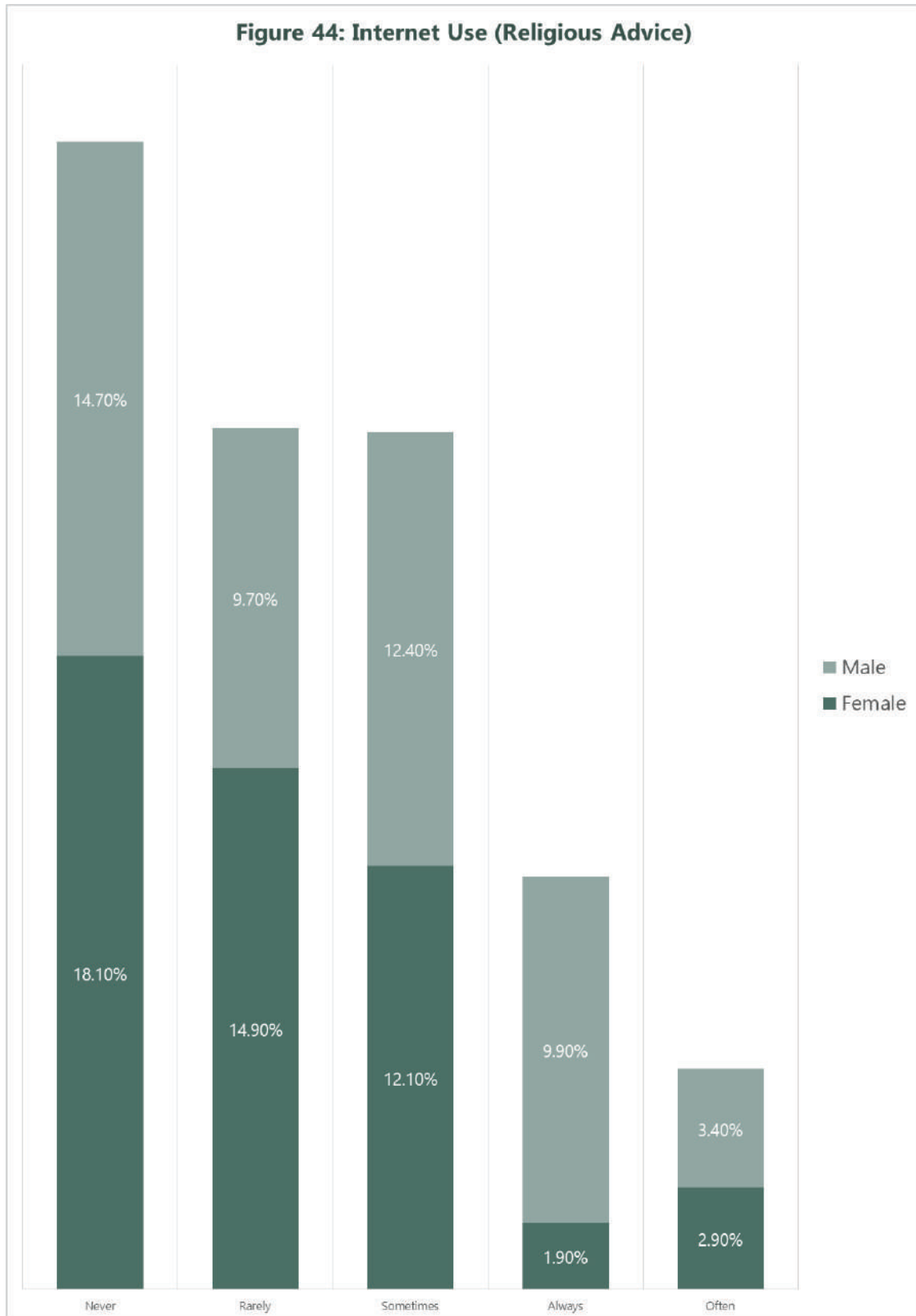
Hassan Ali, a young and determined student, had been struggling to find educational material that could help him achieve academic success. However, he did not let the lack of resources hold him back and started exploring online resources to find the material he needed.

“Like many students, I also got a taste of distance learning during Covid-19 pandemic. I used Zoom to attend my classes and had the option to record them to access later; it really created ease for me, and others like me. However, now that everything's back to normal, I still use many online resources which I discovered during that time,” he shares.

Hassan uses different online websites but mainly turns to YouTube channels such as videos of a motivational speaker as well as channels such as Ilm ki duniya, Taleem City, and Top Study World to find the educational material he needs; the third one is very helpful in preparing for exams like MCAT.

Internet Usage For Religious Advice/Guidance

67.2% respondents have accessed the internet for purposes of seeking religious advice/guidance. 32.8% they had never used it for this purpose while 49.1% used it rarely or sometimes and 18.1% did this always or often.



COMMUNITY INSIGHT - 3

Preference For Online Learning or Traditional Mode Of Learning²⁵

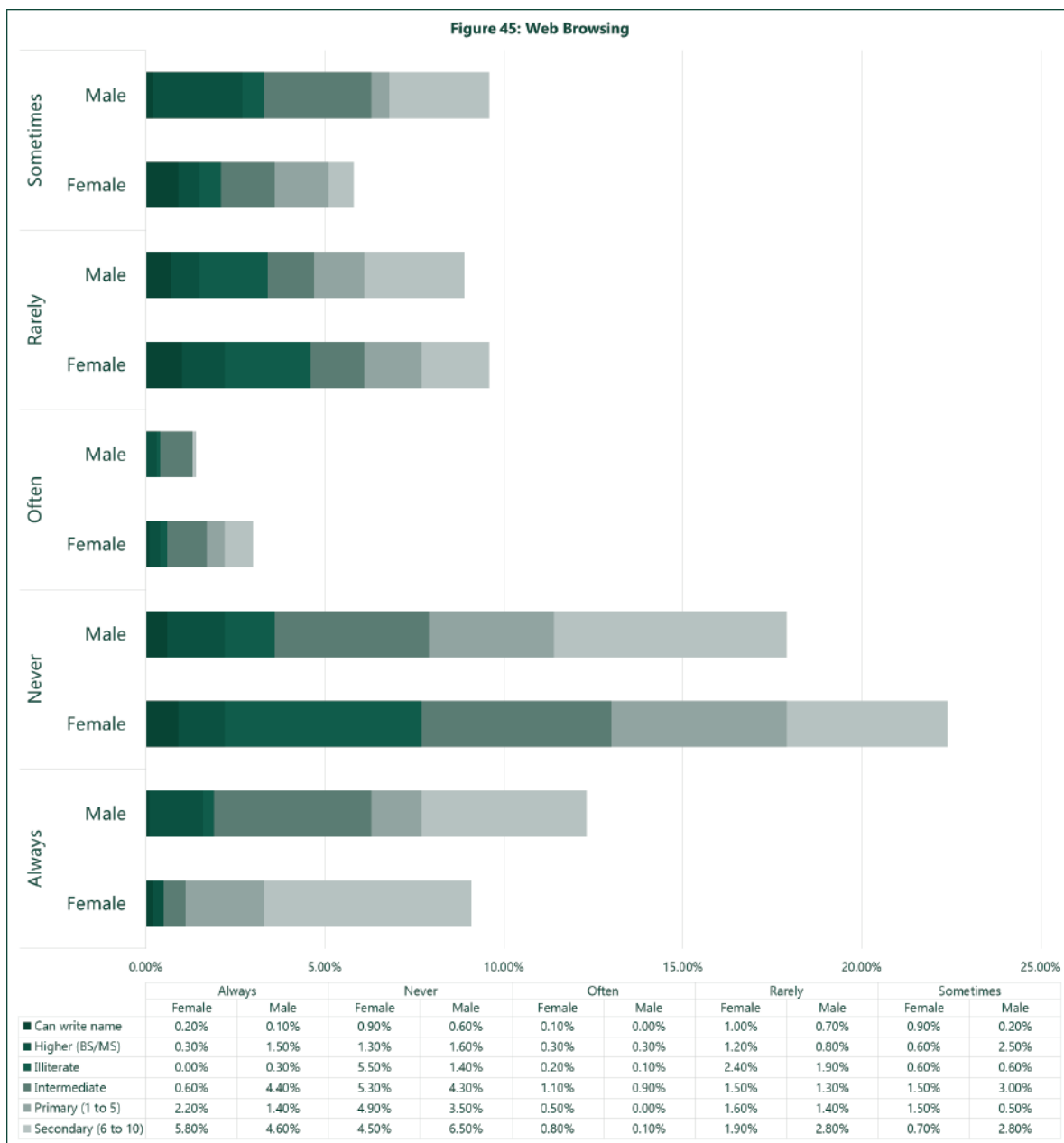
Out of our qualitative data sample of 30 respondents taken from all the five districts, 18 preferred online learning to the traditional mode because of the following reasons. Most of them felt that it enabled them to learn the parameters and requirements of online selling and then sell their products accordingly. And this selling was much easier. Online learning, as opposed to traditional mode of learning, allowed them to carry out parallel activities alongside studying. It provided ease of learning, saving time, money and learning from anywhere with no constraint of physical presence. Laiba, a female respondent from Lower Dir shared that since women are not free to go to colleges in their district so they can continue their studies through online self-learning. Increase in self-confidence and better time management were two other reasons cited for preferring online learning to traditional mode of learning.

The five individuals who preferred traditional mode of learning to online learning were essentially of the view that what can be learnt physically in some institution cannot be learnt online. In addition, learning through being physically present in an institution ensures the following of a timetable which is good for one's life. And following such a timetable is not possible online.

DIGITAL SKILLS

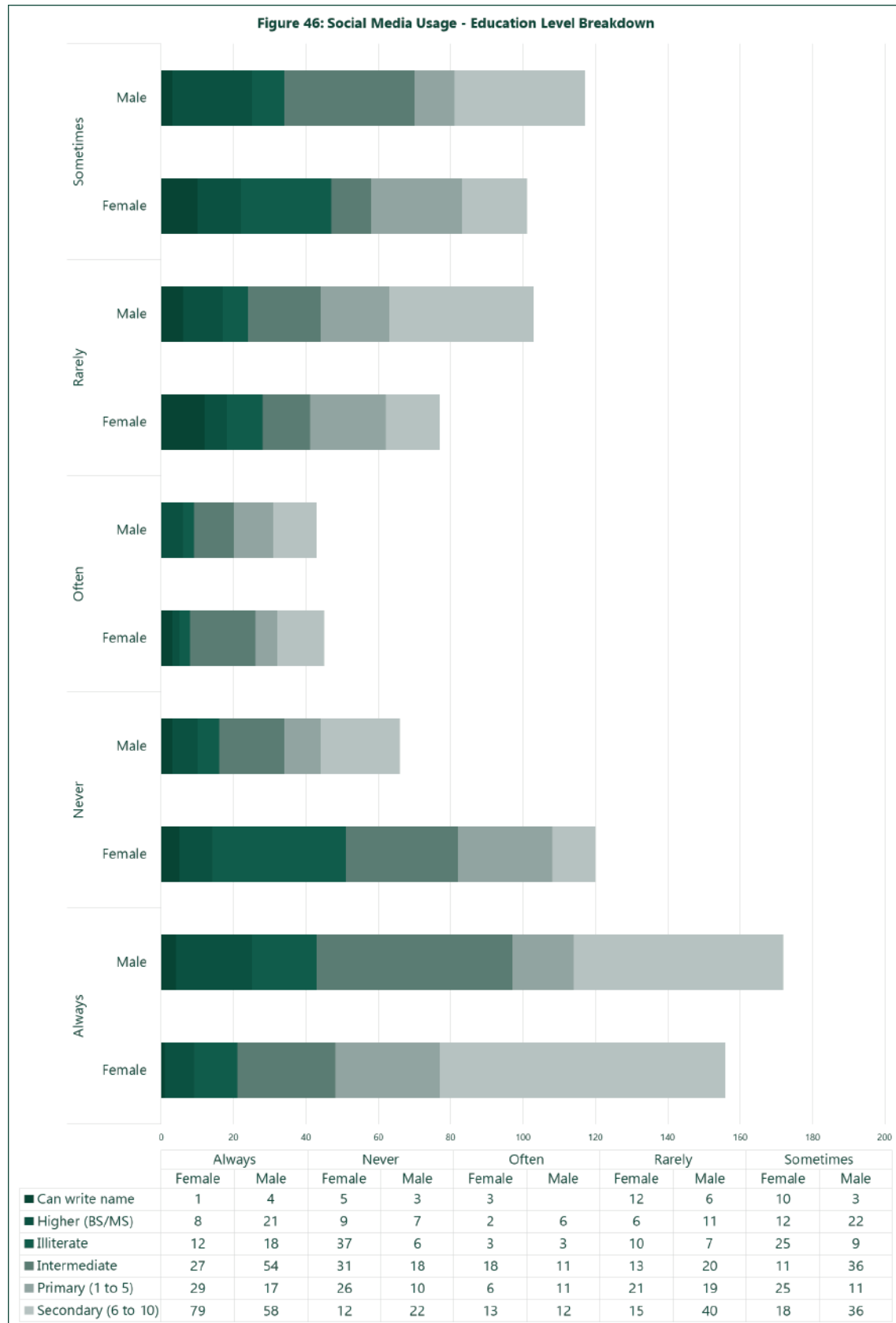
Usage Of Internet For General Browsing

When asked about engaging in general web browsing, 59.7% used the internet for general browsing. 40.3% respondents reported that they never used the internet for general browsing, including 11% of those who have Intermediate level education along with those 2% who would browse often. Of the 21.4% participants who always engaged in general web browsing, 10.4% attended Secondary (6-10) schools, with more women (5.8%) than men (4.6%) together with 4.7% who would do general browsing often. 15.4% would sometimes use it of which 4.5% had attended college at an Intermediate level and 3.1% had gotten higher education. The data shows 13% respondents who identified themselves as illiterate of which 6.9% never had navigated the web.



Usage Of Internet For Social Media

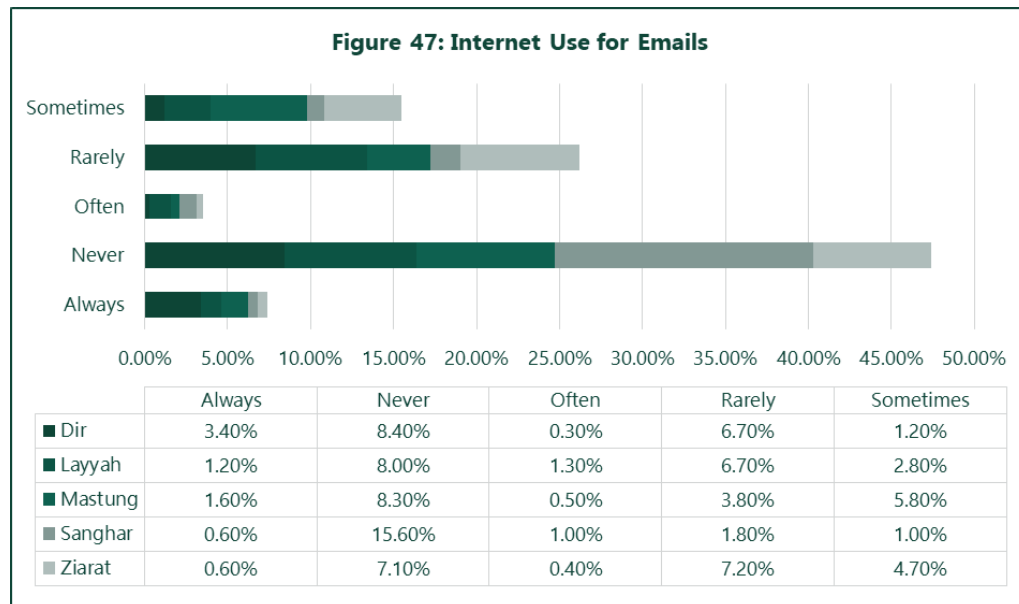
81.4% respondents accessed the internet to use social media, 32.8% reported have been doing this always, this included 15.6% women of which 7.9% attended Secondary (6-10) school; the 8.7% that identified as being illiterate were also part this group.



USAGE OF INTERNET FOR SPECIFIC ACTIVITIES

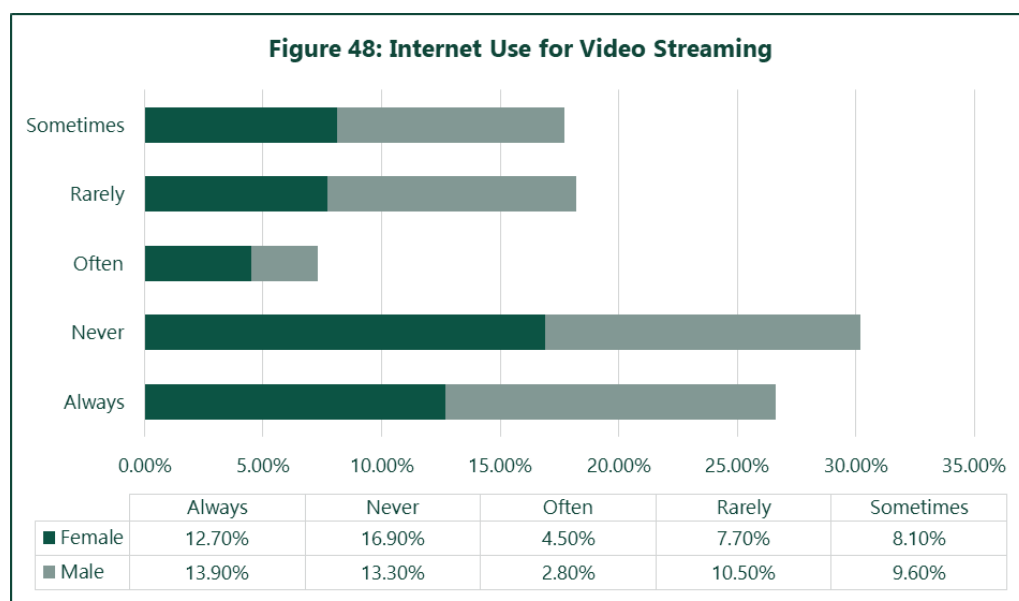
Emails

52.6% used internet for either sending or receiving Emails. The survey data for internet usage for also revealed that 47.40% of the total respondents had never used the internet for this purpose. Following this, 26.20% used it rarely, 15.5% sometimes and a meager 7.4% always.



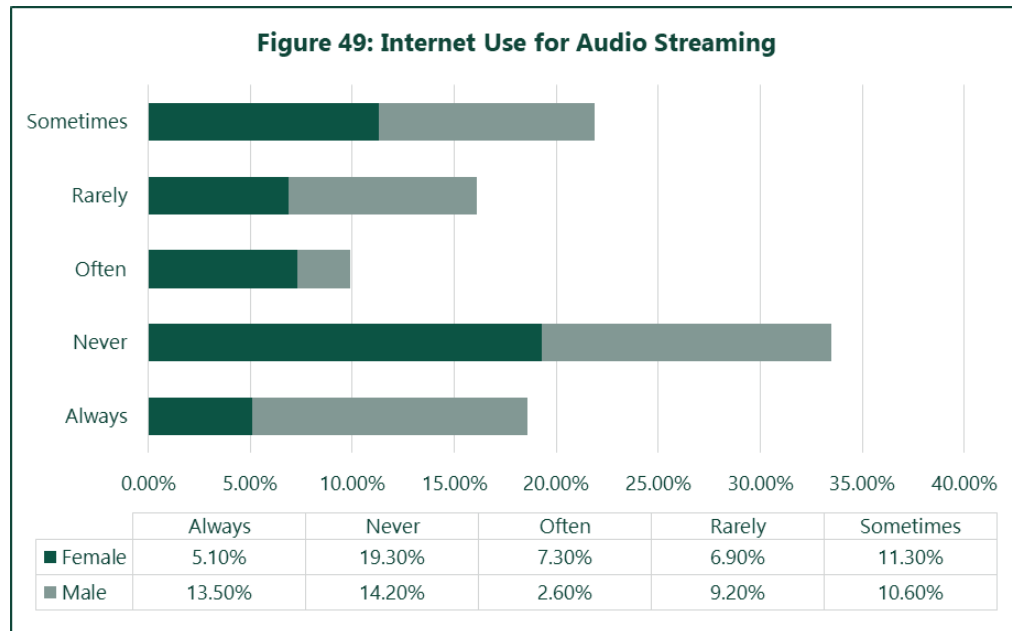
Video Streaming

67.8% of the used internet for streaming videos services like Netflix, YouTube, online gaming, etc, while 30.2% had never done so. On the other side of the spectrum, 26.60% of the participants always used the internet for these popular video streaming services, out of which 13.90% were men and 12.70% were women. The 'rare' and 'sometimes' usage classification had 18.2% and 17.70% respondents falling within it. Only 7.30% of the respondents used these services often.



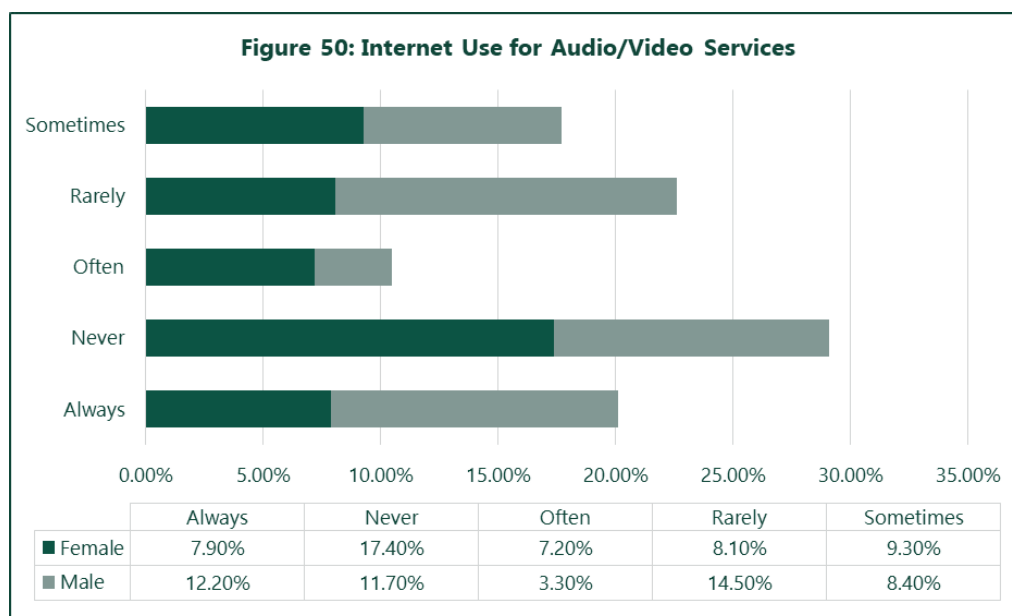
Audio Streaming

66.5% used internet for streaming audio meanwhile 33.5% individuals had never engaged in this activity. The group which always used the internet for audio streaming was 18.6%.



Audio/Video Services

70.9% of the respondents use the internet for audio or video services; 29.10% when asked about the use of internet for audio/video services like skype, zoom, viber, etc., had never done so. This was followed by rare usage at 22.6%, while 20.1% admitted to using it always for these audio/video services. Using these services sometimes was done by 17.70% and often by 10.5%.





Shazia Deen

SANGHAR, SINDH

Shazia completed a three-year diploma from a training institute where she learned about designing, cutting, and sewing clothes. However, it was through YouTube videos that she learned newer designs.

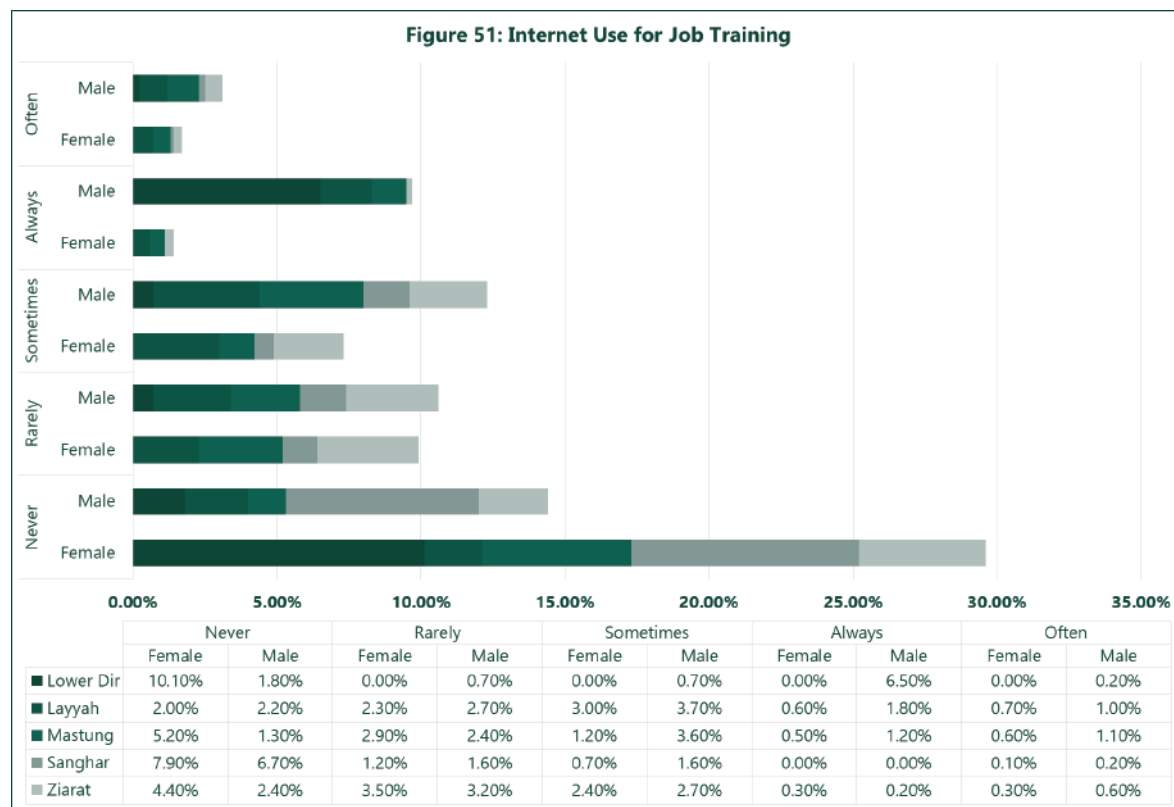
As someone who hasn't been married yet, Shazia feels contented that she can support herself with the small income she manages: "I sew clothes for my friends, family as well as people in the neighboring villages. They often send me the design through Whatsapp, and I make their dresses the way they want them. These days I am trying to learn bridal clothes because even though they take more time, I feel I can get a good price for my work especially because I am creative with the embellishments," she explains.

Shazia also plans on recording her tutorials for sewing for anyone who would like to learn from her and is thinking of giving online Zoom classes to girls who want to make some money without stepping out of their houses. To transfer cash for her orders, Shazia uses apps like EasyPaisa and Meezan Bank App. These apps make transactions more convenient and secure, allowing her to receive payments from customers and pay for the materials she needed.

Use Of Internet For Online Job Training

The data pertaining to the use of internet for online job training revealed the following:

- 56% of the total respondents accessed internet for job training of which 20.3% were women.
- 440 (44%) out of 1000 respondents had never used the internet for job training, the larger proportion being of females (29.60%) compared to 14.40% males.
- 40.1% used it rarely and sometimes, the greater portion being of men (22.9%) and women being 17.2%.
- Ziarat had the highest proportion of women (3.50%) using the internet rarely for job training, followed by 2.90% in Mastung. The male proportion (3.20%) was again highest in Ziarat compared to other districts.
- The female use of internet sometimes for this purpose was more in Layyah (3.00%) followed by 2.40% women in Ziarat. The male proportion (3.70%) was again highest in Layyah followed by 3.6% males in Mastung.
- The total proportion of respondents who often and always used the internet for job search was 15.9% out of which the male proportion (12.8%) was more compared to the female proportion (3.1%).
- The highest proportion women (1.30%) were in Layyah but women in Mastung and Ziarat were close behind. Sanghar had the lowest proportion of women (mere 0.10%) in the often bracket and nil in always.
- In fact, Sanghar had zero men and women who said they used the internet always for job trainings.
- The highest male proportion (2.8%) who engaged often and always in online job training was in Layyah followed by 1.8% in Mastung and 0.80% in Ziarat.





Muhammad Qaseem

ZIARAT, BALOCHISTAN

Muhammad Qaseem is a businessperson who has been running a dry fruits business for many years. Although he did not initially benefit from the internet in his business, he realized the need to adapt and expand his business online to reach a wider audience.

“Dry fruits are a specialty of Ziarat, and I have been in this business since my father started it. But these days, competition is very tough, I started learning how to conduct business online. I created a Facebook page and spread in my circles that we do delivery on online orders as well through WhatsApp. I educated myself about online trading and expanded my business to other cities especially Karachi because the market there is very lucrative,” he says. Qaseem built his client base by sending them pictures of the product regularly so that they would remember him as a trusted seller.

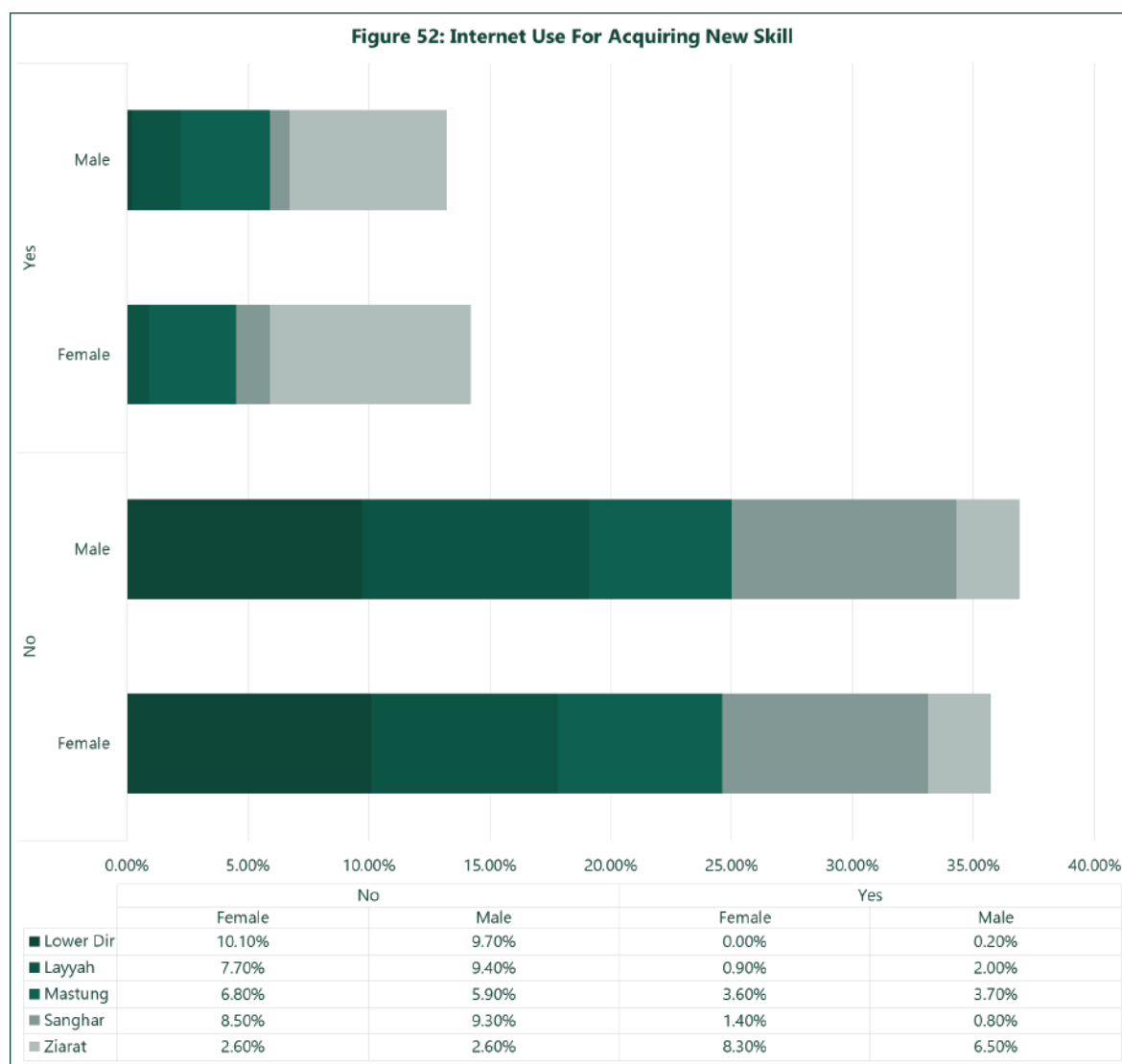
In the future, Qaseem wishes to create a whole website for his products so he can also tap international markets with a niche in his clientele.

“We have sent our large batches abroad but that was just like everyone else. Now I want to expand through a website because people there really like to see pictures and good descriptions. I will also learn more about social media management and incorporate apps like Instagram for myself because I have heard it is quite popular for these businesses,” Qaseem explains.

Recently Acquired Digital Skill

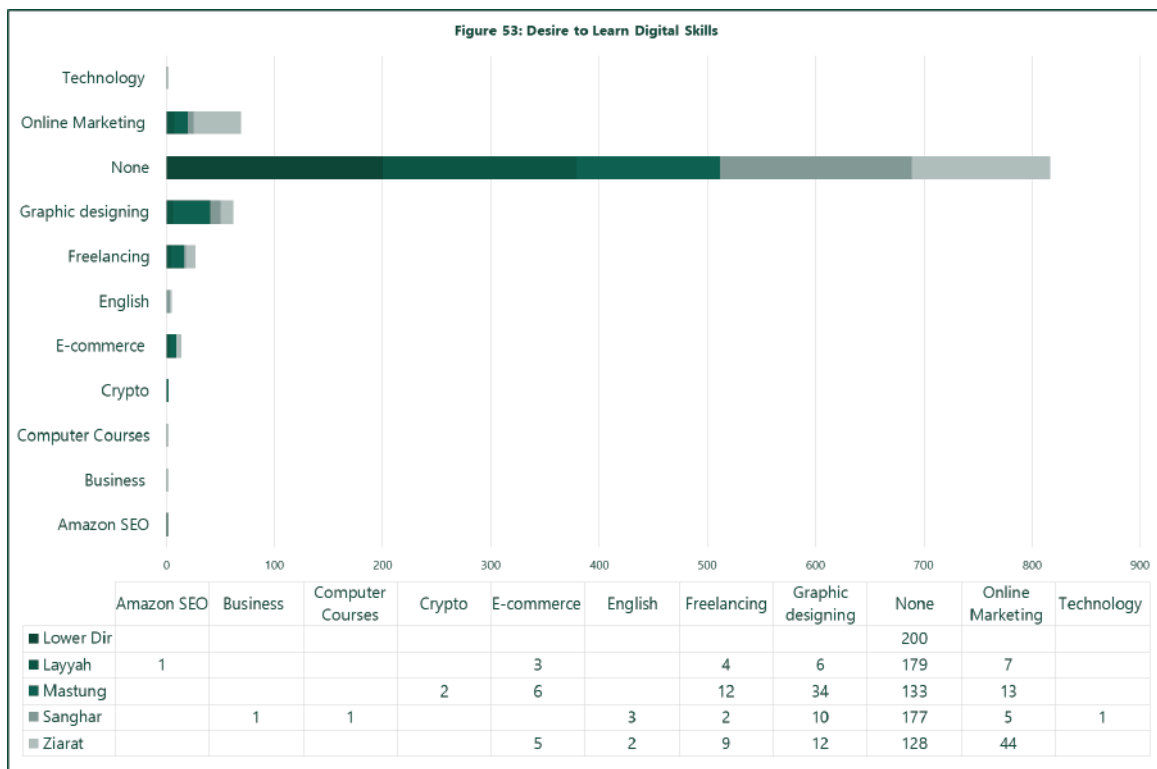
The survey question on recent acquisition of any digital skills by the respondents had the following responses:

- 27.4% reported acquiring a recent skill using the internet, of which 14.2% were women and 13.2% men.
- The highest proportion of women (8.3%) who acquired such skills were from Ziarat, followed by 3.6% from Mastung and then Sanghar and Layyah. Dir had nil percentage of women who had acquired any new skill on the internet.
- The highest male proportion (6.5%) was again from Ziarat, followed by 3.7% from Mastung then Sanghar, Layyah and the lowest (0.2%) from Lower Dir.
- 72.6% of all the respondents said they had not acquired any new skill on the internet recently. The highest proportion (19.8%) of these individuals was from Lower Dir, followed by 17.8% from Sanghar, 17.1% from Layyah, 12.7% from Mastung and the lowest (5.2%) from Ziarat. The gender-wise division of this proportion was 35.7% females and 36.9% males. The female percentage being more from Lower Dir and Mastung while the male percentage being more in Layyah and Sanghar.



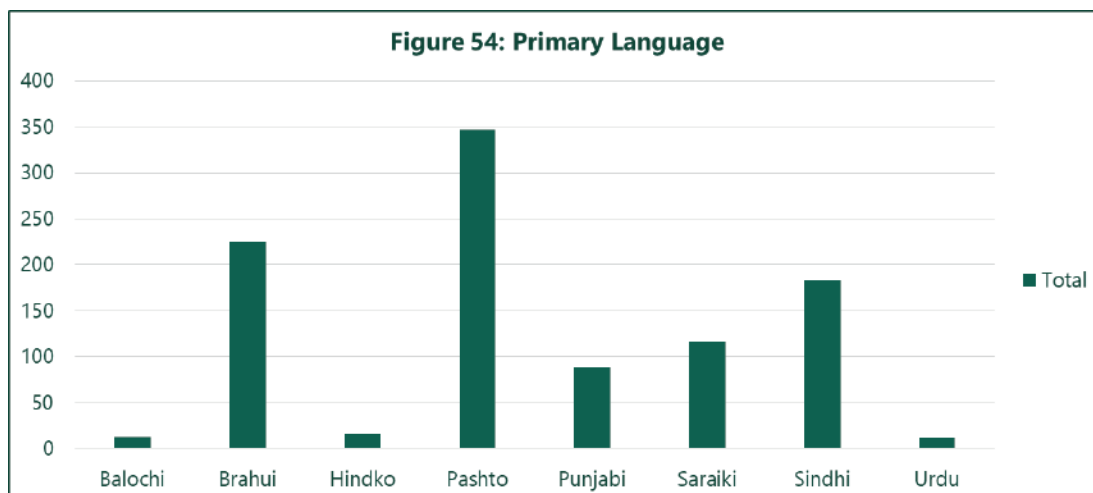
Learning A New Digital Skill

18.3% expressed the need to learn new digital skills such as graphic designing, freelancing, e-commerce, English, Crypto, Amazon SEO and computer courses. 81.70% of the respondents did not desire to learn any digital skill online. Only 6.9% of the individuals expressed the desire to learn online marketing skills. 6.2% wanted to learn graphic designing, 4.4% online marketing while 1.5% hoped to learn freelancing, 1.4% aspired to learn e-commerce. English and Crypto learners were smaller proportions (0.30% and 0.20%) and an even smaller proportion (0.10%) of individuals expressed their desire to learn business, technology, Amazon SEO and computer courses.



Barriers To Learning New Digital Skills Online

The target sample of respondents communicated in eight primary languages. Pashto was the dominant one in this sample, spoken by 347 (34.7%) persons. The second most popular language was Brahui, spoken by 22.5% (N=225) individuals. Sindhi and Seraiki were the primary languages of 18.3% and 11.6% of the respondents. Ironically, Urdu was spoken by just 12 individuals, so it was the least spoken language in the demographic. Punjabi was spoken by 88 people.



A black and white portrait of Malak Waheed, a middle-aged man with a mustache and short hair, wearing a dark jacket. He is looking directly at the camera with a neutral expression. The background is a plain, light-colored wall.

Malak Waheed

ZIARAT, BALOCHISTAN

Malak Waheed having proficiency over more than five languages mainly from Balochistan, lives in the Surgaz area of Mastung.

Waheed recalls that when Covid-19 struck the region, many platforms on social media helped in raising awareness about the pandemic. He too had to learn a few aspects of his work online.

“I was familiar with video calls, but I learnt about a new platform, Zoom, where many people could come together to learn like we do in a classroom. It seemed different but once I got the hang of it, my life became easier. I took classes on Zoom, to learn how to conduct meetings, help clients with their questions, all online. I really liked how I could also record meetings to go back to any point if I had missed it, and improve my own skills while conducting any meeting of my own. I believe now that I know the numerous advantages of these online portals, I would not hesitate in enrolling myself in courses that teach me skills like designing and printing and would learn so much and save on travelling cost as well,” he shares. He wishes that the device's operational language would also be local so more people can use it with convenience. His most used apps are Facebook and TikTok because he can access news, entertainment as well as bits of relevant information from them. Waheed believes in his community and feels that ICT can propel them in the right direction with youth learning different skills and ensuring literacy for everyone.

COMMUNITY INSIGHT - 4

Technologies Used For Learning New Digital Skills (Computer or Smartphones)

Out of 30 respondents of the qualitative assessment, 12 were of the view that there should be a phone in local language because people in villages do not understand English and are therefore reluctant to use the phone especially the older people. A phone in local language would be easier to operate and will be put to better use. One will be able to understand the applications better. Due to language barrier (English and in some cases even Urdu is not understood by most people) and illiteracy it would be better to have a phone in local language. 16 persons were of the view that there should be no local language phone. We have gotten used to operating and understanding it in English now and local languages are difficult to write since they have not been taught in schools. While English has and is being taught so people are now becoming capable of understanding English. Since typing and programming has been learnt in English so operating the phone in local language will mean learning everything from scratch. The world has become very fast, and we need to also become fast so for that English is better. Now we can communicate with ease in roman Urdu also so local language is not really needed. We can now use English with ease and in a relaxed manner. These answers reveal that an absence of a phone in local language is not really a barrier to learning any skills online. Even people who do not even understand English fully are now operating with ease on these English based normal and smartphones and learning all kinds of new applications, etc.



Nasrudin

ZIARAT, BALOCHISTAN

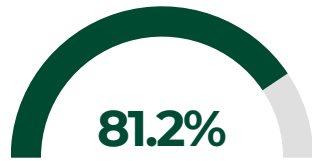
Nasrudin from Ziarat has his orchard divided into different sections that cater to different fruits as well as dry fruits, and he has been applying his newfound knowledge to get the best yield.

“Agricultural practices have been taught to us for eons, but there are certain aspects that I picked up from the Internet. I am a huge fan of YouTube so I would go to the portal to surf videos when I got a recommendation of a video, which was about small-scale farming. I follow different YouTubers who advise on different farming practices like how to evenly distribute plantations, ensure that the yield is better and the best time of the day to water among other aspects” he shares.

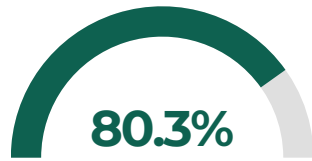
Currently, Nasrudin is working on his portfolio and is learning programming languages so he may develop his own website where he can display his portfolio as well as his friends when they join hands together for possible ventures.

CLUSTER: 5

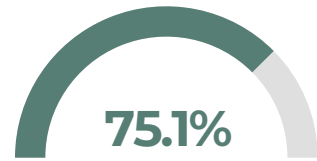
THE DYNAMICS OF WELLBEING



Report positive impact of internet on work, university or school



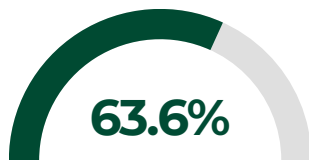
Report positive impact of internet use on family life (relationship with partner, children, etc)



Report positive impact of internet use on their social life



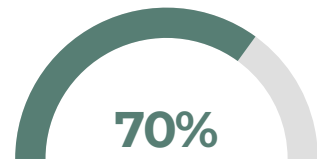
E-HEALTH



Participated in online self-help groups



Searched the internet for health advice



Used internet and found doctors



E-FINANCE

63.8%

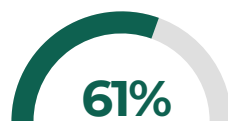
Participate in online financial activities (such as banking, investments, and bill payments through various applications)



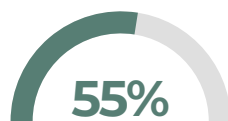
E-COMMERCE



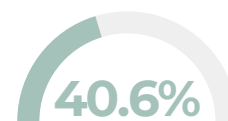
Experience online shopping



Use internet for company and product search



Use internet for offering services and selling products



Desired to expand their existing businesses using smartphones



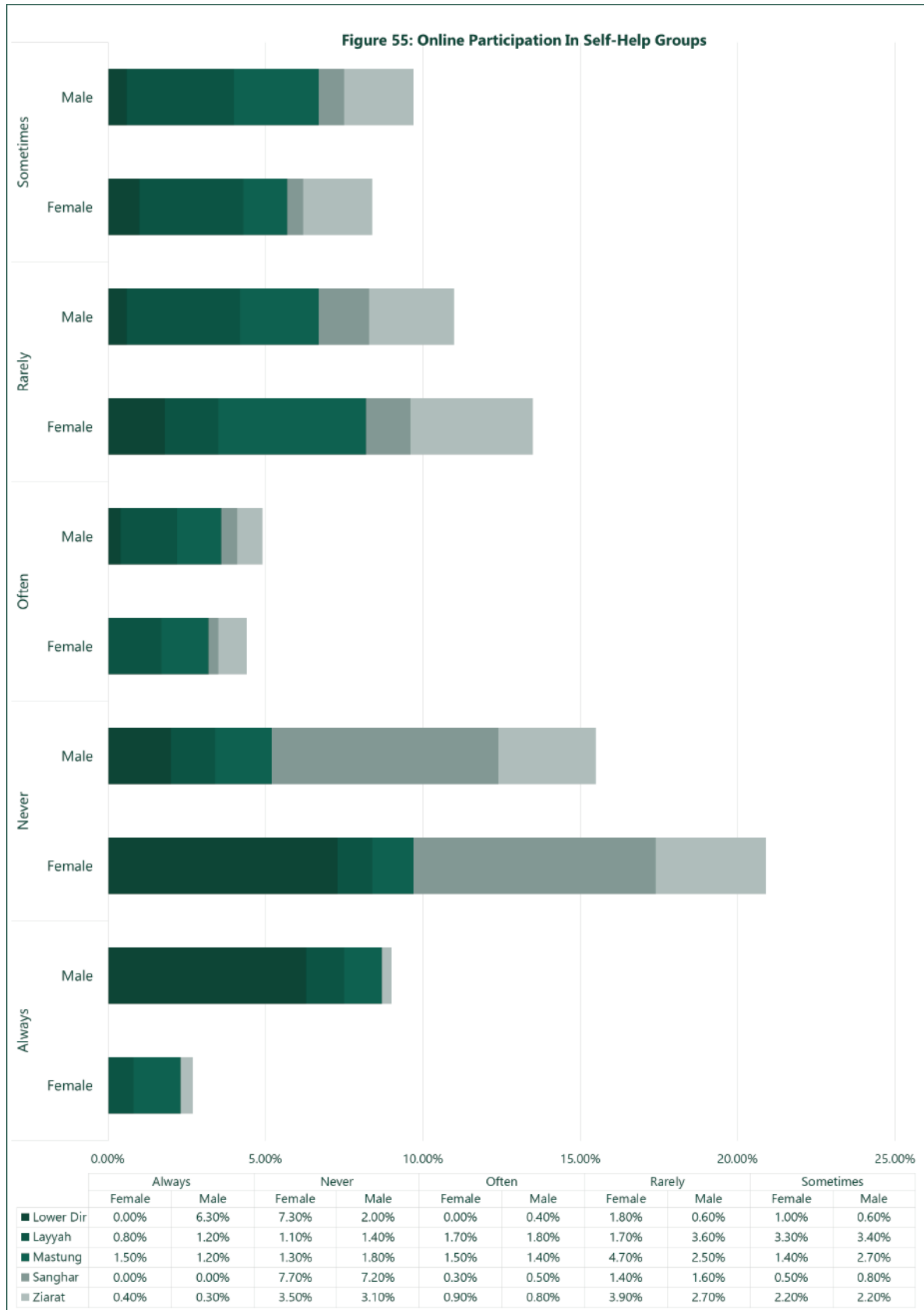
Dr. Sara Saeed Khurram

CHIEF EXECUTIVE OFFICER SEHAT KAHANI

Telehealth and telemedicine were an \$87 billion market in 2022 and it is expected to rise to a \$285 billion market by 2027 with a growth rate of 26% year on year. In Pakistan, 50% of our population of 220 million people are never able to see a doctor in their lifetime. What Sehat Kahani app does is connect female doctors to patients using a chat, audio, and video consultation platform. The patient is then able to connect to a doctor by instant consultation and is also able to access labs and e-pharmacy. Sehat Kahani has created a network of 7500 doctors, of which the majority is female doctors specifically those who've come back to the workforce after a break. We are very proud to be a partner of the Universal Service Fund in creating the first telemedicine clinic in Gokina through the Smart Village Project.

Participation In Self-Help Groups

63.6% participated in online self-help groups²⁷, with 50.1% being men and 29% women. While 36.40% of respondents never participated in any self-help groups, 21% admitted to always and often participating online in such groups, with men (13.9%) participating more in such groups compared to women (7.1%). Again 42.6% said they rarely or sometimes participated in such groups.





Bibi Hawa

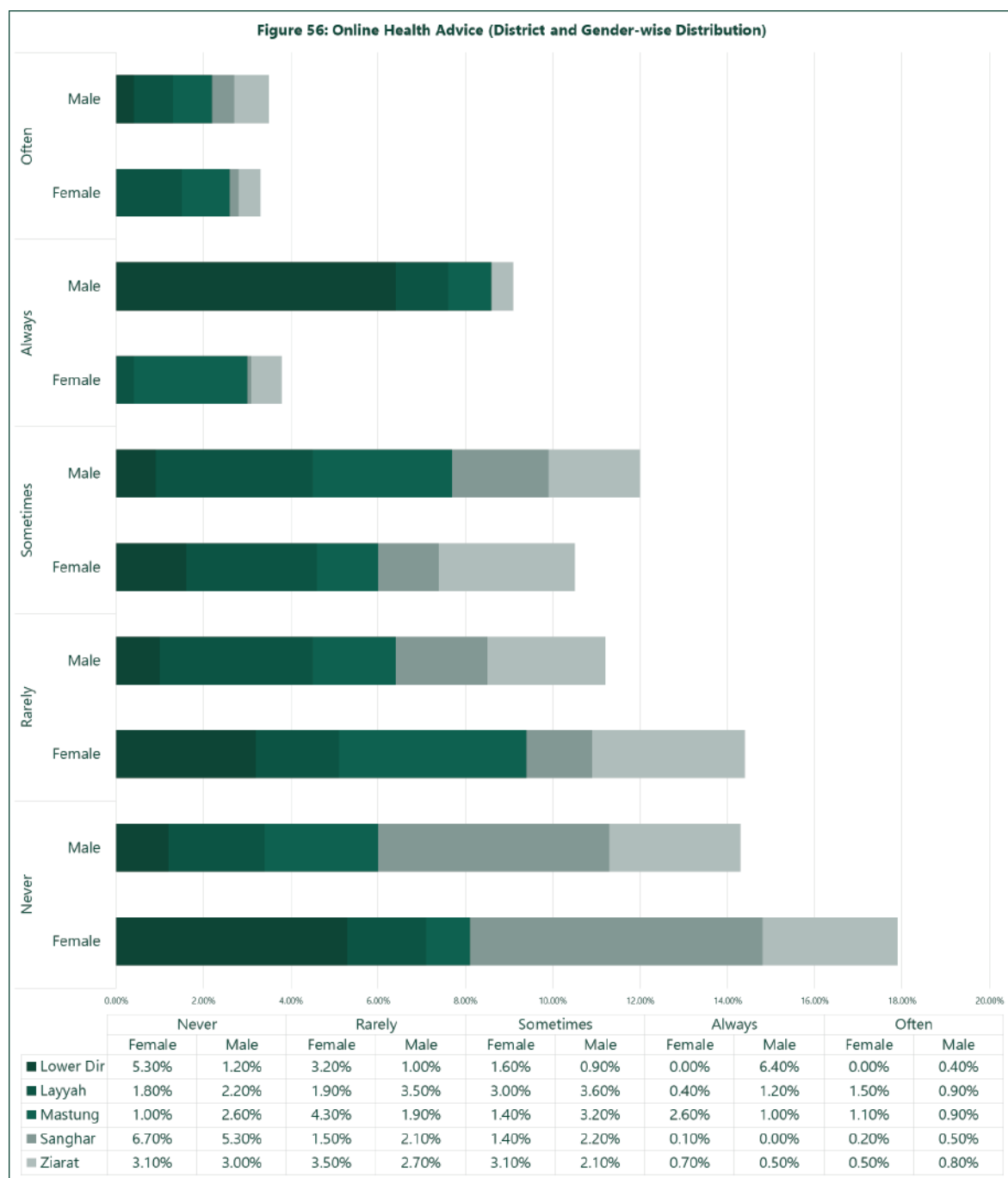
MASTUNG, BALOCHISTAN

Waking up to start another day, Bibi Hawa irons the clothes of her family members in her small house, thinking about the future of her children born in Mastung, three boys and three girls, whom she dubs as her assets. Her house has devices like television and phones, and she primarily uses her smartphone to remain in touch with others. She calls the phone her friend because it has helped her in many ways, and has helped her mental health as well.

“I like using different apps on my phones to connect to friends and family. During the pandemic we all were inside our houses but even without it, owing to distance, it is not possible for me to meet my friends frequently, so I came up with the idea of building a small community through an online group. We would do group video calls, discuss our issues with each other and learn from the experiences. This creation of a support system has helped us immensely, especially because we just have to use our phones to connect to one another and ensure that there is always someone on the other end. This helps in keeping check with our mental health, and in case someone needs help, we try to find a safe therapist whom they can call as well,” she shares. To imagine a life without phones is unthinkable for Bibi Hawa because it is therapeutic for her, an aspect she learnt through the videos she watched about mental health.

Searching On The Internet For Health Advice

67.8% searched the internet for health advice of which 32% were women and 35.8% men. The group which had searched rarely was 25.60% with the proportion of respondents (6.2%) from Mastung and Ziarat being dominant. There was a larger percentage of women (7.8%) compared to men (4.6%) in both these districts who went for online health advice. 22.5% respondents out of 1000 said they engaged in online search for health advice sometimes. Out of these respondents the largest chunk belonged to Layyah (6.60%) followed by Ziarat (5.20%). In the case of this response men (12%) were more compared to women (10.5%). The individuals who always and often engaged in this search were 19.7%, out of which 6.8% were from Dir, followed by 5.6% from Mastung and then Layyah (4%). The lowest number was from Sanghar (0.8%). The percentage of men (12.6%) being more than women (7.1%) in this bracket.





Sadaf

ZIARAT, BALOCHISTAN

It was late at night and Sadaf's youngest son was not feeling well. Her husband was not at home and had gone to work outside Ziarat. She called him and told him of the situation that their son was quite high, but it was very difficult to find a doctor at that hour.

Sadaf went to her neighbor's place, who came with her.

"My neighbor's daughter is studying in a medical college. So, she called her on a video on WhatsApp from my phone, and I explained the symptoms and showed my son to her, especially his cough. The girl took the phone to a doctor who was at the campus clinic, and within minutes, the doctor told me all that I needed to do and told me the names of medicines with the duration I needed to give them to him. I thanked my neighbor and realized the importance of telehealth services," she recalls. Since then, Sadaf has collected numbers of various doctors and nurses so people in her village could take advantage of that. Although she has now discovered different telehealth portals and is learning to use them, she finds it convenient to send photos or videos of her children's condition and get the medicine.

"I have also learned different payment methods like EasyPaisa so I transfer the amount to the doctor and get names of the medicines along with the prescription on WhatsApp. I can easily share the details with the person in the shop so they could deliver it to my home whenever there is no one around to help me" she shares further.

Sadaf believes that telehealth is a need of the hour for her community because accessing hospitals is not easy and such services pave the way for convenience.

COMMUNITY INSIGHT - 5

Relief In Finding Doctors And Medicines Through The Use Of Smartphones²⁸

21 respondents out of the sample of 30 from all the districts reported that they will be quite relieved to easily find doctors online using their smartphones. The main reasons they gave were:

- Treatment and relief to patients on time will be possible as human life is important.
- It will save money and travel time to hospitals since hospitals are very far in their areas and travelling is a hassle and costly for poor people.
- No waiting in queues for doctor appointments.
- Usage of unprescribed and low-quality medicines will be avoided, and people will take medicines through proper prescription.

Five respondents were disappointed and three were indifferent. Their main reasons were:

- Only after physical checkup that the doctor can properly treat a person. Until the doctor examines physically how will he/she treat a certain condition?
- Health problems can only be understood by the doctor when he sees the patient. Reporting a condition is different and actual condition can only be seen by physical checkup and then proper treatment can be prescribed, not without it.
- Imprecision in our reporting of our condition due to lack of knowledge of biology hence it can only be resolved by the doctor through physical examination.
- Often tests need to be done before the right medicine can be prescribed and taken by the patient. So that cannot be done online and on the phone.

Use Of Internet In Informing People During The Covid-19 Pandemic²⁹

All the 30 respondents of our qualitative survey reported that the use of the internet was a great help during the Covid-19 pandemic. Through various social media apps, SMS alerts, caller tunes, YouTube, timely information about SOPs, preventive measures and treatment was shared extensively within communities which aided people to cope much better with the onslaught of this pandemic. Successful campaigns became possible because technology enabled convenient information sharing on a large scale. Since all the important information became viral through social media hence people became very aware, and many started thinking about that information and following it. According to Hassan, from Layyah district, during the Covid-19 pandemic they were able to easily get a lot of useful awareness about this highly infectious disease through using the internet on their phones while sitting in the comfort of their homes.

A man with a beard and dark hair is looking down at a smartphone. He is wearing a light-colored zip-up hoodie. The background is a plain, light-colored wall. The image is overlaid with a semi-transparent green banner containing text.

Muhammad Waseem Abbas

LAYYAH, PUNJAB

Muhammad Waseem Abbas ONLINE LEARNING AS A FARMER

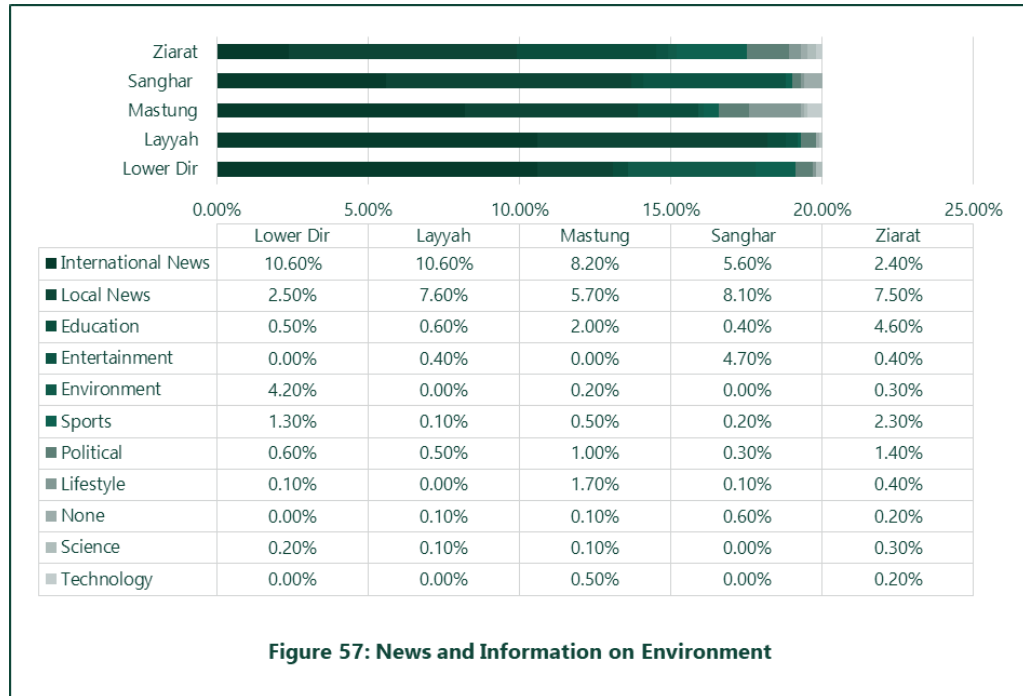
Despite having a job, Abbas takes keen interest in livestock and farming and gladly calls himself a farmer as well. Abbas believes that people in his community can take advantage of ICT by tailoring it to their needs.

“I learnt the various uses of a smartphone especially for the people in my village. Most of us are farmers so we often wonder about different aspects of crops but thanks to technology and internet we can find out rate of manure, seeds just using it from the comfort of our homes. Instead of travelling far and depending on others, this can be done conveniently. The weather app, which may be just another app for people actually is a great tool for us because we are able to assess a lot pertaining to our crops as well as our animals. I bring mine to shade before going to work if there is a chance of rain instead of doing it last-minute, Abbas beams with pride. Alongside this, he adds that it helps us in being connected with friends and family who live far away because one may not always have the time to visit them often. We will get disconnected from the world if we ever go back to a life without phones.”

Abbas is proud of his government job and seems contented with his life and livestock.

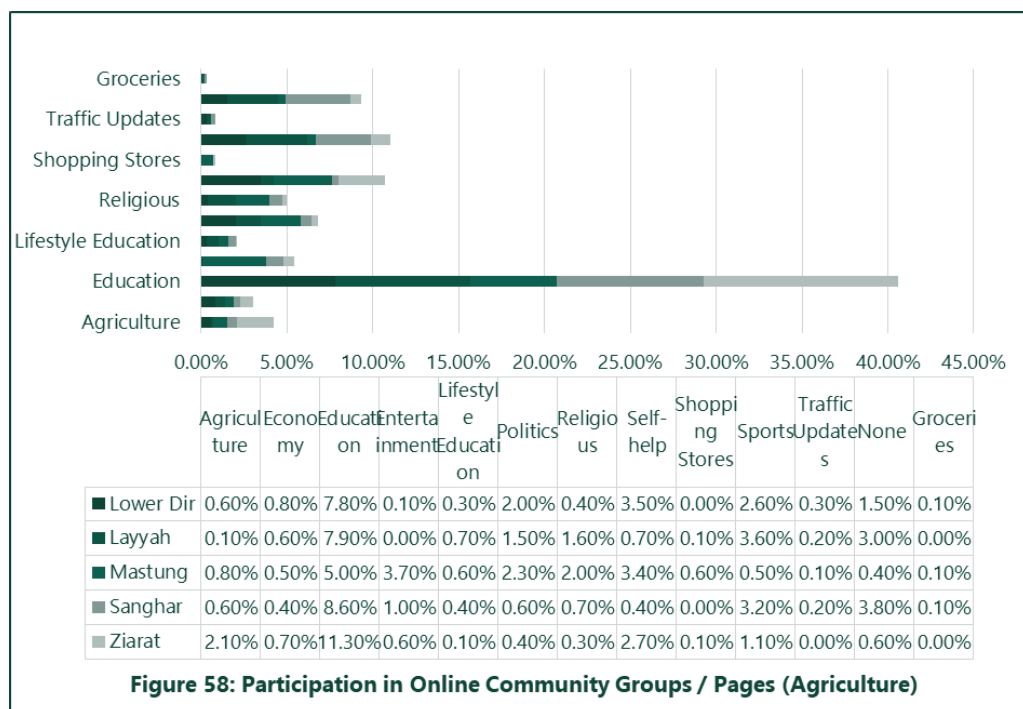
Interest In Environment

4.7% of the respondents accessed news and information on the environment, with the highest number belonging to Lower Dir (4.20%) followed by Ziarat (0.30%) while no individual from Layyah and Sanghar was interested in accessing such news and information.



Interest In Environment

The survey revealed that 4.2% of the respondents were part of community groups or pages on Agriculture. The highest proportion was from Ziarat (2.10%) and Mastung (0.80%) followed by an equal proportion (0.60%) from Lower Dir and Sanghar.



A photograph of three men standing in an outdoor setting, possibly a field or farm. The man in the center is wearing a light grey suit and is looking down at a smartphone he is holding. He has a beard and is holding a water bottle in his left hand. The man on the left is wearing a tan jacket and glasses, looking towards the man in the center. The man on the right is wearing a tan vest over a light-colored shirt, also looking towards the man in the center. The background shows green trees and a clear sky.

Dr. Fuad Imran Khan

CHIEF DATA AND STRATEGY OFFICER BAKHABAR KISSAN

Bakhbar Kissan is an Agri-tech company that uses data and technology to transform the lives of farmers in the country, from Bekhabar to Bakhbar, from uninformed to empowered. Our objective is to improve the lives of the farmers to improve their livelihood. We are connected through the mobile network with about eight million farmers in the country. We provide them with actionable advisory services using text messaging, and voice messaging. Our services rely on efficient coverage and where 3G and 4G services are available, we can provide a much wider range of services and a much higher quality of services to the farmers. So, we expect that the Universal Service Fund will continue to take the internet and eventually 5G services to all the parts of the country so that the farmers can take full advantage of the services that Bakhbar Kissan has to offer.

COMMUNITY INSIGHT - 6

Use Of Smartphone To Get Weather Updates

Except for five respondents, the rest of the 25 individuals from all the five districts reported using their smartphones to receive timely weather updates. The importance of timely updates was stressed because of how they helped in knowing about the rains in advance, planning changes in travel plans, and about possible electricity breakdowns, and damage to houses, crops, etc., as a result of rains. Waseem Abbas, from Layyah district, while stressing the importance of getting weather updates about rainfall, shared how the weather impacted upon their lives quite a lot. Because if there was too much rain then their crops got destroyed while less rain led to a smaller harvest. He was also of the view that the effects of environmental changes were in fact very dangerous hence we should become conscious about keeping the environment pollution free. Another respondent from Layyah, Mohammad Irfan, also had some very relevant things to say about the importance of weather and climate change in the lives of his community members. He emphatically stated that since there is a very important connection and relationship between his individual life and his community/society so thinking about issues like weather and climate change is critical for them and their coming generations. In his view, the winter season has shortened immensely from before and temperatures have started rising a lot which is resulting in more diseases and regular flooding in many areas of South Punjab. And in some areas due to excessive rains harvesting of crops is also getting late. Due to all these issues and environmental changes, online weather updates are very important for keeping people informed so that they can be better prepared to think about and handle these issues.

Online Learning As A Farmer

All the 30 respondents of our qualitative survey reported that the use of the internet was a great help during the Covid-19 pandemic. Through various social media apps, SMS alerts, caller tunes, YouTube, timely information about SOPs, preventive measures and treatment was shared extensively within communities which aided people to cope much better with the onslaught of this pandemic. Successful campaigns became possible because technology enabled convenient information sharing on a large scale. Since all the important information became viral through social media hence people became very aware, and many started thinking about that information and following it. According to Hassan, from Layyah district, during the Covid-19 pandemic they were able to easily get a lot of useful awareness about this highly infectious disease through using the internet on their phones while sitting in the comfort of their homes.



Anwar Khan

LOWER DIR, KHYBER PAKHTUNKHWA

Muhammad Waseem Abbas ONLINE LEARNING AS A FARMER

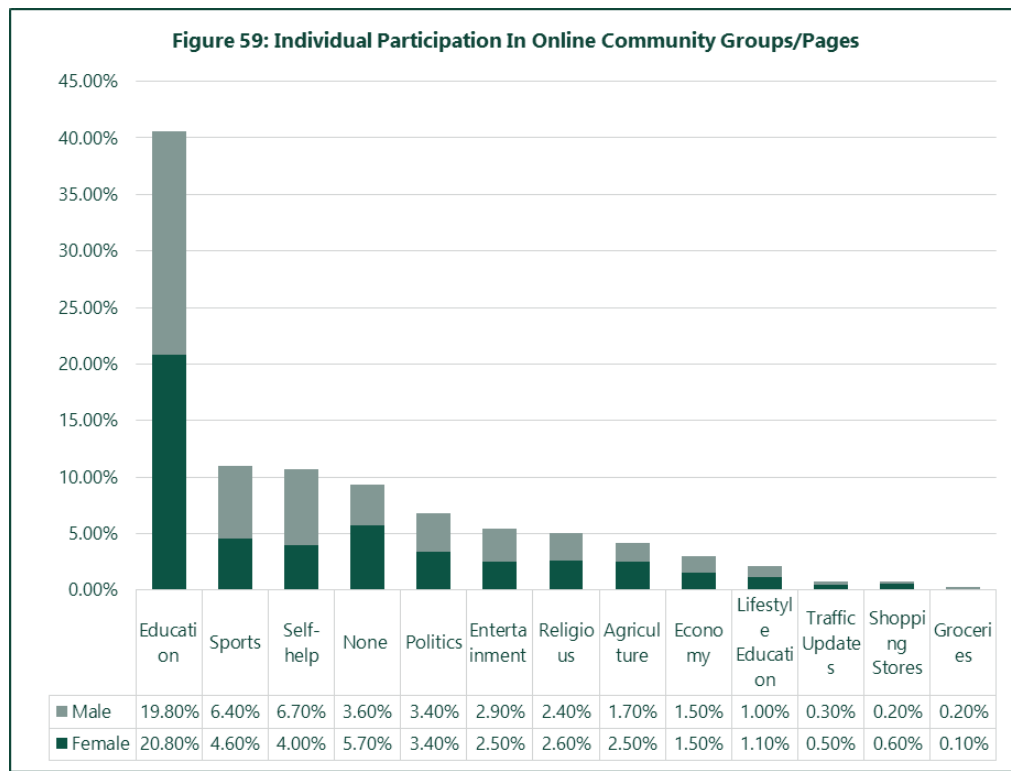
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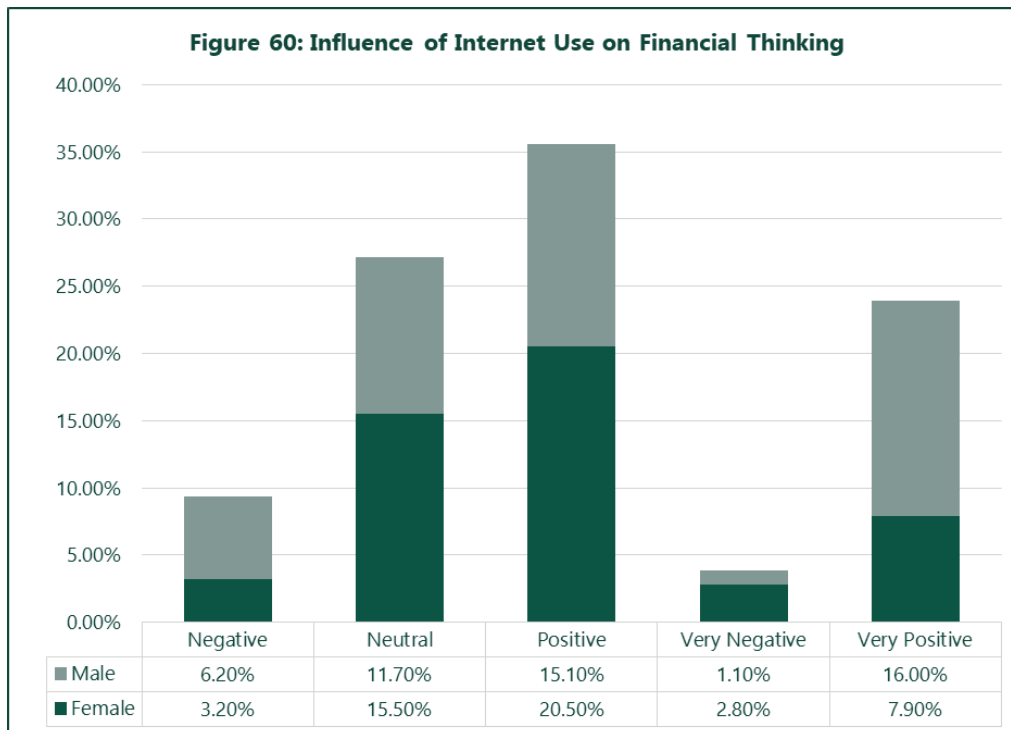
Interest In Economy And Business

8% of the individuals participated in online groups/pages on economy and business.



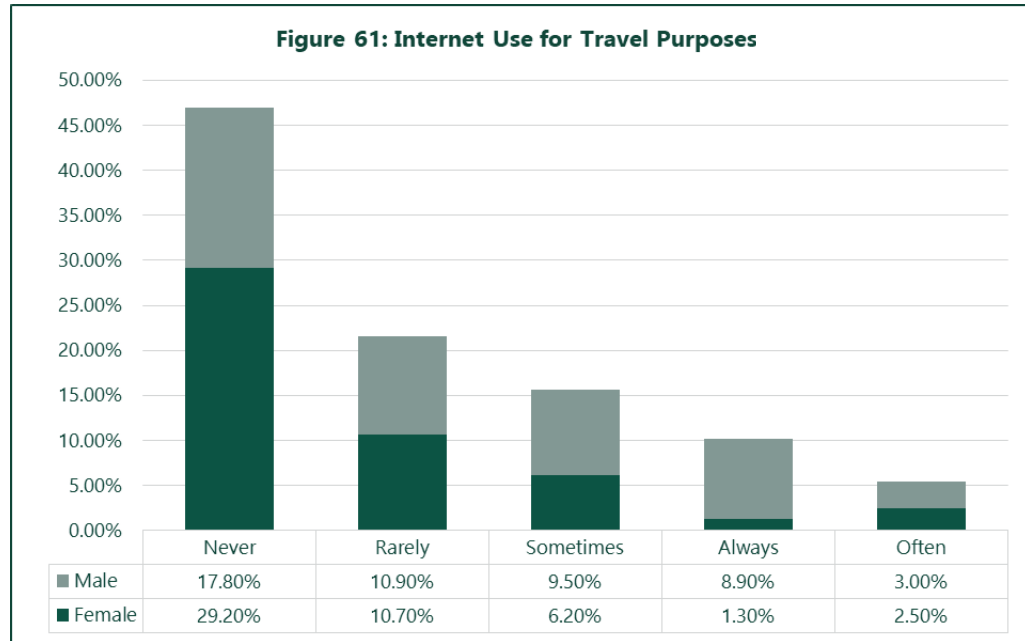
Influence On Financial Thinking

The survey data suggests that 59.5% of the respondents found positive impact of internet use on their finances, 28.4% women and 31.1% men. Only 27.2% were neutral regarding the impact on their finances, while negative and very negative impact was reported by 13.3% individuals.



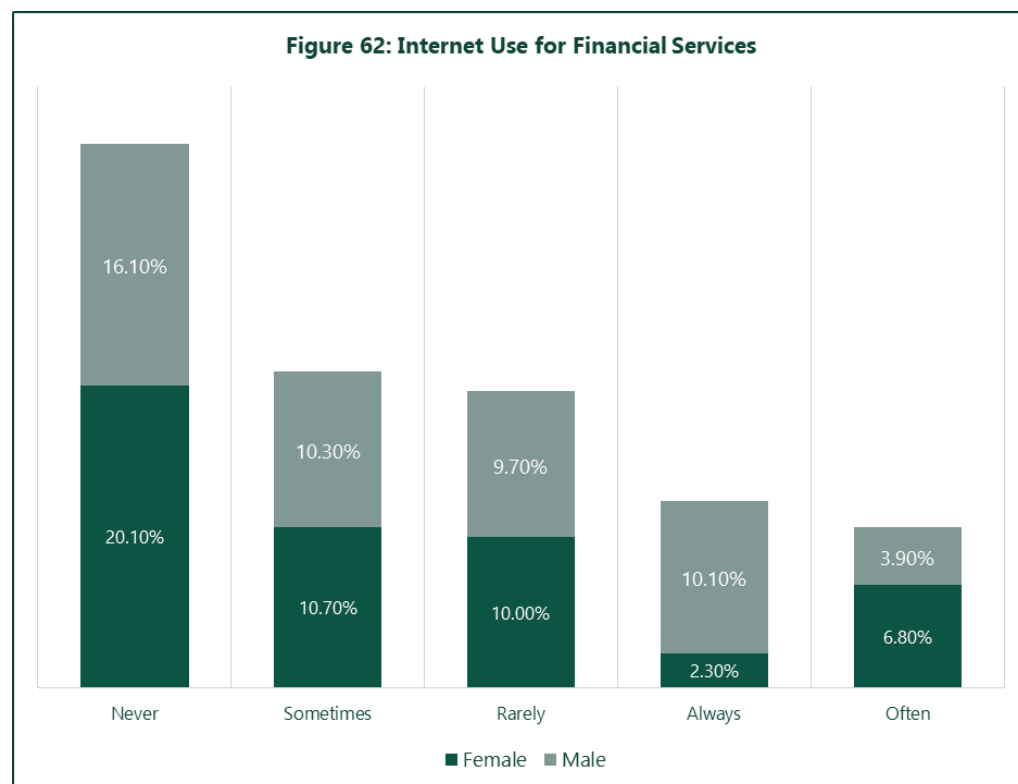
Internet Usage For Travel Purposes

53% of the respondents have accessed the internet for travel purposes, of which 29.3% are men and 23.7% women. However, a considerable majority of respondents (47%) never used it for similar purpose. 10.2% individuals stated always and 37.3% rarely.



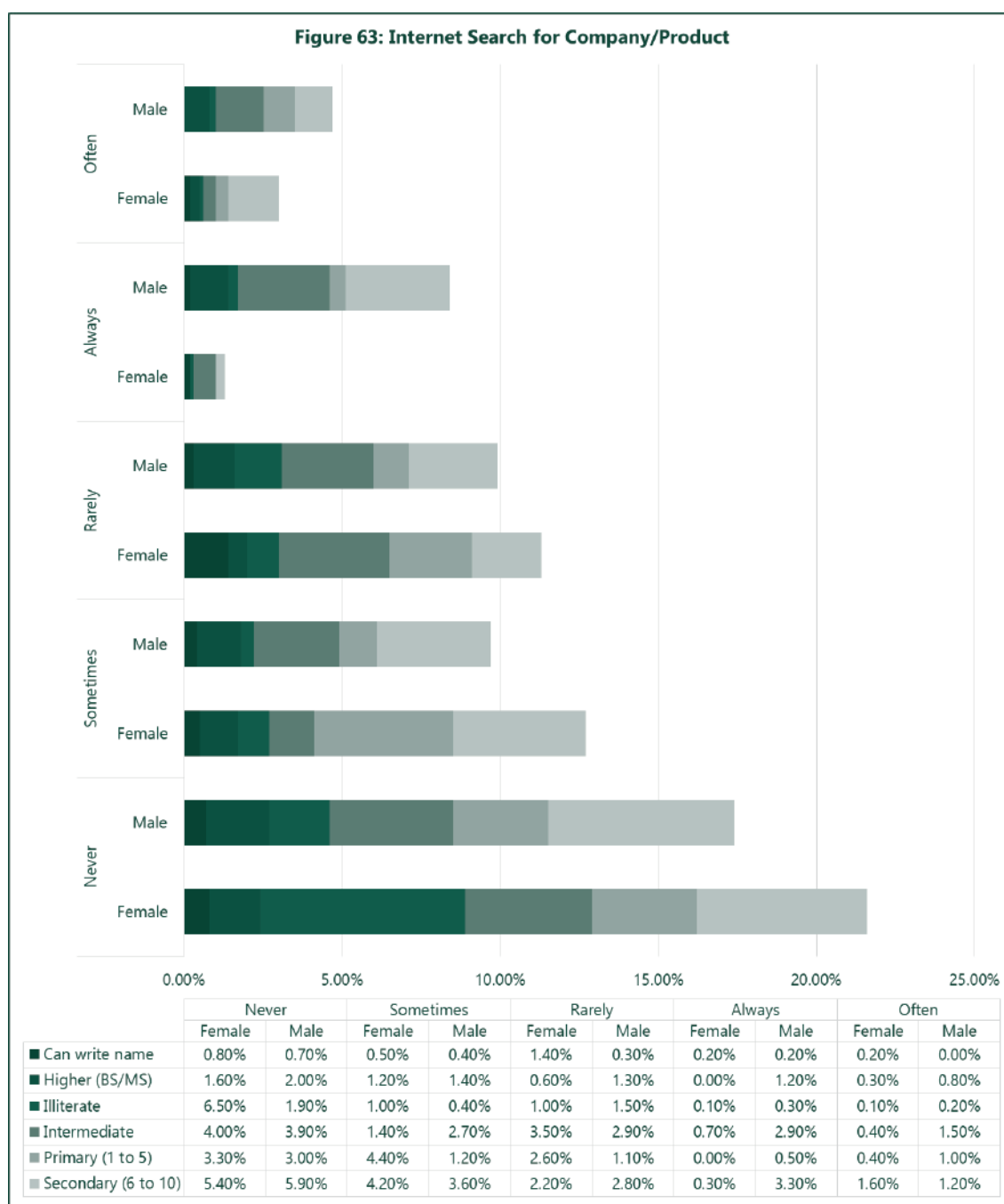
Use Of Internet For Financial Services

When asked about whether the respondents engaged in online banking, investments, and bill payments, 63.8% reported to have been engaged in such activities, 29.8% being women and 34% men. The rare and sometimes use was 40.7% while 23.1% of the total reported often and always.



Use Of Internet To Get Product And Company Information

61% reported to have used the internet for company and product search, 33.7% being men and 27.3% women. The largest proportion of respondents (43.6%) reported rarely or sometimes. In the sometimes bracket, the highest proportion (7.8%) was of those who had done their secondary school, followed by 5.6% who had studied up to primary school. The ones who never carried out such research were 39%. Almost 17.4% respondents said they often and always engaged in company and product search on the internet. Overall, the largest percentage of respondents (30.50%) who did this were those who had studied only up to secondary school, followed by 23.9% intermediate, 17.5% primary school and 13% illiterate. Only 10.4% of the most educated (BS/MS level) carried out such online search. 4.70% of the respondents who could write their name also engaged in the same.



A portrait of Muhammad Amir, a man with a goatee and a black cap, wearing a black faux leather jacket over a grey t-shirt. The background is a plain, light-colored wall. A dark green horizontal bar is overlaid on the lower part of the image, containing the text.

Muhammad Amir

SANGHAR, SINDH

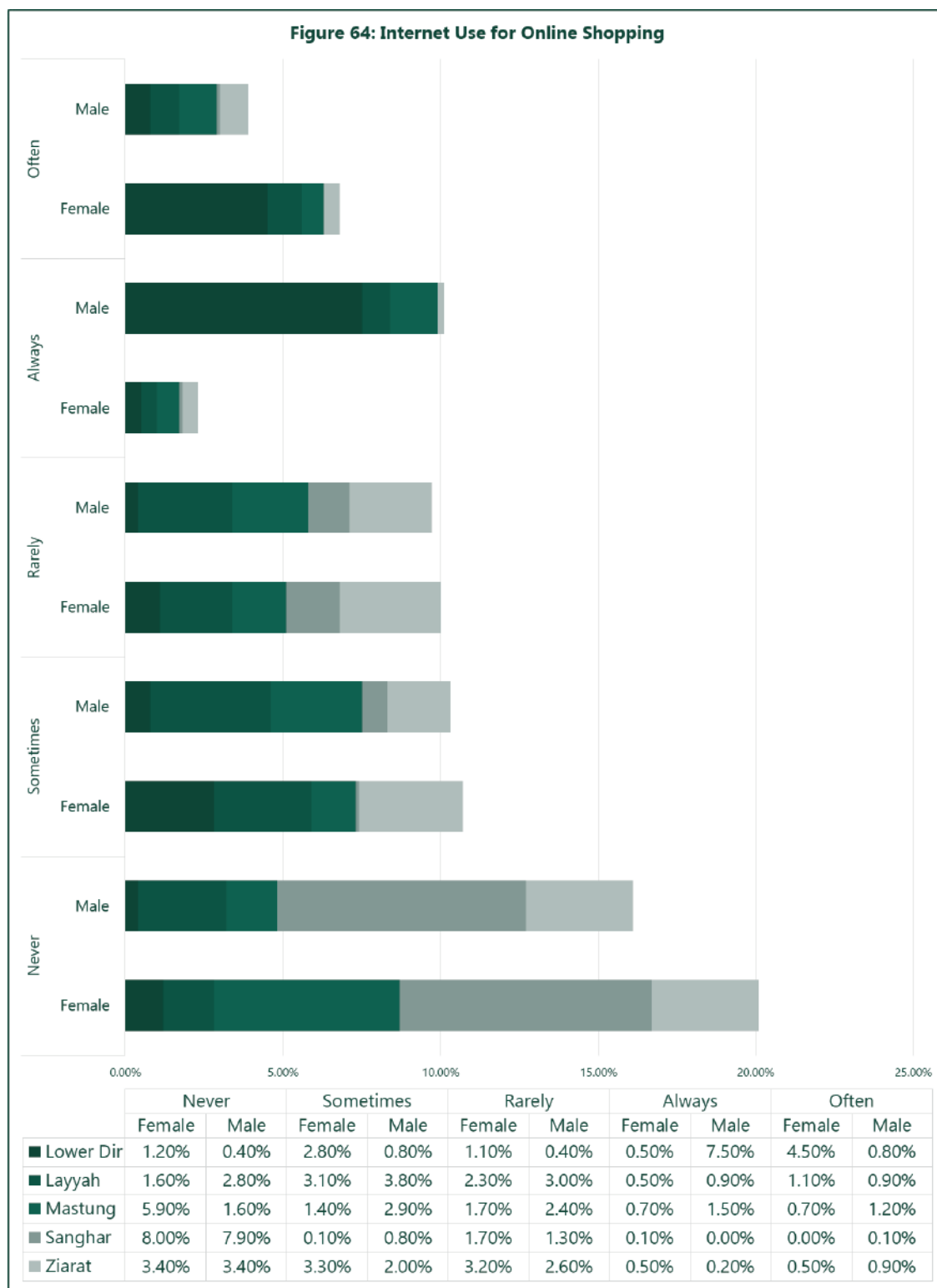
In his black faux leather jacket, Muhammad Amir looks like he is here to talk business. Amir picks up a call and explains that due to the current USD rate, the phone which was for a certain amount has now gone up, so if the customer needs it, they should buy it soon from him.

“For every business, you need to understand the basics; what does the market hold, who are the potential buyers, and most importantly is there a demand for pricey phones. After that, I started learning online skills, for instance, I watched phone repair videos on YouTube to see if I could also offer those services. These days unboxing videos are very popular so I started making a few for the phones I would get and sharing them with my circle. Slowly and gradually, I saw people getting interested, and soon I had people who trusted my skills,” he shares with pride. He adds that he would explore options at Daraz and OLX and find phones at a cheaper rate.

With his hard work and dedication, Amir’s work has grown considerably, and now he wants to expand to laptops, tablets, and Bluetooth speakers.

Use Of Internet For Online Shopping

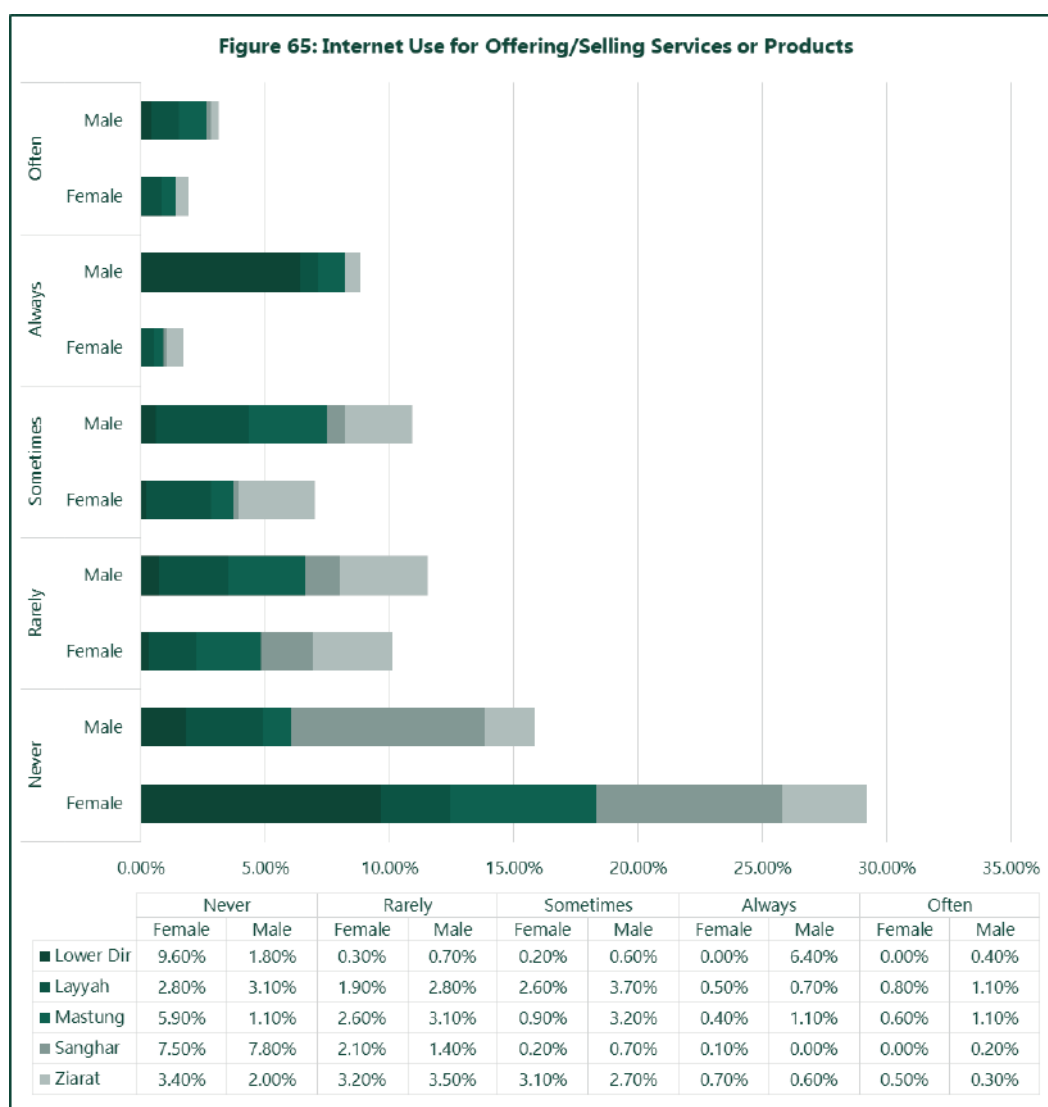
63.8% of the respondents experienced online shopping, 34% being men and 29.8% women. 23.1% of the survey respondents said they often and always used the internet for online shopping. The largest proportion (13.3%) of these online shoppers belonged to Lower Dir, while the lowest proportion (0.2%) were from Sanghar. The proportion (36.2%) never engaged in online with women making up 20.1% and men being 16.10%. Respondents using the internet for this purpose rarely or sometimes were 40.7%, with proportion of women (20.7%) being slightly more than that of men (20%). The largest proportion which used the internet rarely or sometimes were from Layyah (12.2%) and the lowest from Sanghar (3.9%).



Use Of Internet For Offering/Selling Services And Products

The survey revealed 55% of the respondents, 34.3% men and 20.7% women used the internet for offering their services or selling any products.

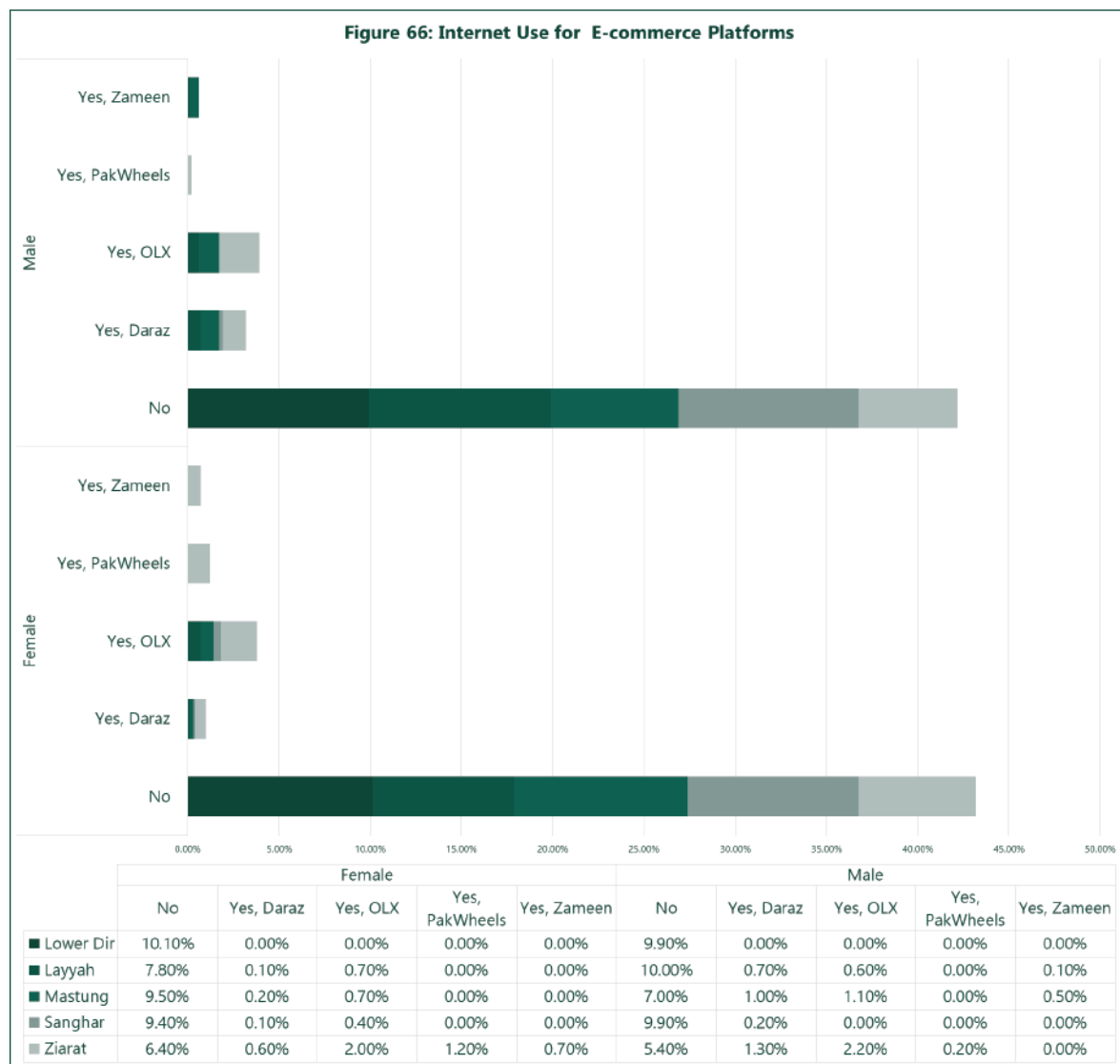
- 45% of the survey respondents had never done so, Sanghar had the largest proportion (15.30%) of such individuals while Ziarat had the lowest (5.40%).
- Rare usage for this purpose was reported by 21.60% of the total respondents. The highest number (6.70%) reporting rare usage were from Ziarat and lowest from Sanghar (3.50%). 17.90% said they sometimes used the internet for this purpose. More men (10.90%) compared to women (7.00%) were a part of this bracket.
- 10.5% respondents reported that they are always. The largest proportion (6.40%) of the individuals using the internet for this purpose belonged to Dir while the lowest (0.10%) were from Sanghar. 5% said they often used the internet for this purpose and again the male proportion (3.10%) in this was more than the female proportion (1.90%).



Using Internet And Social Media For E-Commerce Platforms

A meagre 14.6% used the internet to access for e-commerce platforms. Majority of female (N=432) and male (N=422) respondents had never used the internet for any e-commerce platform.

- Highest percentage (10.1%) of the female non-users of e-commerce platforms were from Dir, followed by Mastung and Sanghar.
- Lowest from Ziarat, which was evident from its comparatively greater number of users of these e-commerce platforms.
- Daraz was used by 0.6% (highest among the five districts) of females in Ziarat, OLX used by 2%, (again highest), Pakwheels by 1.2% (which is not used at all in any other district). Zameen is also used by 0.7% women in Ziarat and is not used in any other district.
- The male figures using all these platforms were again highest for Ziarat (Daraz: 1.3%, OLX: 2.2%, Pakwheels: 0.2%). Zameen was not used by men in Ziarat but only in Mastung and Layyah.
- OLX has the highest proportion of users, 3.9% men and 3.8% women.
- Daraz is used more by men than women.





Hooriya Sajid

SANGHAR, SINDH

“As a single woman, I have wanted to learn different skills so that I can support myself and my family especially by staying at home, and I have always been interested in the beauty industry even when it would seem that people from our villages may not know so much about it,” Hooriya Sajid from Sanghar opens her phone gallery to show some of her work. She stumbled upon makeup tutorial videos on YouTube and was fascinated by the different techniques and styles of makeup that she saw and began practicing them on herself.

Hooriya didn't stop at doing makeup, rather she wanted to explore the world of beauty products as well. “Usually, the products shown in the videos were quite expensive so I would look for local alternatives for them by exploring options on Daraz and other such websites. I would try the products for a lesser price on friends and family and then later once I was sure of the compositions, I started charging to make some profit as well,” she says.

Now Hooriya is hoping to try something new – she has now been watching different videos to learn how to make natural lipsticks, and given that she has access to natural resources, she hopes to start a small business of vegan lipsticks: “I realized that making lipsticks isn't very complex and if you have the eye for colors and texture, you can actually make them yourself, and they would be cost-effective as well.”

COMMUNITY INSIGHT - 7

Old And New Business And Its Expansion Online³¹

14 individuals from the sample of 30 respondents had their own businesses and expressed their desire to further expand them online using their smartphones. Maham, from Lower Dir, designs and makes artificial jewelry and sells it online through a dedicated WhatsApp group. On her laptop, she taught herself new design skills and techniques spending countless hours on watching videos on YouTube along with looking up images of jewelry on Google and Pinterest. Once she gets a better phone, she is hoping to make tutorials of her jewelry making, which will lead to further expansion of her business. Another respondent from Sanghar, Lal Muhammad Chandio, is a successful bird seller who sells expensive and rare varieties of sparrows, parrots and pigeons online. Through using different applications like Easypaisa, for money transfer, his business has become more credible, which has led to its expansion beyond his district. He is hoping to continue this expansion all over Pakistan.

The respondents who were not involved in e-commerce were asked about what types of businesses they would like to start online through their smartphones. The following businesses were proposed by the respondents:

- Garments, dress designing, and boutique were popular ones
- Makeup and beauty parlor
- Selling dryfruit
- Handmade artificial jewelry
- Transport business
- Baking items
- Construction

In all the five districts, we find that the availability of smartphones and internet was critical to the expansion of existing businesses and the vision to start e-commerce ventures.



Iram

ZIARAT, BALOCHISTAN

“Some years ago, or so, I learned jewelry making from a government project called NEBTEK. They provided training to small business owners, and I benefited a lot from it. However, once I learned the craft, I did not know how to sell my products. A friend told me to make a Facebook page, put my products out there and attract customers,” Iram shares.

Soon, Iram had her WhatsApp Business account, and because Facebook and WhatsApp are connected, she explains how easy it is for to share pictures from her page to direct messaging.

She regularly updates her Facebook page with pictures of her jewelry, and customers can place orders directly through Facebook or WhatsApp: “Once my products got streamlined, I invested in a better phone which had a nicer camera, so the product photography also improved.” In the future, Iram plans to move onto Daraz to place her products, because currently she reaches the platform for some elements required in her jewelry but is hoping to expand there as well.

UNIVERSAL SERVICE FUND IMPACT FRAMEWORK

Clusters	Indicators	Output	Outcome	Impact
Access And Use	Internet access using data plan for desktop and laptop	14.1% access internet using data plan for desktop with 9.6% being men and 4.5% women 19.1% access internet using data plan for laptop of which 11.2% are men and 7.9% women	Majority of the respondents use a smartphone, predominantly access different services via data plans from their homes with 45.6% of whom happen to be women.	Increased preference, availability, and affordability of smartphone influences internet usage patterns Improved availability of consistent high-speed broadband internet increases access
Access And Use	Use of a smartphone device	73.3% use a smartphone device of which 37.8% were men and 35.5% women		
Access And Use	Internet access using data plan for Mobile	69.1% access internet using data plan for Mobile of which 36.3% are men and 32.8% women	The use of mobile internet while travelling through the remotest areas of Pakistan indicates the importance of connectivity	
Access And Use	Location of access and the use of the Internet while travelling	90% access the mobile internet from home of which 45.6% are women 45.8% use internet while travelling, 18.4% being women and 27.4% men	Increase in the internet usage indicates women in the rural communities are fast closing the digital gap.	
Access And Use	Usage of internet in the past six months and frequency	73.29% have increased their usage of internet in the last six month, of which 43.63% of women reported the surge 87.4% used the internet daily, where 45.3% being men and 42.1% women, of which 27.2% reported to be either always online or between 2-5 times daily		

Clusters	Indicators	Output	Outcome	Impact
Understanding Behaviours	Making the most of the internet, harnessing its power	<p>70.8% spent more time on the internet than originally planned</p> <p>70.3% of respondents said they felt the need to go online, even when they are not using the internet</p> <p>73.2% respondents preoccupied with thinking about online activities when not using the internet. 38.6% female respondents displaying considerable inclination compared to their male counterparts (34.6%)</p>	Rural communities of the target districts increasingly prefer seeking information online due to the convenience and speed of access.	Meaningful connection creates positive life experiences and improves communication in relationships
Understanding Behaviours	Social media platforms to connect with friends and family	95.1% used WhatsApp to connect with their family and friends; 47.8% of them being men and 47.3% women.	Rural communities making a conscious effort to maintain a healthy balance by managing their online experiences	
Understanding Behaviours	Managing internet consumption as it takes precedence over other life activities, embracing constructive feedback	<p>70.7% of the respondents using internet took priority over other life activities such watching TV, meeting friends, household work etc.</p> <p>69.6% people are aware of the negative consequences of excessive internet use and make a conscious</p> <p>30.8% respondents reported that there were never any external complaints about their internet usage.</p>		

Clusters	Indicators	Output	Outcome	Impact
Understanding Behaviours	Connecting online with different people, new acquaintances	<p>64.1% were in regular communication with different people on the internet of which 33.1% were women and 31% men</p> <p>68.74%, did not make any new acquaintance via the internet.</p> <p>83.2% did not meet any of their new acquaintances personally. 6.7% of them met just two acquaintances personally and 4.7% only one.</p>	Significant preference for connecting with different people online	Meaningful connection creates positive life experiences and improves communication in relationships
Understanding Behaviours	Influence of internet on work, university or school, social and family life	<p>Positive influence of internet on work, university or school was reported by 82.1% out of which 43.4% were women while 38.7% being men</p> <p>80.3% individuals reported a positive impact of internet use on their social life.</p> <p>75.1% found the influence of internet use on family life (relationship with partner, children, etc.) as positive out of which 39.4% were women and 35.7% were men</p>	Predominantly women more than men recognize the positive influence of the internet in their lives.	
Understanding Behaviours	Restricted access due to disruption in internet connectivity when the speed is slow and fast	<p>Internet disruption or restricted access made 44.7% anxious and another 31.3% nervous, 16.6% of individuals reported experiences calm state of mind</p> <p>33.7% reported nervousness more women (21.3%) compared to the 12.4% men</p> <p>34.7% of the respondents reported being nervous. The proportion of women (21.6%) experiencing this state was more compared to men (13.1%).</p>	Women seemed more anxious, and nervous compared to men when internet connectivity was disrupted, and when the speed was either slow or fast	

Clusters	Indicators	Output	Outcome	Impact
Trust and Safety	Online privacy, digital risks and security apprehensions	<p>48.8% voiced online privacy and security concerns, 37.7 showed none while carrying out activities</p> <p>45.3% had no concerns regarding any digital risks when it came to identity theft, credit card or banking fraud, etc.</p>		<p>Awareness about online privacy, digital security and risks enables greater trust in online applications and services</p>
Trust and Safety	Individual personal experience of online security breach and identity theft, household member affected by online security breach, identity theft or similar crime	<p>43.5% males and 42% females had no personal experience of any online security breach, identity theft or any similar crime</p>	<p>Majority have not personally experienced any online security breach or identity theft nor have heard of such incidents happening to anyone in their house.</p>	
Trust and Safety	Location of access and the use of the Internet while travelling	<p>90% access the mobile internet from home of which 45.6% are women</p> <p>45.8% use internet while travelling, 18.4% being women and 27.4% men</p>	<p>Increase in the internet usage indicates women in the rural communities are fast closing the digital gap.</p>	
Trust and Safety	Individual trust in online applications and services, its relevance	<p>59.7% trust online applications and service of this 34.6% are men and 25.1% women</p> <p>69.8% Trust online application and services, show no concern regarding activities</p>		

Clusters	Indicators	Output	Outcome	Impact
Trust and Safety	Individuals engaging fully in online sharing and collaboration, its relevance	<p>68.6% reported engagement in online cooperation.</p> <p>68.6% trust in online application and services, indicate willingness to share & collaborate.</p> <p>18.3% expressed the need to learn new digital skills such as graphic designing, freelancing, e-commerce. English, Crypto, Amazon SEO and computer courses</p>	Large number of individuals trust online applications and services and a majority even engage in online sharing and collaborations	Awareness about online privacy, digital security and risks enables greater trust in online applications and services
Learning and Digital Skills	Individuals who if unsuccessful in searching a topic online will turn to conventional methods of searching and knowing (library, asking friends and family, etc)	<p>71% claimed they may never turn towards conventional methods of searching and knowing despite being unsuccessful in their online search.</p> <p>8.1% expressed their interest in online educational of which 6.6% were women from Ziarat and Mastung.</p>	Substantial proportion of individuals show keen interest in online learning prospects. However, gender gap in accessing these opportunities with fewer women accessing online learning opportunities. This interest is also reflected in individuals seeking religious advice or guidance.	Digital literacy and skills increase the likelihood of exploring new opportunities
Learning and Digital Skills	Individuals interested in education (formal) related information online, use the internet for online learning opportunities and job training	56% accessed the internet for online learning opportunities and job trainings of which 20.3% were women and 35.7% men; meanwhile women in Lower Dir had never used the internet for the same purpose.		

Clusters	Indicators	Output	Outcome	Impact
Learning and Digital Skills	Internet usage for religious advice/guidance	<p>Internet usage for religious advice/guidance.</p> <p>67.2% have accessed the internet for purposes of seeking religious advice/guidance, of which 35.4% are men and 31.8% women</p>		<p>Digital literacy and skills increase the likelihood of exploring new opportunities</p>
Learning and Digital Skills	Usage of internet for specific activities like general browsing, social media, email, video streaming services, audio streaming services, audio/video services	<p>59.7% used the internet for general browsing.</p> <p>81.4% use social media of which 43.5% are men and 37.9% women.</p> <p>66.5% used internet for streaming audio.</p> <p>52.6% used internet for either sending or receiving Emails.</p> <p>67.8% of the used internet for streaming videos services like Netflix, YouTube, online gaming, etc.</p> <p>70.9% have used the internet for audio or video services.</p>	<p>Vast majority of the rural communities in the target districts use social media; where WhatsApp is the most popular messaging app used to connect with family and friends which could also potentially indicate affordability and accessibility of smart or feature phones with mobile connectivity.</p> <p>Significant proportion of the population use internet for streaming videos and audio content, as well as for email communication. Similarly, a majority uses audio or video services which could include online conferencing or video chat applications. This indicates increasing accessibility with the growth of high-speed internet.</p>	
Learning and Digital Skills	Use of internet for online job training	<p>56% individuals accessed internet for job training of which 20.3% are women</p>	<p>Demand for digital skills in areas such as graphic designing, freelancing, online marketing, e-commerce and other computer courses indicate the potential growth of internet use to acquire new skills especially with the percentage of women being slightly higher than men. This suggests there is equal potential for men and women to benefit from the internet in terms of skill acquisition.</p>	

Clusters	Indicators	Output	Outcome	Impact
Learning and Digital Skills	Recent new skill acquisition on the internet and the desire for learning of newer ones	27.4% reported to have acquired a recent skill using the internet, of which 14.2% are women and 13.2% men. 18.3% expressed the need to learn new digital skills such as graphic designing, freelancing, e-commerce. English, Crypto, Amazon SEO and computer courses		Digital literacy and skills increase the likelihood of exploring new opportunities
Dynamics of Wellbeing	Participation in online Self-help Group and seeking health advice	63.6% participated in online self-help groups, with 50.1% being men and 29% women. 67.8% searched the internet for health advice of which 32% were women and 35.8% men.	Several studies have shown that participating in self-help groups can have positive effects on wellbeing. Majority of the individuals access the online communities for health advice.	Access to professional health-related information enhances the probability of receiving quality advice People's livelihoods positively influenced by engaging in online economic activities.
Dynamics of Wellbeing	Being a part of agriculture related groups and community pages	4.2% were part of online community groups or pages on Agriculture	Small proportion of individuals participated in community groups or pages on agriculture. Farmers from Lower Dir, Sanghar and Layyah have been successfully using their smartphones to find and learn from online resources Apps like 'Bakhabar Kissan' and 'Engro E-Kissan' have helped these farmers gain information about their crops along with weather updates and tips on disaster management	

Clusters	Indicators	Output	Outcome	Impact
Dynamics of Wellbeing	Participation in online groups/pages on economy and business.	8% individuals participated in online groups/pages on economy and business.	Fewer individuals participated in online groups/pages on economy and business. Low percentage of individuals accessing e-commerce platforms potentially indicates a lack of awareness.	Access to professional health-related information enhances the probability of receiving quality advice People's livelihoods positively influenced by engaging in online economic activities.
Dynamics of Wellbeing	Using internet and social media for e-commerce platforms	Meagre 14.6% used the internet to access e-commerce platforms, such as Daraz, OLX, PakWheels and Zameen		
Dynamics of Wellbeing	Use of internet for financial services and financial thinking	59.5% found positive impact of internet use on their finances, 28.4% women and 31.1% men. 63.8% engaged in online banking, investments, and bill payments, 29.8% being women and 34% men.	Regardless of which significant proportion of individuals experienced a positive impact of internet use on their finances, as significant proportion of the population is actively engaged in online financial activities such as banking, investments, bill payments and online.	
Dynamics of Wellbeing	Use of internet to get product and company information, online shopping and for offering/selling services and products.	61% reported to have used the internet for company and product search, 33.7% being men and 27.3% women. 63.8% experienced online shopping, 34% being men and 29.8% women. 34.3% men and 20.7% women used the internet for offering their services or selling any products.	Majority using the internet for offering their services or selling products.	



Bibi Fazila

MASTUNG, BALOCHISTAN

Soon if one spots a shop in Mastung called Bramsch Handicrafts or if they come across it online, they must not be shocked to find it being run by Bibi Fazila. Having passed her intermediate, Bibi Fazila is in her early 30s, married with three children, one son and two daughters. She can speak three languages fluently and can also comprehend some English. She has a smartphone which she uses to get news and entertainment and connect to people who are also now her potential clients for her dresses.

Unemployed at present, Fazila dreams of expanding her small business through which she would sell Balochi dresses and handicrafts: "I sew dresses and I named my business Bramsch Handicrafts. I would love to show my culture to the world. I often take photos of my family, of nature like flowers but I would also take photos of Balochi dresses which showcase our culture. I use my phone to connect with my friends and realised that I could open my work to them. Turned out that people are interested and using Whatsapp groups, I post my design and sewn clothes there and my friends respond to it. I have used online courier services and use them to deliver my work as well. Now, my focus is to learn more about e-commerce so I can expand my online work and support my family as well without having to step outside. I feel the one of the biggest advantages of ICT is accessing unlimited services without leaving your house that helps me in managing my house as well as add to some household income," she explains.

She goes back to her work and places her embroidery hoop on the mustard chadar she is designing which would gain her a possible long-term customer.

CONCLUSION

The internet has revolutionised the way we communicate, access information, conduct business, and entertain ourselves. It has brought people from all over the world closer together, breaking down geographic barriers and allowing for the exchange of ideas and cultures. With the increasing internet broadband coverage and availability, distinction between home and workplace will continue to blur as was witnessed during the COVID-19 Pandemic. At the time of the field study, there was no broadband coverage in these five districts. This increased availability of the broadband service has led to a rise in smartphone usage in the rural areas of the target districts. Together with this increase, usage of audio and video services is also expected to rise along with the desire to learn new skills online. As the country continues to urbanize, the role of ICT can bridge the rural-urban divide, programmes such as the Smart Village 'Gokina' by the Universal Service Fund is expected to expand economic opportunities in the remote areas of Pakistan. Such programmes are aligned with SDG 17 fostering a multistakeholder approach by collaborating with partners in achieving sustainable outcomes.

Some women used their phones and the internet to set up and expand their businesses online, however, this number was small compared to the large number of female smartphone users in our sample who had access to stable and fast broadband services, and who also reported a stronger increase in usage in the last six months compared to men. Women more than men, also experienced a more positive impact of internet use in improving their relationship with their family, friends and other community members. The women from Ziarat and Mastung districts in Balochistan, showed greater inclination towards online educational content and wanting to become part of the technological transition than women in other districts. On a macro plane, these positive social and economic impacts of NG-BSD program on women of these rural communities are a contribution to UN SDG 5 for achieving gender equality³³ in the world. While on a micro level, these findings suggests that within these target communities, the importance of educating oneself through online means is gradually being recognized as important for improving their lives and is likely to increase with time.

This highlights the growing preference for and use of internet services on mobile phones indicating a strong desire for continuous connectivity. Furthermore, there appear to be no external barriers for both men and women in accessing and making good use of internet services. An increasing number of individuals are using it while travelling, revealing the critical importance of continuous connectivity in their minds. This is also shaping behaviours of these individuals reflected in their prioritizing internet use over other life activities, internet taking up more time than originally planned or in their feeling a strong urge to go online while being offline. Interestingly, they also happen to be cognizant of the negative impacts of internet usage on their relationships and even their wellbeing.

The diversion of attention to the online world from the physical world and its activities suggest a preference for exploration over conventional activities, which would not have been possible without extensive penetration of the internet in these communities. This exploration is one of the contributing factors in building their confidence as they connect with different people, make new acquaintances, and become open to collaborative and learning opportunities. These individuals are aware of issues related to online privacy, cyberbullying, online harassment, and digital security, but despite these risks, the availability and easy access to the internet are enabling and encouraging more people to engage in online transactions and shopping. Women from Ziarat appeared more active in using e-commerce platforms.

Whether it is searching for online health advice or participating in self-help groups, or navigating the web for jobs and online trainings, all this indicates that as internet penetration increases in these rural communities, individuals are becoming more enterprising. There is a growing need and desire to connect with the outside world and tap more opportunities for achieving financial independence and growth, which has improved their financial thinking and capabilities. In Lower Dir, many were offering and selling their services and products online. For an online ecosystem to be secure and reliable, trust is critical as it would encourage a meaningful collaboration and communication, social interactions, growth, and development of a digital economy. However, without trust, the online world would be a more challenging and risky space to navigate. This research effort culminates in the generation of some broad impacts, which have been deliberately kept concise and are backed by the empirical evidence presented in the research findings and in real-life examples. The impact assessment framework of this study provides both the positive and negative outcomes, while being aware of factors such as culture, traditions or the location that may have influenced these impacts.

THE NG-BSD PROGRAM OF THE UNIVERSAL SERVICE FUND HAS ACHIEVED THE FOLLOWING BROAD IMPACTS:



Improved availability of consistent high-speed broadband internet increasing access.



Provided meaningful connection creating positive life experiences and improving communication in relationships.



Digital literacy and skills increase the likelihood of exploring new opportunities.



People's livelihoods positively influenced by engaging in online economic activities.



Increased preference, availability, and affordability of smartphone influencing internet usage patterns.



Awareness about online privacy, digital security and risks enables greater trust in online applications and services.



Access to professional health-related information enhances the probability of receiving quality advice.

RECOMMENDATIONS

The focus on improving the wellbeing of the rural communities by integrating access, affordability and skills can enable the USF projects have a transformative impact

- Acting as an intermediary between target communities and other government bodies to facilitate the community's access to more and better e-health, e-education, e-finance, e-banking, e-governance platforms and services. In addition to the role of an enabler of interpersonal, social connection and interaction within communities the role of coordination between community and various government sectors could be adopted to improve public service delivery.
- Partnering with corporate tech investors and supporting NGOs, etc., to initiate within community centers or tele-centers in different towns and villages with an aim to imparting regular multimedia sessions to the young and the elderly focusing on practical and innovative education/learning, health, climate, political and legal awareness, citizen journalism, telemedicine, etc.
- Since smartphone usage is very high (73.3% individuals) in the targeted communities so through partnering with software houses, online content creators and service providers customized (easy and interesting) educational and training content accessible on smartphones in a language best understood can be created and provided to these communities. This can be a significant way of contributing to the social and economic uplift of these communities. And also catalyze the much-needed transition to using internet online platforms for knowledge gathering, learning new skills and applications, e-commerce, political and social participation at the local level in order to manage the present dominant usage for personal communication and entertainment.
- The data from this study shows that many people (N=197), mostly from rural districts of Lower Dir, Khyber Pakhtunkhwa and Mastung, Balochistan engaged often and always in online search for health advice, primarily due to less availability of quality healthcare (proper hospitals, doctors, and medicines) in these areas. Thus, there is both a growing need/demand and use of this mode of getting health advice and health related information in these communities. But in both these districts internet coverage is currently 50% and 75%. So, prioritizing the bridging of this gap between demand and supply in these communities is suggested.
- Online job search and job training were tapped by 61.2% and 56% of the participants of this study and most of them belonged to Ziarat and Mastung where current internet coverage is 75%. Since increased internet access can potentially lead to reducing unemployment and other economic benefits hence faster provision of it to these communities is a preferable undertaking.
- With 63.8% of respondents in these rural communities using online financial services like online banking, bill payments, investments and 61% (mostly educated till secondary school) using the internet for getting information on products and companies, facilitating the growing economic mindset in these communities is essential. And fast and uninterrupted internet service can contribute to this process effectively.
- Online shopping activity was used by 63.8% respondents most of which belonged to Lower Dir where internet coverage is 50%. Similarly, 55% used the internet for offering/selling their services and products, out of which 20.7% were women, and most of them belonged to Lower Dir. This shows how the minds of people in this rural area are becoming highly enterprising despite limited broadband access. Thus, 100% coverage will provide these people with far greater opportunities to become economically independent and contribute to the national economy.
- The positive influence of internet use on finances reported by 59.5% of individuals in targeted communities is a clear marker and indicator of how important internet access is for these rural communities. Hence ensuring full coverage in these existing communities and expanding into new unserved areas is the way to go. But this also requires a collaborative approach, which means engaging e-financing organizations to foster trust in these communities.
- A fairly large number of women (14.2%), mostly from Ziarat and Mastung districts affirmed the learning of new skills on the internet which shows their desire to become a part of the technological transition happening in Pakistan. So not only increased internet access covering more individuals and households can be a boon for such women and even men, but also understanding their interests to better design project interventions that can improve their wellbeing.
- The relationship with service providers should be reassessed in the light of feedback from the users in the target communities; more popular and efficient service providers should be facilitated and supported.

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- [5] Sustainable Development Goal 7 (SGD 7) "Ensure access to affordable, reliable, sustainable and modern energy for all" and is one of the 17 Sustainable Development Goals adopted by the United Nations General Assembly in 2015
- [6] Sustainable Development Goal 1 (SGD 1) "End poverty in all its forms everywhere" and is one of the 17 Sustainable Development Goals adopted by the United Nations General Assembly in 2015
- [7] Sustainable Development Goal 9 (Goal 9 or SDG 9) "industry, innovation and infrastructure" and is one of the 17 Sustainable Development Goals adopted by the United Nations General Assembly in 2015
- [8] International Telecommunication Union #ICT4SDG Goal 3: Good health and Wellbeing that advocates for Universal Health Coverage. The term wellbeing is broad as it focuses on different aspects of life, including physical health, mental health, quality education, social relationships, and financial security. Many countries have integrated wellbeing into their public policies such as Canada, Finland, New Zealand, Scotland, Australia, Norway, United Kingdom.
- [9] The statistical figures used above have been taken from Balochistan Development Statistics, PSLM 2019-20, Pakistan Bureau of Statistics, Local Government Websites, Government of Khyber Pakhtunkhwa, District Courts Layyah, Pakistan Almanac
- [10] Research Methodology and Data Collection on Page 91 of Impact Assessment Study
- [11] N is the number of individuals participating in the study
- [12] UNICEF in its report 'Harnessing the power of technology and digital innovation for children' recognizes the importance of delivering results for children faster and at scale through tech-oriented innovative solutions.
- [13] In a separate question on device preference/usage, 26 respondents confirmed they used Desktop Computers (1 Lower Dir, 10 Layyah, 12 Mastung and 3 Ziarat), of these only 12 women had access to them.
- [14] In a separate question on device preference/usage, 107 respondents confirmed they used Laptop (3 Lower Dir, 51 Layyah, 39 Mastung, 2 Sanghar and 12 Ziarat) of these only 51 women had access to them; 23 from Layyah, 23 Mastung and 5 Ziarat
- [15] Digital literacy is the ability to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital technologies for employment, decent jobs and entrepreneurship <https://unevoc.unesco.org/home/TVETipedia+Glossary/show=term/term=Digital+literacy>
- [16] Disclaimer: For the purposes of understanding popularity, data was segregated to capture the most prominently used platform. However, had this not been done, a separate interpretation without factoring in the age categories reflected inputs like; an overwhelming proportion (23.67%) said they used just WhatsApp, with women (16.71%) being the dominant users of this platform compared to men (6.96%). A large percentage (26.83%) used both WhatsApp and Facebook with male proportion (14.30%) being slightly more than female (12.53%) respondents in this category. While the use of WhatsApp with various other apps like TikTok, Instagram, Messenger, Skype, the female proportion (52.4%) was more than the male proportion (43.41). The most popular platforms after Whatsapp and Facebook were Tiktok and Instagram followed by Messenger.
- [17] These insights are as a result of correlation between 'spending more time on the internet than originally planned' and 'deliberate restriction of the use of internet'

[18] Annexure – II Respondents for the qualitative assessment were asked whether they thought in the future their community would prefer the online world more than the real (Question 33).

[19] Annexure – II Respondents for the qualitative assessment were asked how their community treated people putting up communication infrastructure

[20] Sustainable Development Goal 9 (Goal 9 or SDG 9) "industry, innovation and infrastructure" and is one of the 17 Sustainable Development Goals adopted by the United Nations General Assembly in 2015

[21] According to International Telecommunication Union's meaningful connectivity framework, security, and safety; a trusted and safe cyberspace is a component which uses a global cybersecurity index paramount to gauging ICT readiness of any country. For more references: Achieving universal and meaningful digital connectivity Setting a baseline and targets for 2030 https://www.itu.int/itu-d/meetings/statistics/wp-content/uploads/sites/8/2022/04/UniversalMeaningfulDigitalConnectivityTargets2030_BackgroundPaper.pdf
Global Cybersecurity Index
<https://www.itu.int/en/ITU-D/Cybersecurity/Pages/global-cybersecurity-index.aspx>

[22] These insights are as a result of correlation between 'concerns about privacy and security stopping from online activities' & 'trust in online application & services'

[23] These insights are as a result of correlation between 'those who feel they could fully share and collaborate' and 'trust in applications & services'

[24] Annexure – II Respondents for the qualitative assessment were asked to select from the following all that applies (Question 21)

- Number lock on screen
- Number lock on phone and apps
- Fingerprint protection
- Pattern
- Phone cover for exterior
- I Don't share my phone with anyone
- I don't know about protecting my phone

[25] Annexure – II Respondents for the qualitative assessment were asked to elaborate whether they preferred online learning rather than the traditional mode of education (Question 41)

[26] Annexure – II Respondents for the qualitative assessment were asked whether they preferred smartphones in their languages (Question 15)

[27] Online self-help groups are a type of support group that meets online, typically through a website or forum. These groups can provide a safe and supportive space for people to share their experiences, connect with others who understand what they are going through, and learn from each other.

[28] Annexure – II Respondents for the qualitative assessment were asked the following questions related to health

- Is accessing hospitals, doctors, and medication important to you? (Question 48)
- How would you feel if you could make doctors and medicines accessible through phones? (Question 49)

[29] Annexure – II Respondents for the qualitative assessment were asked whether they thought technology helped during pandemic (Question 50)

[30] Annexure – II Respondents for the qualitative assessment were whether they receive weather updates using their smartphones (Question 53) and if it affected their life plans (Question 54)

[31] Annexure – II Respondents for the qualitative assessment were asked whether they would want to expand their existing businesses online (Question 36)

[32] According to the United Nations Population Division nearly half the country's population will be living in the cities by 2025 <https://www.undp.org/pakistan/urbanisation-pakistan>

[33] Sustainable Development Goal 5 (SGD 5) "Achieve gender equality and empower all women and girls" and is one of the 17 Sustainable Development Goals adopted by the United Nations General Assembly in 2015

RESEARCH METHODOLOGY AND DATA COLLECTION

Given the sociocultural barriers and difficulties in accessing participants in rural communities, the snowballing sampling technique was employed to gain access to the target demographics. This technique was deemed appropriate and practical considering the conditions and the narrow scope for adjustment.

While convenience sampling is generally associated with bias, one way to mitigate this limitation was to use it alongside probability sampling methods. Probability sampling was applied in the selection participants based on a random process, allowing for a more representative sample of the population. By incorporating probability sampling alongside convenience sampling, the researchers balanced the need for practicality and accessibility with the goal of reducing sampling bias.

The major reasons for preferring convenience sampling in this scenario were:

- **Practicality and Accessibility:** Convenience sampling was chosen as the most practical way to access participants. Due to conservative and traditional geographical proximity, it was challenging to reach individuals in rural communities. Convenience sampling allowed the field researchers to conveniently approach participants who were readily available and accessible.
- **Knowledgeable and Experienced Participants:** The snowballing sampling technique proved to be effective in identifying participants who were already knowledgeable and experienced in ICT services. By leveraging the contacts and networks of a small group of participants who met the specific criteria, additional participants were recruited. This approach ensured that the research captured insights from individuals who had relevant expertise in the field.
- **Reducing Biases:** To mitigate biases in the convenience sampling approach, a quota system and purposive sampling were incorporated. The characteristics of the participants were clearly defined, and the sampling process was subject to careful monitoring. This helped ensure that the sample represented a diverse range of perspectives, minimizing potential biases that may have crept in while totally depending on convenience sampling.

Overall, convenience sampling was preferred during the fieldwork due to the problems faced in accessing participants and engage knowledgeable respondents within limited time. Based on experience, field researchers skillfully implemented the inclusion of monitoring and defined characteristics to reduce biases thereby increasing the potential to complement it with probability sampling for improved representation.

Pre-testing questionnaires was an essential step in the survey development process, given the sensitive conditions of the target districts, interactions of the community members with the field researcher were conducted in a comfortable environment for open conversations. To ensure the field researchers were equipped with meaningful engagement approaches an initial plan for conducting online intensive training during the pilot phase posed challenges related to connectivity, after repeated efforts the desired outcome could not be achieved during this phase, thus resorting to conventional face to face training in each target district. The goal of pretesting was to increase the validity and reliability of the survey tools, which is a routine procedure. When pretesting questionnaires, the field researchers focused on how people were answering the questions since there were a few different processes the respondents would've experienced when answering. To ensure that respondents interpret and answer questions in the way in which the research intended. Pretesting helped the team determine if respondents understood the questions as well as if they can perform the tasks or have the information that questions require.

Pretesting was conducted in two districts, Layyah and Mastung to gauge the understanding of the respondents. In each district five interviews were conducted. During this process the research team did not find any flaw with the tools as the understanding of the respondents was sound.

GRATITUDE

The team at AGAHI express their sincere appreciation for the support and cooperation shown by friends at the Universal Service Fund. We extend our special appreciation to Mr. Haaris M. Chaudhary for his exceptional leadership and Mr. Bilal Ahmed, Mr. Asadullah Niazi, Ms. Najia Malik and Ms. Madeeha Masood for facilitation throughout the project. Your willingness to collaborate has made a significant impact. We are grateful for your thoughtful insights, expertise, and guidance. We hope this research effort is useful for your future endeavors in empowering the disconnected communities of Pakistan. Your work brings great joy in the lives of ordinary Pakistanis.



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