JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal

ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

DIGITAL SKILLS, E-COMMERCE, AND YOUTH ENTREPRENEURSHIP IN BALOCHISTAN: OUTCOMES OF TECHNICAL AND VOCATIONAL EDUCATION

Dr. Rashid Manzoor[*1], Muhammad Yahya[2], Naveeda Iram Warsi[3]

[*1]*Assistant Professor/HoD of Department of Social work, University of Makran-Panjgur*
[2]*Assistant Director HR, Balochistan TEVTA*
[3]*Assistant Professor, Department of Sociology, University of Balochistan, Quetta*

DOI: https://doi.org/10.5281/zenodo.22095392

Keywords
Digital Skills, E-Commerce, TVET, Youth Entrepreneurship, Employability, Digital Economy, Balochistan

Article History

Received: 28 June 2026
Accepted: 15 July 2026
Published: 31 July 2026

Copyright @Author

Corresponding Author: *
Dr. Rashid Manzoor

Abstract

Rapid digitalization and the expansion of e-commerce are reshaping employment and entrepreneurship opportunities, particularly for young people in regions where formal labour markets remain limited. In Balochistan, persistent youth unemployment, geographical isolation, limited private-sector development, and a mismatch between education and labour-market requirements have increased the importance of Technical and Vocational Education and Training (TVET) as a pathway to economic participation. This study examines the outcomes of digital skills and e-commerce training provided through TVET programmes and their contribution to youth entrepreneurship in Balochistan. It specifically investigates the relationship between digital skills acquisition, e-commerce competencies, entrepreneurial intention, business creation, self-employment, and income-generating opportunities among trained youth. The study adopts a mixed-methods approach, combining a survey of TVET graduates with interviews involving training providers, entrepreneurs, employers, and relevant institutional stakeholders. Particular attention is given to whether existing programmes provide market-relevant digital competencies and enable graduates to translate acquired skills into sustainable economic activities. The study also examines barriers affecting this transition, including limited internet connectivity, access to finance, digital infrastructure, mentorship, market access, and post-training business support. It argues that technical training alone may have limited economic impact unless it is integrated with entrepreneurship education, financial inclusion, incubation, mentorship, and access to digital markets. The study is expected to provide evidence for developing a more market-responsive TVET framework that connects digital skills with entrepreneurship and sustainable livelihoods. The findings will contribute to policy discussions on youth employment, digital inclusion, and human capital development in Balochistan while offering practical recommendations for strengthening the transition from vocational training to digitally enabled entrepreneurship.

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal

ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

INTRODUCTION

Background of the study

Digital transformation is an emerging economic force that is changing how people learn new skills, look for jobs, start a business, markets and earn a living. Information and communication technology, online markets, social media, digital payment, freelancing platforms, and digitally-enabled services have been expanding at a fast pace, providing employment and entrepreneurial opportunities that are increasingly moving beyond traditional forms of labour markets. The developments are especially significant for the developing economies like Pakistan where a rising youth population is joining a job market which can't create enough formal jobs. The World Bank (2025) highlights the need to work on digital infrastructure, an enabling regulatory framework, private sector investments, and increased access to digital opportunities to enhance Pakistan's digital economy. Digital transformation is thus not only technological transformation but also the opportunity to build new employment and entrepreneurship and economic integration channels.

Digital skills are also more important to young people due to the changing nature of work. Job opportunities are no longer limited to location, place or local employers. Freelancing, remote work, e-commerce, social-media businesses, digital marketing, online service provision, and other types of platform work offer opportunities for people to connect with customers and employers outside their immediate geographic location. This may be especially important in far-flung and less affluent areas, when it comes to young people. The potential of such interventions is seen from evidence from Pakistan. An initiative supported by the World Bank to create digitally employable skills trained over 13,000 young people, including over 4,000 women, in Khyber Pakhtunkhwa. Almost 5,900 participants then said they earned money from online or by working in the IT and digital sectors, and women-led start-ups helped to create jobs or indirect jobs (World Bank, 2025). These results highlight the potential of digital skills programmes to create tangible livelihood opportunities when it is designed appropriately.

An additional major aspect of this shift is e-commerce. By connecting entrepreneurs with consumers, within cities, within provinces and possibly across international markets, digital marketplaces can help to mitigate some of the traditional barriers that geographical distance entails. Pakistan has been increasingly cognizant of this potential in its policies for the promotion of e-commerce, digital payments, entrepreneurship and small and medium enterprises. According to the Ministry of Commerce (2025), youth empowerment, financial inclusion, skills development, market expansion, digital payment systems, and support for small businesses are crucial components of Pakistan's evolving e-commerce landscape. This is especially pertinent in areas where traditional private-sector jobs are still not adequate.

These opportunities are very relevant on Balochistan level. The province is facing unique development challenges due to its large landmass, the widespread distribution of settlements, infrastructure deficits, a lack of industrialization, and a shortage of jobs in most districts. The challenge is particularly great for young people who are trying to transition from education and training to productive employment. The Pakistan Bureau of Statistics (2025) reported that in 2024–25, the percentage of the age group 15-24 which was neither employed nor involved in any activity or training in Balochistan was 36 percent as compared to 28.4 percent at the national level. Its figures are especially alarming when it comes to young women as compared to young men who still far outnumber them in the labor force. With these conditions, it seems that the traditional routes of employment can no longer sustain the huge population of youth in Balochistan.

Entrepreneurship and self-employment can be an alternative way of youth economic participation in this context. The relevance of digital entrepreneurship is particularly pronounced as some types of online economic activity require relatively lower investments than traditional

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

business activities and offer the potential to overcome geographical barriers. Youth with digital marketing, eCommerce management, graphic design, content creation, freelancing, on-line customer services, web development and related skills may have a potential to earn income on their own or create micro and small businesses. However, digital opportunities are not guaranteed. A lack of affordable finance, weak business connections, lack of mentorship, challenges to digital payments and limited internet connections, as well as lack of support after training can hinder trained young people from turning skills into sustainable businesses. Similarly, the World Bank (2024) highlights that providing connectivity and access to digital and financial services is essential for Pakistan to achieve the wider social and economic gains related to digitalization.

Technical and Vocational Education and Training (TVET) thus plays an increasingly important role in equipping the youth to fit into this new economy. In Pakistan, vocational education is traditionally focused on manual skills like building construction, electrical, mechanical, manufacturing, tailoring, and other technical skills. These skills are relevant, but as the labour market is undergoing transformation, it is necessary to further integrate digital and high technology skills into the TVET institutions. This shift is evident in the work of Pakistan's Prime Minister's Youth Skill Development Program that focuses on conventional and high-tech skills, which are more market-oriented and aims to enhance the employability and productive capacity of young people (National Vocational and Technical Training Commission [NAVTTC], n.d.).

However, for Balochistan, the success of TVET should be measured not just by the numbers of young people that complete the training, but what happens after training. Certificate and/or completion of a digital course does not guarantee employment, entrepreneurship or increased income. The relevant question is if the trainees are able to gain market-relevant skills and if they can apply those skills to freelancing and e-commerce or business creation or self-employment or any other income generating activities. As demonstrated in other parts of Pakistan, the potential for improved results can be achieved through integrating skills development with business incubation, entrepreneurial support, digital connectivity, market linkages, mentorship, and on-demand access to work opportunities online (World Bank, 2025).

In this context, it is timely and policy relevant to look at the outcomes of digital skills and e-commerce training for TVET graduates in Balochistan. It is important to understand this extent of the impact of vocational training on entrepreneurial intentions, business creation, self-employment, internet economy and income generation to be able to give evidence for improving the province's skills-development system. Even more important is the study of the obstacles to the integration of trained youth into the digital economy as a way of moving TVET policy from a training to an outcomes-based approach that will link skills training with entrepreneurship, finance, mentorship, market access and sustainable livelihoods. This type of intervention can enhance the role of TVET in Youth employment, Digital inclusion, Human Capital development and economic participation in Balochistan.

1.2 Problem Statement

The province of Balochistan continues to struggle with high levels of youth unemployment, low levels of private-sector employment, geographical remoteness, low level of digital infrastructure, and a persistent disparity in education, skills, and employment. Many young people are struggling with the transition from education and training to productive and sustainable employment due to many challenges. Meanwhile, the rise of digital technologies, ecommerce, freelancing and online services, and social-media driven businesses has also opened up other avenues for employment and entrepreneurship that are not tied to traditional labor markets. In response to these changes, Technical and Vocational Education and Training

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal

ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

(TVET) programmes have been increasingly adding digital, information technology, freelancing, e-commerce and entrepreneurship related training for the youths.

But there is no automatic link between training and economic results. A key question is if the youth who participate in such programmes are learning market-relevant skills in digital and e-commerce, and if the skills learnt can be applied to entrepreneurship, business creation, self-employment, online work, and income generation. Some challenges in the process of skills acquisition to economic participation in Balochistan could include inadequate access to financial and digital infrastructure, limited mentorship and incubation facilities, weak digital infrastructure, limited market linkages and lack of post-training support. There is therefore a need to broaden the measures of TVET performance that only involve enrolment, completion of training and certification and to consider the actual economic outcomes of TVET graduates. In the absence of data on these outcomes, it is challenging to assess whether current programmes and initiatives regarding digital skills and entrepreneurship are meeting the employment and entrepreneurship needs of Balochistan's youth.

1.3 Research Gap

The literature on TVET in Pakistan has been mainly focussed on skills development, employability, labour market needs, institutional capacity and the general linkages between TVET and employment. Likewise, new research on the digital economy in Pakistan has focused on freelancing, digital entrepreneurship, e-commerce and the opportunities that information and communication technologies (ICTs) provide to generate employment. Nevertheless, relatively little empirical work has been done at the nexus of TVET, digital skills, e-commerce and youth entrepreneurship, at least in the context of Balochistan.

More significantly, there is a lack of information on what happens to youth of Balochistan after they have completed their vocational education on the topics of digital and e-commerce. There is a tendency for existing assessments to focus on the number of people trained and/or completed courses, rather than on the extent to which graduates are starting businesses, becoming self-employed, or engaging in e-commerce, freelancing or online work, or making a living income. In addition, there is limited understanding of the impact of market relevance, internet access, finance, mentorship, digital infrastructure, market linkages and post-training institutional support on these outcomes. Moreover, the views of TVET graduates, TVET training providers, entrepreneurs, employers and institutional stakeholders related to TVET have also not been studied in combination. The aim of this study is to fill this gap by empirically evaluating the results of digital skills and e-commerce training among the TVET graduates in Balochistan and identify the factors that enable or hinder the connection between vocational training and digital skills enabled entrepreneurship and income-generation activities.

1.4 Objectives of the Study:

To determine the level of digital skills and e-commerce competencies learned by the youth through TVET programs in Balochistan and identify their alignment with the market needs.

To analyze the role of Digital skills and e-commerce training in Entrepreneurial intention, Business creation, Self-employment, online economic activities and income generation of TVET graduates in Balochistan.

To assess the major challenges in accessing post-TVET training support, market linkages, digital infrastructure, mentorship, and access to finance for TVET trainees and to suggest steps to improve the support to TVET trainees for digital entrepreneurship in the province of Balochistan.

2. Literature Review

2.1 Technical and Vocational Education and Training (TVET) and Employability

Technical and Vocational Education and Training (TVET) is widely recognized as an important

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

mechanism for developing practical and occupational skills and improving individuals' transition from education to employment. Unlike general education, TVET is primarily designed to connect learning with specific labour-market requirements by providing technical, vocational, and employability competencies. The World Bank, International Labour Organization, and UNESCO (2023) argue that effective TVET systems can contribute to employment, productivity, social inclusion, and economic transformation, particularly in low- and middle-income countries. However, they also observe that many TVET systems remain insufficiently responsive to changing labour-market demands because of outdated curricula, weak links with employers, inadequate instructor capacity, and limited information about emerging skills requirements.

Employability should therefore be understood as more than obtaining a vocational certificate. It involves possessing technical knowledge, practical competencies, communication abilities, adaptability, problem-solving skills, and increasingly digital capabilities that enable individuals to obtain employment or create their own economic opportunities. The International Labour Organization (ILO, 2024) emphasizes the importance of core employability skills, particularly for young people entering the labour market with limited work experience. Moreover, evidence suggests that youth labour-market interventions combining skills training with other forms of support tend to produce stronger outcomes than isolated interventions (ILO, 2024). Consequently, the effectiveness of TVET should increasingly be evaluated through graduate outcomes, including employment, self-employment, income generation, and the relevance of acquired skills to actual market demand.

2.2 Digital Skills and Youth Employment

Digitalization has transformed the skills required for participation in contemporary labour markets. Digital competencies now extend beyond basic computer literacy and increasingly include online communication, digital marketing, content creation, data handling, platform use, e-commerce management, freelancing, and the ability to adapt to emerging technologies. The ILO (2023) notes that technological change is altering demand for skills in both economies and societies, requiring education and training systems to respond to new occupational structures and methods of working. Digital competencies have consequently become increasingly relevant to employability, particularly for young people seeking to participate in rapidly changing labour markets.

Digital skills can be especially important for young people in regions where conventional employment opportunities are limited. Online work, freelancing, remote employment, and digitally enabled businesses can potentially connect youth with economic opportunities beyond their immediate geographical locations. Evidence from Pakistan illustrates this potential. World Bank-supported digital inclusion initiatives in Khyber Pakhtunkhwa combined digital skills development with innovation spaces and support for young people seeking online work and entrepreneurial opportunities (World Bank, 2025). Such evidence suggests that digital skills can contribute to youth employment when training is market-oriented and connected with platforms, employers, entrepreneurship ecosystems, and opportunities for practical application.

2.3 E-Commerce and the Digital Economy

E-commerce has become an increasingly important component of the digital economy by allowing businesses and individuals to buy and sell goods and services through digital networks. The growth of internet connectivity, smartphones, online marketplaces, digital payment systems, and social media has significantly changed traditional commercial relationships. UN Trade and Development (UNCTAD, 2024) observes that digitalization is transforming how people work, learn, consume, and conduct business and has contributed to rapid growth in online transactions. Digital intermediary platforms have also become

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

significant actors in e-commerce, connecting buyers and sellers while reducing some traditional geographical and informational barriers to market participation.

For developing countries, e-commerce offers opportunities for entrepreneurs and small businesses to access wider markets, but the benefits remain unevenly distributed. UNCTAD (2024) reports that developing economies account for a considerably smaller share of global business e-commerce sales than their contribution to global economic output, illustrating continuing inequalities in participation. Pakistan's e-Commerce Policy also recognizes e-commerce as both a business opportunity and an employment instrument and emphasizes digital skills development, digital marketing, financing, and support for online marketplaces (Ministry of Commerce, 2025). Therefore, successful participation in e-commerce depends not only on individual entrepreneurial capabilities but also on supportive digital infrastructure, payment systems, logistics, regulatory arrangements, financial inclusion, and consumer trust.

2.4 Youth Entrepreneurship and Self-Employment

Youth entrepreneurship has gained increasing policy importance because many economies are unable to generate sufficient formal employment for their expanding young populations. Entrepreneurship allows young people to create economic opportunities through establishing businesses, providing services, developing innovative products, or becoming self-employed. This is particularly relevant in developing economies where labour markets are characterized by limited formal-sector employment. The ILO (2024) notes that skills training and entrepreneurship-related interventions can improve youth labour-market outcomes and that entrepreneurship support has demonstrated comparatively stronger effects in low- and middle-income countries.

Nevertheless, youth entrepreneurship should not automatically be considered equivalent to secure and productive employment. Many young entrepreneurs operate informal or low-productivity enterprises because they lack finance, business knowledge, market access, technology, professional networks, and institutional support. The ILO (2024) observes that self-employment is strongly associated with informal employment globally, which can involve weaker income security and social protection. Entrepreneurship policies must therefore focus not only on encouraging young people to establish businesses but also on improving their sustainability and growth potential. Skills development, access to finance, mentorship, incubation, market information, digital technology, and business-development services can help transform necessity-driven self-employment into more productive entrepreneurship.

2.5 TVET and Entrepreneurship Development

The relationship between TVET and entrepreneurship has expanded as vocational education systems increasingly recognize that graduates may become employers or self-employed workers rather than simply enter salaried employment. Entrepreneurship education within TVET can provide trainees with knowledge of business planning, financial management, marketing, customer relations, opportunity identification, and enterprise development. The World Bank, ILO, and UNESCO (2023) emphasize that TVET systems need to become demand-driven, flexible, results-oriented, and responsive to economic and technological change. This requires a shift from training students for narrowly defined occupations toward developing broader capabilities that allow graduates to respond to changing markets and employment conditions.

Integrating entrepreneurship into TVET is particularly important where formal employment creation remains inadequate. However, entrepreneurship education alone may not be sufficient to produce successful entrepreneurs. Young graduates may understand how businesses operate but remain unable to establish enterprises

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

because they lack capital, mentorship, markets, digital infrastructure, and post-training support. Evidence on youth employment interventions indicates that programmes combining multiple components tend to produce better outcomes than stand-alone interventions (ILO, 2024). Therefore, entrepreneurship-oriented TVET should ideally combine technical training with business education, financial literacy, digital skills, incubation, mentorship, access to finance, and market linkages.

2.6 Digital Entrepreneurship in Developing Economies

Digital entrepreneurship refers to entrepreneurial activities in which digital technologies play a central role in establishing, operating, marketing, or expanding a business. It includes e-commerce businesses, online service provision, freelancing, social-media-based enterprises, digital content creation, and other platform-enabled economic activities. Digital entrepreneurship can reduce some traditional barriers to market entry because entrepreneurs can potentially reach customers without establishing extensive physical business infrastructure. UNCTAD (2024) recognizes digitalization as an important driver of economic growth while emphasizing that developing countries have yet to capture an equitable share of the benefits generated by the global digital economy.

Despite its potential, digital entrepreneurship in developing economies is shaped by significant structural constraints. Access to reliable internet services, electricity, affordable digital devices, online payment mechanisms, finance, logistics, digital literacy, and supportive regulations influences whether entrepreneurs can participate effectively in digital markets. UNCTAD (2025) observes that digital adoption remains uneven globally, leaving many developing economies on the margins of expanding digital trade. Consequently, digital entrepreneurship should not be treated solely as an individual skills issue. Its development requires an ecosystem in which digital infrastructure, financial services, institutional support, skills development, and market access operate together.

2.7 Digital Inclusion and Regional Inequalities

Digital transformation can create economic opportunities while simultaneously reproducing existing social and regional inequalities. Individuals and communities with reliable internet connectivity, digital devices, relevant skills, and financial resources are better positioned to benefit from digital employment and e-commerce than populations without these facilities. UNCTAD (2024) warns that widening digital divides can reinforce existing inequalities, particularly when technological development proceeds faster than improvements in affordable connectivity and digital capabilities. Digital inclusion therefore requires meaningful access to technology as well as the skills and resources necessary to use technology productively.

Regional inequality is particularly important in countries where digital infrastructure and economic activity are concentrated in major urban centres. Young people living in remote and less-developed areas may theoretically have access to online markets but remain disadvantaged by weak connectivity, unreliable services, limited training facilities, and fewer business-support institutions. Digital inequality can therefore become an extension of geographical and socio-economic inequality. UNCTAD (2024) argues that inclusive digital development requires policies that ensure the benefits of digitalization are more equitably distributed. For regions such as Balochistan, this means that expanding digital skills training without simultaneously addressing connectivity, affordability, infrastructure, gender disparities, and institutional support may limit the economic outcomes of training programmes.

2.8 Empirical Studies from Pakistan

Evidence from Pakistan indicates increasing recognition of digital skills as a pathway to youth employment and entrepreneurship. One important example comes from Khyber

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

Pakhtunkhwa, where the provincial government and World Bank collaborated to improve youth access to opportunities in the digital economy. The programme combined supply-side interventions aimed at developing digital skills with demand-side measures and the establishment of Durshal community innovation spaces. More than 13,000 young people received digitally employable skills training, including more than 4,000 women, while thousands of participants subsequently reported income from online sources or employment in digital and IT-related sectors (World Bank, 2025). These findings demonstrate the potential economic returns of digital training when it is connected to practical employment and entrepreneurship opportunities.

At the national policy level, Pakistan has also attempted to connect e-commerce development with skills, entrepreneurship, and employment. The country's e-commerce framework has emphasized expanding digital skills programmes, supporting digital marketing, encouraging women entrepreneurs, improving access to finance, and developing online marketplaces (Ministry of Commerce, 2025). The broader employment policy environment similarly identifies employment creation and a more inclusive world of work as important national priorities (ILO, 2024). However, experiences across Pakistan also suggest that training outcomes depend heavily on the surrounding ecosystem. Digital skills programmes are more likely to generate economic benefits when participants have connectivity, access to markets, financial services, mentoring, and opportunities to apply their skills commercially.

2.9 TVET, Digital Skills, and Entrepreneurship in Balochistan

The relationship between TVET, digital skills, and entrepreneurship is particularly important in Balochistan because the province's geographical and economic characteristics limit conventional employment opportunities for many young people. Large distances between settlements and economic centres, relatively weak private-sector development, infrastructure limitations, and unequal access to training and markets create difficulties in connecting young people with productive employment. In this environment, digitally enabled work and entrepreneurship could provide alternative opportunities because certain forms of freelancing, e-commerce, digital services, and online businesses are less dependent on proximity to major industrial and commercial centres. Pakistan's policy emphasis on extending e-commerce skills development to provincial and district levels provides an important basis for expanding these opportunities (Ministry of Commerce, 2025).

However, the relevance of digital TVET in Balochistan ultimately depends on whether training produces measurable livelihood outcomes. Providing courses in information technology, digital marketing, freelancing, or e-commerce may have limited impact if graduates cannot obtain reliable internet access, finance their businesses, receive mentorship, use appropriate payment systems, or reach online markets. Evidence from digital youth initiatives elsewhere in Pakistan indicates that combining training with innovation spaces, entrepreneurship support, and connections to market opportunities can improve outcomes (World Bank, 2025). The challenge for Balochistan is therefore not simply to increase the number of digital training programmes but to establish an integrated pathway connecting training, digital competence, entrepreneurship support, market access, and sustainable income generation.

2.10 Research Gap

The reviewed literature demonstrates considerable scholarly and policy attention to TVET, youth employability, digital skills, entrepreneurship, and the expansion of the digital economy. Existing evidence establishes that market-responsive vocational skills can improve employability, while digitalization and e-commerce can create new channels for employment and entrepreneurship (ILO, 2023, 2024; UNCTAD, 2024; World Bank et al., 2023). Studies and programme evidence

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

from Pakistan further demonstrate that digitally employable skills can generate income and entrepreneurial opportunities when combined with appropriate institutional and market support (World Bank, 2025). Nevertheless, these strands of literature are often examined separately: TVET research tends to focus on skills and employability, while digital-economy research concentrates on connectivity, e-commerce, freelancing, or digital business development.

A more significant gap exists in relation to Balochistan. There remains limited empirical evidence examining the complete transition from TVET participation to digital skills acquisition, e-commerce competency, entrepreneurial intention, actual business creation, self-employment, online economic participation, and income generation among trained youth in the province. There is also insufficient evidence on how internet connectivity, access to finance, digital infrastructure, mentorship, market access, gender, geographical location, and post-training institutional support influence this transition. The present study addresses this gap by examining both the skills acquired through TVET and their actual economic outcomes, while incorporating the perspectives of graduates and relevant stakeholders. In doing so, the study shifts attention from the number of youths trained toward the more important question of whether TVET enables young people in Balochistan to convert digital competencies into sustainable entrepreneurial and livelihood opportunities.

3.1 Human Capital Theory

Human Capital Theory is a useful theoretical lens for understanding the links between education and skills development, and employment, productivity, income, and economic participation. The theory is mainly attributable to Schultz (1961) and Becker (1964) who thought of education, training, knowledge and skills as investments in human capital. This view suggests that if people can invest in their education and training to enhance their productive capacity then they will have more employment opportunities, be more productive and earn more. Becker (1964) especially highlighted the role of education and on-the-job training in improving the stock of knowledge and competency of individuals, and their repercussions for economic returns over time. Thus, TVET from this point of view is an investment in human capital as it enables individuals to acquire occupational and practical skills that are designed to enhance their ability to positively contribute to labour market.

Human Capital theory is especially applicable to the current enquiry as digital skills and ecommerce skills can be viewed as a contemporary form of human capital. Digital marketing, e-commerce, freelancing, online business management, information technology and related skills can be a way to enhance the ability of youth to engage in new economic activity. The theory also poses an empirical issue of this study, whether investments in TVET results in measurables economic returns for trained youth of Balochistan or not. Therefore, the study investigates if the TVET digital skills are correlated with entrepreneurial activities, self-employment, business creation, online work and income generation. Thus, the Human Capital Theory can be used to explain the first part of the proposed relationship between TVET participation, skills acquisition, and subsequent economic outcomes (Becker, 1964; Schultz, 1961).

3.2. The Theory of planned behavior (TPB) and Entrepreneurial intention.

According to Ajzen (1991), the Theory of Planned Behavior (TPB) is a useful framework that can be used to understand the factors that underlie the intention to perform specific behaviors such as entrepreneurship. TPB proposes that behavioural intention is determined by three key factors: attitude toward the behaviour, subjective norms and perceived behavioral control. The attitude is a positive or negative evaluation of the behaviour in question, the subjective norm is the perceived social pressure and acceptance of the behaviour, and perceived behavioral control is the perceived ability and resources to perform a behaviour. Entrepreneurial intention thus is likely to be

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

greater if the person thinks that entrepreneurship is a desirable career, the social environment is supportive, and he or she feels he or she has the necessary skills and control to create and run a business (Ajzen, 1991).

Since then, the theory has been widely used in the field of entrepreneurship research. It is generally a planned and not a spontaneous activity, as reported by Krueger et al. (2000) and hence models based on intentions are useful in explaining entrepreneurial behaviour. Digital training and e-commerce training in the context of the present study could be linked to bolstering entrepreneurial intention through the augmentation of knowledge, confidence, perceived competence, and awareness of business opportunities. But entrepreneurial intentions do not necessarily lead to business start-ups. While a young TVET graduate may want to start a business online, he/she may lack funds, internet access, family or social issues, market access or mentor. TPB thus allows the study to differentiate between entrepreneurial intention and entrepreneurial outcomes and to explore the factors that can facilitate or obstruct the process of turning entrepreneurial intentions into business creation and self-employment (Ajzen, 1991; Krueger et al., 2000).

3.3 Digital Entrepreneurship Perspective

Digital Entrepreneurship Perspective looks beyond the traditional view on entrepreneurship and focuses on the importance of digital technologies in shaping entrepreneurship opportunities and processes as well as business models and markets. Digital entrepreneurship is the adoption of digital technologies in the activities of opportunity discovery, product/service design and development, customer interaction, transaction, enterprise management, and value creation. According to Nambisan (2017), digital technologies have revolutionized entrepreneurship in two ways: first, the nature of entrepreneurial processes has become less bounded due to digital technologies and second, the way entrepreneurial opportunities are identified and pursued has been altered by digital technologies. Likewise, it is important to note that according to Sussan and Acs (2017), digital entrepreneurship is being nurtured in the context of digital ecosystems that include entrepreneurs, users, platforms, institutions, and digital infrastructure.

This has been particularly relevant in the context of Balochistan as digital technologies have the potential to address certain constraints of geographical distance and limited markets. There are opportunities to link trained youth to customers and economic opportunities in other parts of the world — including e-commerce platforms, freelancing marketplaces, social media, digital marketing and online service provision. But an ecosystem is needed to support digital entrepreneurship. However, if entrepreneurs suffer from bad internet connection, lack of access to digital devices and payments, lack of funds, low logistics services or low institutional support, then digital skills might have little effect. The Digital Entrepreneurship Perspective therefore enables the current study to consider entrepreneurship as the result of a combination of digital competencies and the entrepreneurial environment (Nambisan, 2017; Sussan & Acs, 2017).

3.4 Conceptual Framework

Based on Human Capital Theory, Theory of Planned behavior and Digital Entrepreneurship Perspective, this study proposes an integrated conceptual framework for understanding how TVET can help to empower youth in Balochistan for digitally enabled entrepreneurship. The framework starts with participation in TVET and the quality of TVET training, including training in information technology, digital skills, e-commerce, freelancing, digital marketing, online business management and entrepreneurship. Following Human Capital Theory, it would logically be assumed that such training would foster digital knowledge and give market-relevant skills that would boost the productive capacity of young people (Becker, 1964; Schultz, 1961). Thus, the acquisition of digital skills and e-commerce

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

competencies mark the first significant impact of TVET intervention.

The second component relates to the conversion of the skills acquired to entrepreneurial intentions and to economic activity. An increase in skills and knowledge will enhance the self-efficacy, entrepreneurship attitude, perceived behavioral control and the entrepreneurial intention of the youth based on the Theory of Planned Behaviour (Ajzen, 1991). But the model does not differentiate between entrepreneurial intentions and entrepreneurial outcomes. The main variables studied in the present investigation are business creation, self-employment, involvement in ecommerce, freelancing and work online and income generation. This is important as young people can learn skills and build entrepreneurial intentions without successfully starting economic activities that will remain sustainable.

The third is to acknowledge that external factors enable or constrain skills-entrepreneurial outcome relationship. Based on the Digital Entrepreneurship Perspective, this study revealed that Internet connectivity, digital infrastructure, access to finance, mentorship, business incubation, market access, digital payment systems, institutional support, and post-training assistance are important contextual factors (Nambisan, 2017; Sussan & Acs, 2017). A number of factors can either enhance or compromise the capacity of TVET graduates for digital skills to translate to entrepreneurial outcomes. There may also be variations in outcomes among trained youth across gender, geographical location, education, and socio-economic status.

4. Research Methodology

The study is a mixed method research, which includes both quantitative and qualitative approach, to get a holistic idea of the impact of digital skills and e-commerce training among the youth of Balochistan. The quantitative component emphasizes measuring how many of the TVET graduates have acquired digital skills, how well they possess e-commerce skills, their entrepreneurial intention, self-employment, business creation, participation in the online economy, and income-generating outcomes. The qualitative research is used to complement the survey findings and provide deeper insights into the experiences and institutional views of existing training programmes in terms of effectiveness, relevance and limitations. The study is carried out in the selected districts of Balochistan wherein Technical and Vocational Education and Training (TVET) institutions provide programmes on information technology, digital skills, freelancing, e-commerce, digital marketing, entrepreneurship and other digitally inclined jobs. TVET institutions and programmes are purposefully selected to focus the study on training that is more directly relevant to digital jobs and digital entrepreneurship, rather than traditional (vocational) training. The study population are mainly young men and young women who have a background in relevant TVET programmes over the last few years. Moreover, representatives from the TVET institutions, trainers, successful youth entrepreneurs, employers, and other government and institutional stakeholders are also involved in the qualitative part to have a wider perspective on training quality, relevance of training, youth entrepreneurship opportunities, and institutional support.

For the quantitative part a multistage sampling is used. Districts and TVET institutions that provide relevant digital and e-commerce programmes are selected through a purposive approach in the first stage. The second stage involves the selection of the graduates based on available institutional records, by proportionate and if possible, random sampling to obtain representation across programmes, gender and geographical areas. The size of the final sample is based on the numbers of the population of graduates and the accepted statistical sampling procedures. Data collection, data is collected using a structured questionnaire given to the TVET graduates. The questionnaire includes sections on socio-demographic characteristics, type of training received, duration of the training, e-skills acquired, e-commerce skills acquired, entrepreneurial intention, job, self-

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

employment, creation of businesses, freelancing and online work, and income-generating activities. The perception-based variables are measured on a five-point Likert scale from Strongly Disagree to Strongly Agree, whereas actual outcomes like employment status, business ownership, involvement in e-commerce, freelancing and income generation are measured using categorical and numerical questions. Qualitative data was collected through semi-structured interviews with purposive key informants (TVET administrators, trainers, entrepreneurs, employers and relevant government and institutional representatives). Interviews reveal the market relevance of training, graduates' ease of access to entrepreneurship, new business opportunities, market gaps, access to finance, internet connectivity, mentorship, market access, gender-related issues, and post-training support.

The quantitative data are analysed in the proper statistical software. To present the characteristics of the respondents, their training experiences, skills acquired, and their entrepreneurial outcomes, descriptive statistics such as frequencies, percentages, mean and standard deviation are used. Major variables are compared and related using cross-tabulations and appropriate inferential statistical techniques. Relationships between digital skills, e-commerce skills, entrepreneurial intention and economic outcomes (self-employment, business creation, online work and income generation) are explored, where relevant, using correlation and regression analysis. Thematic analysis is used to analyse qualitative interview data, which includes familiarisation with the data, coding, searching for themes, organising themes into themes and interpretation in relation to the study's aims. Specific attention is paid to topics related to training relevance, digital infrastructure, connectivity, financing, mentorship, market access, institutional support and barriers to entrepreneurship. The quantitative and qualitative elements' research results are then compared to determine the convergent and divergent aspects, as well as to give a better explanation on the TVET outcomes.

Cronbach's alpha is used to measure the reliability of multi-item scales on questionnaires, and content validity is enhanced by an experts' evaluation and congruence of the research instrument with the study aims and concept. Pilot test is done to detect any confusing or unclear items in the instrument before the actual data collection for further instrument refinement. All ethical guidelines regarding voluntary participation, informed consent, confidentiality, anonymity and the right to withdraw are followed during the research process. In reporting the findings no personally identifiable information is disclosed. Last but not least, the study recognizes the limitations related to the selected TVET institutions and district, some self-reported outcome and the differences in training programmes and also the potential problems in tracing the TVET graduates after training. While these limitations may limit broader generalisation, inclusion of multiple stakeholder perspectives and the use of mixed methods are anticipated to offer strong evidence on the linkages between TVET, digital skills, e-commerce and youth entrepreneurship in Balochistan.

5. Profile of TVET Graduates and Training Programmes

It is crucial to know the nature of the business courses taught, and the characteristics of the TVET graduates to measure the impact of TVET on employment and entrepreneurship. Access to training is not the only factor that affects the effectiveness of TVET but also other factors such as the level of education, relevance and length of courses, practical exposure, and integration of entrepreneurship and market-oriented aspects. According to the World Bank, International Labour Organization and UNESCO (2023), effective TVET systems must be responsive to the evolving labour market and prepare young people for technical and digital skills as well as transferable skills. Profiling of graduates and training experiences is crucial in the Balochistan context as geographical differences, limited job opportunities, inequality in digital access and

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal

ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

educational attainment may affect how graduates convert skills acquired through training to job creation, self-employment and entrepreneurship.

5.1. The Socio-demographic profile of the respondents is presented below:

The socio-demographic profile gives the fundamental background to understanding who is taking digital and vocational training and if there are differential outcomes from post-training. This study takes age, gender, marital status, district, rural/urban, education, and other socio-economic factors relevant to the respondents to be taken into consideration. The importance of age is particularly relevant as the study is on young people in the transition from education and training to work. Gender and geographical location also play an important role as opportunities for participation in training and digital economic activities can be very different for men and women, and for geographically remote and urban communities.

This is especially applicable to Balochistan, where the labor force is less evenly engaged in the economy and opportunities are limited. According to the Labour Force Survey (2024-25) there are key provincial and gender gaps in employment and participation in education and training in Pakistan (Pakistan Bureau of Statistics [PBS], 2025). While digital entrepreneurship can potentially help to overcome some geographical constraints, it may also be creating new inequalities as some young people may not have access to the same connectivity, devices, education and financial resources. A comparison of the respondents by gender, location, education, and socio-economic characteristics makes it possible to show who is gaining the most advantage and who is less from the digital opportunities provided through TVET, and thus pinpoint the disadvantaged groups.

5.3 Other Evidence of English Language Learning

The level of education can have a profound impact on the abilities to acquire and apply technical and digital skills. The level of formal education, computer literacy, knowledge of English language, prior vocational training and knowledge of digital technologies may vary for TVET participants. These variations can impact learning outcomes in disciplines like e-commerce, digital marketing, web development, graphic design and freelancing. Human capital theories argue that more education and training fosters productive capacities and better economic outcomes, provided they are skills demanded by the market (Becker, 1964). Respondents' educational qualifications are therefore important to consider in conjunction with the vocational and digital skills they have acquired through the training.

Employed versus not employed before and after TVET participation offers valuable information about the outcomes of a TVET programme. Respondents may have been unemployed, students, unpaid family workers, wage employees, self-employed workers, or have been involved in small businesses prior to training. Upon completion of the training they can move to salaried job, freelance job, online work, self-employment and entrepreneurship. Employability and market relevant skills is one of the important goals of the national youth skills programmes as highlighted by NAVTC (n.d.). Therefore, in the present study the employment status of the respondents before and after the training is compared to determine if participation in digital TVET is linked to better employment, self-employment, business activity or income-generating opportunities.

5.4. Type of TVET and Digital Training received

One of the most important factors that influence graduates' opportunities after completion of a programme is related to the kind of training they have undertaken. Traditional TVET programmes have tended to emphasize occupations whereas demands of the changing labour markets have grown with respect to information technology and digitally oriented skills. According to ILO (2023), digital transformation is reshaping occupational structures and altering the skills demanded by jobs,

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

which means that the vocational education systems need to reshape their curricula. In Pakistan, national skills programmes have also shifted their focus to more high tech and market-oriented training, as well as traditional vocational education (NAVTTC, n.d.).

Relevant training for this study could be information technology, digital marketing, graphic design, web design and development, ecommerce, freelancing, social media management, content creation and any other skill employed in an occupation that is enabled by the use of information technology. The resulting commercial application and market need for each skill may be varied, and hence, the outcome of these programmes may not be identical. Analysis of graduates by type of training thus allows to compare whether certain training programmes are more strongly linked to employment, the self-employment, entrepreneurship, creation of a business or income generation. It also indicates if the existing TVET programme mix aligns with the new opportunities in the Digital Economy of Pakistan.

The length of training is another element that may impact the level of knowledge and competencies participants get from training. Digital TVET programmes can vary from short introductory courses to certificate and diploma courses of longer duration. Short-term training programmes can offer quicker exposure to particular technologies and longer programmes may offer more practical learning, assignments, and interaction with trainers and development of projects. But length of time is not the only factor that makes training effective. Relevant curricula, effective teaching, practical learning opportunities, competent instructors, and responsiveness to labour-market needs are essential components of quality TVET, according to the World Bank, ILO and UNESCO (2023).

Training in particular is crucial for the digital entrepreneurship as it's hard to build the practical skills by only theoretical training. Good programmes should offer trainees the chance to experience real-life digital applications, to work on projects, to set up online profiles or portfolios, to produce marketing material, to simulate online transactions and to gain insight into the way that a digital business works. Graduates can benefit in their self-confidence in applying their skills after training through practical exposure. Interestingly, the focus of this study is not only the length of training, but also the ratio of theory to practice to see if participants were getting enough practical training to be able to use their skills for profit.

5.5 Digital Tools and Platforms to be Trained

Digital tools and online platforms are a key part of today's skills development as digital work is increasingly demanding practical knowledge of the tools for delivering services, creating content, business management, and communication. The ILO (2023) highlights that technological transformation is driving a rise in the need for digital skills in various job roles. Digital literacy needs to go beyond individual computer use, however, and include the productive use of technologies for work and enterprise.

Trainings can include tools and platforms that are applied in graphic design, website construction, digital marketing, social media management, freelancing and online selling, customer communication, and digital payment. By being exposed to relevant platforms, graduates can build portfolios, connect with potential customers, market products and services and operate online businesses. But whether such exposure is effective depends on whether or not the trainees have built enough practical skill to be able to use these tools after their training programmes have ended. The research focuses then on the digital tools introduced during training, as well as on the use of the tools by the graduates to find work, freelance, carry out e-commerce and/or business activities.

5.6. Entrepreneurship and E-Commerce Components of Training

Entrepreneurship education is a relevant complement to technical and digital skills; having a technical competency does not mean having the

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

necessary knowledge to create and run a business. Entrepreneurial development includes identifying opportunities, planning, financial management, pricing, marketing, customer relations, risk assessment, and strategic decision making. The Theory of Planned Behavior posits that knowledge, attitude and perceived capabilities and confidence can impact entrepreneurial intention (Ajzen, 1991). It is therefore possible that entrepreneur education may be introduced into TVET to ensure that the trainees are exposed to the possibilities of turning their technical skills into marketable products/services.

Ecommerce training further enhances these possibilities by the acquisition of experience in using digital technologies to connect with customers and engage in business. The e-Commerce Policy framework in Pakistan prioritizes digital skills, financial inclusion, digital payments, and the promotion of entrepreneurship and businesses to engage in e-commerce markets (Ministry of Commerce, 2025). Digital-skills programmes worldwide, including Pakistan, also indicate that training and entrepreneurship support, innovation spaces, mentorship, and market linkages can foster more robust outcomes in employment and income. Hence, this study aims to investigate and find out whether the TVET programmes in Balochistan offer entrepreneurship education, e-commerce training, business planning, digital marketing, financial education, mentoring, incubation service, information on access to finance, and post training support. These components are relevant to understand if the graduates could reach beyond the skills acquisition and transform their skills into enterprise creation, self-employment, being active in the digital markets, and sustainable income generation.

6. Digital Skills and E-Commerce Competencies

Digital competencies have become increasingly important for employment and entrepreneurship as economic activities move toward technology-enabled forms of production, communication, marketing, and service delivery. Digital skills range from basic abilities, such as operating computers and communicating online, to intermediate and advanced competencies involving content creation, digital marketing, e-commerce, freelancing, data management, and online business operations. The International Labour Organization (ILO, 2023) argues that digital transformation is changing the demand for skills across economies and requires education and training systems to respond accordingly. For TVET graduates in Balochistan, the value of digital training therefore depends on whether programmes develop competencies that can be practically applied to employment, entrepreneurship, and income-generating activities.

6.1 Level of Digital Skills Acquired through TVET

The level of digital skills acquired through TVET is an important indicator of programme effectiveness. Digital skills include basic computer literacy as well as the ability to use software, communicate digitally, search for information, create digital content, manage online accounts, and use specialized applications. More advanced competencies can include website development, graphic design, digital marketing, e-commerce management, and other technology-based skills. According to the ILO (2023), digital transformation has created demand for different levels of digital competency, making continuous skills development increasingly important for employability.

The study therefore assesses whether TVET graduates possess basic, intermediate, or advanced digital competencies and whether they can independently apply acquired skills after completing training. This distinction is important because participation in a digital course does not necessarily indicate practical competence. For young people in Balochistan, meaningful outcomes require the ability to convert classroom-based learning into productive activities, including employment, freelancing, entrepreneurship, and online service provision.

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

6.2 E-Commerce Knowledge and Practical Competencies

E-commerce competencies include understanding how products and services can be promoted, sold, purchased, and managed through digital channels. Practical skills may include creating product listings, communicating with customers, processing orders, understanding pricing, managing online stores, arranging payments, and coordinating delivery. UNCTAD (2024) emphasizes that e-commerce has expanded opportunities for firms and individuals to reach markets through digital platforms, although participation remains uneven across developing economies.

The study assesses both theoretical knowledge and practical e-commerce capabilities among TVET graduates. This distinction is necessary because knowing the concept of e-commerce does not necessarily enable a graduate to establish or operate an online business. Effective e-commerce training should provide practical exposure to online marketplaces, customer management, digital transactions, product promotion, and basic logistics. Pakistan's e-commerce policy framework similarly emphasizes skills development, digital payments, entrepreneurship, and market access as important components of digital commerce development (Ministry of Commerce, 2025).

6.3 Social Media and Digital Marketing Skills

Social media has developed from a communication medium into an important commercial tool through which businesses advertise products, communicate with customers, build brands, and generate sales. Digital marketing competencies include content creation, social media management, online advertising, search-related skills, customer engagement, and analysis of digital audiences. Such skills can be particularly valuable for small entrepreneurs because digital promotion can provide relatively low-cost access to potential customers.

For youth in Balochistan, social media and digital marketing may provide opportunities to overcome some limitations of small local markets by increasing the visibility of products and services. The study therefore examines whether graduates have acquired practical skills for developing business pages, creating promotional content, engaging customers, conducting digital marketing campaigns, and using social media for commercial purposes. These competencies are considered important components of digitally enabled entrepreneurship and e-commerce (UNCTAD, 2024).

6.4 Freelancing and Online Work Skills

Freelancing has emerged as an important component of digitally enabled employment because individuals can provide services to clients without conventional employer-employee relationships. Skills commonly associated with online work include graphic design, writing, programming, digital marketing, web development, virtual assistance, and other professional services. Evidence from Pakistan demonstrates that digital-skills programmes can connect young people with online income opportunities when training is appropriately linked with practical market access (World Bank, 2025).

The study examines whether TVET graduates understand how freelancing platforms operate and whether they possess skills related to profile development, portfolio preparation, client communication, project management, pricing, bidding, and online service delivery. Particular attention is given to whether graduates have actually attempted or secured online work after completing training. This distinction helps evaluate whether freelancing training produces practical labour-market outcomes rather than merely awareness of online platforms.

6.5 Online Business Management Skills

Operating a sustainable digital enterprise requires more than technical knowledge. Entrepreneurs must manage customers, products, finances, inventory, marketing, pricing, orders, and business growth. Digital business management also involves maintaining an online presence,

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

responding to customer feedback, monitoring sales, and adapting products and services to changing market conditions. These competencies connect technical digital skills with broader entrepreneurial capability.

The present study assesses whether graduates received training that enabled them to manage different aspects of online enterprises. Particular attention is given to business planning, customer relations, pricing, record keeping, inventory management, online promotion, and order processing. Such competencies are essential because digital entrepreneurship requires the integration of technological knowledge with conventional business-management capabilities (Nambisan, 2017).

6.6 Digital Payment and Financial Skills

Digital financial capability is increasingly necessary for participation in e-commerce because online businesses depend on mechanisms for receiving and making payments. Digital financial skills include understanding electronic transactions, mobile banking, digital wallets, online transfers, transaction security, financial record keeping, and basic financial management. Pakistan's e-commerce policy framework recognizes digital payments and financial inclusion as essential components of expanding participation in online commerce (Ministry of Commerce, 2025).

The study therefore examines graduates' familiarity with digital payment methods and their ability to manage basic business finances. Limited access to formal banking services or difficulties in conducting digital transactions can restrict participation in online markets even when individuals possess adequate technical skills. Financial literacy and digital payment capability are consequently treated as important supporting competencies for converting training into sustainable entrepreneurial activity.

6.7 Perceived Relevance of Training to Market Requirements

Market relevance represents a central measure of TVET effectiveness. Training programmes can produce limited employment outcomes when curricula are disconnected from employer requirements, technological developments, or consumer demand. The World Bank, ILO, and UNESCO (2023) emphasize that effective TVET systems should be demand-driven and closely connected to labour-market requirements.

The study examines graduates' perceptions regarding whether their training reflects current market opportunities and whether acquired skills can be commercially applied. It also considers stakeholder perspectives regarding curriculum relevance and emerging digital skills requirements. Assessing market relevance helps determine whether TVET institutions in Balochistan are preparing graduates for existing economic opportunities or providing competencies with limited practical demand.

7. Outcomes of TVET for Youth Entrepreneurship

The ultimate effectiveness of digital TVET should be assessed through the economic outcomes experienced by graduates rather than training completion alone. Human Capital Theory suggests that investment in education and training should enhance productive capabilities and generate economic returns (Becker, 1964). Accordingly, this study considers entrepreneurial intention, self-employment, business creation, e-commerce participation, freelancing, income generation, and employment creation as important indicators of TVET outcomes.

7.1 Entrepreneurial Intention among TVET Graduates

Entrepreneurial intention represents an individual's willingness and planned commitment to establish a business or become self-employed. Ajzen's (1991) Theory of Planned Behavior suggests that intention is influenced by attitudes, subjective norms, and perceived behavioral control. Skills training can potentially strengthen entrepreneurial intention by increasing knowledge, confidence, and perceptions of personal capability.

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal

ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

The study assesses whether TVET graduates intend to establish businesses, participate in e-commerce, undertake freelancing, or pursue self-employment. It also considers whether training has changed respondents' perceptions of entrepreneurship as a viable career pathway. This provides an important connection between skills acquisition and subsequent entrepreneurial behaviour.

7.2 Transition from Training to Self-Employment

Transition to self-employment represents a more concrete outcome than entrepreneurial intention. In regions with limited salaried employment, self-employment can provide an alternative pathway for economic participation. However, the quality and sustainability of self-employment are important because informal or low-productivity activities may generate unstable incomes (ILO, 2024).

The study therefore examines the proportion and characteristics of graduates who move into self-employment following training, the activities they undertake, and the extent to which their work utilizes competencies acquired through TVET. This allows assessment of whether digital training contributes directly to graduates' economic participation.

7.3 Establishment of New Businesses

Business creation is one of the strongest indicators that entrepreneurship training has translated into actual economic activity. Establishing an enterprise requires individuals to move beyond intention by mobilizing skills, finance, customers, and other resources. Entrepreneurship research emphasizes that intention is important but does not automatically lead to business creation (Krueger et al., 2000).

The study examines whether graduates established businesses following their training, the types of enterprises created, whether they operate physically or digitally, and whether they remain active. Attention is also given to the role of TVET training in business establishment and the factors that enabled or constrained enterprise sustainability.

7.4 Participation in E-Commerce and Online Markets

Participation in online markets provides graduates with opportunities to reach customers beyond their immediate communities. E-commerce can be particularly valuable in geographically dispersed regions by reducing certain physical barriers to market access. However, effective participation requires digital capabilities, connectivity, payments, logistics, and customer trust (UNCTAD, 2024).

The study assesses whether graduates sell goods or services online, use social media commercially, operate online stores, or participate in digital marketplaces. It also considers the frequency and sustainability of these activities to distinguish occasional online transactions from established digital entrepreneurship.

7.5 Freelancing and Digitally Enabled Employment

Freelancing and digitally enabled employment represent important alternatives to conventional employment, particularly for young people with marketable digital competencies. Pakistan's experience demonstrates that appropriately designed digital-skills interventions can contribute to online income and employment opportunities (World Bank, 2025).

The study examines whether graduates undertake freelance work, remote employment, digital services, or other forms of online economic activity. It further assesses the relationship between specific training programmes and graduates' ability to obtain clients and generate regular work.

7.6 Income-Generating Outcomes

Income generation is an important indicator of the economic value of skills training. Training that develops competencies without producing employment or earnings may have limited livelihood impact. Human Capital Theory

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

predicts that productive investments in skills can produce economic returns when those skills are effectively utilized (Becker, 1964).

The study therefore examines whether graduates generate income from skills acquired through TVET and whether their earnings have improved following training. Where reliable data are available, differences in income across training types, employment categories, gender, and location are also assessed.

7.7 Employment Creation for Others

Entrepreneurship can contribute to employment not only for business owners but also for other workers. Enterprises that expand beyond individual self-employment may generate additional jobs and contribute more broadly to local economic development. This makes employment creation an important indicator of entrepreneurial impact.

The study examines whether businesses established by TVET graduates employ other individuals and the number and nature of jobs generated. Although many youth enterprises may initially operate as microbusinesses, their capacity to create employment provides an additional measure of the wider economic contribution of TVET-supported entrepreneurship.

7.8 Differences in Outcomes by Gender, Location, Education, and Type of Training

Entrepreneurial outcomes are unlikely to be uniform across all graduates. Gender, rural or urban residence, educational background, socio-economic circumstances, and type of training may influence access to markets, technology, finance, mobility, and business opportunities. Digital divides can consequently produce unequal benefits from otherwise similar training interventions (UNCTAD, 2024).

The study compares employment and entrepreneurship outcomes across different categories of graduates. Such analysis can identify whether women, rural youth, less-educated graduates, or participants in particular programmes experience systematically different outcomes. This evidence can help policymakers develop more targeted and inclusive TVET interventions.

8. Barriers to Digital Entrepreneurship in Balochistan

Despite the potential of digital entrepreneurship, skills alone cannot overcome all structural constraints affecting youth economic participation. The digital entrepreneurship ecosystem perspective emphasizes interaction between entrepreneurs, technology, infrastructure, markets, institutions, and financial systems (Sussan & Acs, 2017). In Balochistan, several interconnected barriers may prevent TVET graduates from converting skills into sustainable businesses and employment.

8.1 Limited Internet Connectivity

Reliable and affordable internet connectivity is a basic requirement for e-commerce, freelancing, digital marketing, and remote employment. Without consistent connectivity, entrepreneurs cannot communicate effectively with clients, manage online businesses, access platforms, or process transactions.

Connectivity challenges can have particularly serious consequences in remote areas of Balochistan. The study therefore examines whether internet availability, reliability, speed, and affordability affect graduates' ability to participate in digital economic activities. Connectivity is treated as an enabling condition rather than merely a technological convenience.

8.2 Digital Infrastructure Constraints

Digital entrepreneurship also depends on access to electricity, computers, smartphones, appropriate software, workspaces, and other technological resources. UNCTAD (2024) emphasizes that unequal access to digital infrastructure contributes to persistent disparities in participation in the digital economy.

Graduates from lower-income households may acquire digital skills during institutional training but struggle to apply them when they lack devices,

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

software, electricity, or suitable workspaces after graduation. Such constraints can create a gap between training completion and practical utilization of acquired competencies.

8.3 Access to Finance and Startup Capital

Access to finance is a major challenge for young entrepreneurs because establishing even a small digital enterprise may require investment in devices, internet services, software, marketing, inventory, or other resources. Young graduates frequently lack collateral, credit histories, savings, and relationships with formal financial institutions.

The study examines whether financial constraints prevent graduates from establishing or expanding businesses. It also assesses awareness and accessibility of loans, grants, startup funds, and other financing mechanisms. Entrepreneurship-oriented TVET may produce stronger outcomes when graduates can connect training with appropriate financial support.

8.4 Limited Access to E-Commerce Markets and Platforms

Access to online markets involves more than internet availability. Entrepreneurs must understand platform requirements, develop credible profiles, reach customers, compete effectively, and manage transactions and delivery. UNCTAD (2024) notes that participation in e-commerce remains uneven, particularly among developing economies.

Young entrepreneurs in Balochistan may face additional challenges associated with distance, logistics, limited business networks, and insufficient familiarity with major online marketplaces. The study therefore examines both technical and market-related barriers affecting participation in e-commerce.

8.5 Lack of Mentorship and Business Incubation

New entrepreneurs often require guidance during the transition from training to business creation. Mentors and incubation centres can assist with business planning, market identification, networking, financing, problem solving, and enterprise development.

Evidence from digital initiatives in Pakistan indicates the value of combining skills training with innovation spaces and entrepreneurship support (World Bank, 2025). The study consequently examines whether TVET graduates in Balochistan have access to mentors, incubators, professional networks, and other forms of business-development assistance.

8.6 Weak Post-Training Support

Training programmes frequently concentrate resources on course delivery while providing limited assistance after graduation. However, the period immediately following training may be critical because graduates must find employment, clients, finance, or markets and apply newly acquired competencies.

Post-training support can include career counselling, job placement, mentorship, alumni networks, business development, market linkage, and follow-up services. The study assesses whether such mechanisms exist and whether their availability affects graduates' transition into employment and entrepreneurship.

8.7 Digital Payment and Banking Constraints

E-commerce and freelancing depend on reliable mechanisms for receiving and transferring money. Limited banking access, difficulties with international payments, lack of financial literacy, and concerns regarding transaction security can restrict digital entrepreneurship.

Pakistan's e-commerce policy recognizes the importance of digital payments and financial inclusion for developing online commerce (Ministry of Commerce, 2025). The study therefore considers whether payment and banking constraints affect graduates' ability to undertake domestic and international digital transactions.

8.8 Gender and Socio-Cultural Barriers

Women may experience additional constraints in accessing training, employment, technology, finance, markets, and entrepreneurial networks.

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal

ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

Social expectations regarding mobility and employment can also influence women's ability to participate in conventional economic activities.

Digital entrepreneurship may offer opportunities for home-based and flexible economic participation, but digital access alone cannot eliminate structural gender inequalities. The study examines whether female graduates experience distinct barriers and whether TVET programmes provide appropriate support for women's participation in digital entrepreneurship.

8.9 Geographic and Rural-Urban Disparities

Balochistan's large geographical area and dispersed population create significant challenges for equal access to training, infrastructure, markets, and support services. Urban graduates may have better connectivity and proximity to institutions, financial services, and business networks than those living in rural or remote districts.

These geographical inequalities may influence both skills acquisition and post-training outcomes. The study therefore compares rural and urban experiences to determine whether location significantly affects participation in digital employment, freelancing, e-commerce, and entrepreneurship.

8.10 Institutional and Policy Challenges

An effective digital entrepreneurship ecosystem requires coordination among TVET institutions, government departments, industry, financial institutions, digital platforms, and business-support organizations. Fragmented programmes, outdated curricula, weak labour-market information, inadequate monitoring of graduate outcomes, and limited industry involvement can reduce the effectiveness of skills initiatives. The World Bank, ILO, and UNESCO (2023) emphasize the importance of responsive governance, employer engagement, financing, and evidence-based management in strengthening TVET systems.

For Balochistan, policy effectiveness therefore requires moving beyond the number of trainees enrolled or certified toward measuring actual outcomes. TVET policy should connect training with digital infrastructure, entrepreneurship development, financing, incubation, market access, and systematic graduate tracking. Addressing these institutional constraints can help transform TVET from a predominantly training-oriented system into an employment- and entrepreneurship-oriented pathway capable of supporting sustainable digital livelihoods among Balochistan's youth..

9. Stakeholder Perspectives on TVET and Digital Entrepreneurship

Stakeholder perspectives are important for understanding how effectively Technical and Vocational Education and Training (TVET) responds to emerging opportunities in digital employment and entrepreneurship. While graduates provide information about their training experiences and post-training outcomes, TVET providers, entrepreneurs, employers, government departments, and other institutional stakeholders can provide broader insights into curriculum relevance, labour-market requirements, skills gaps, and institutional challenges. Effective TVET systems require interaction between training institutions and labour-market actors so that programmes remain responsive to technological and economic changes (World Bank, ILO, & UNESCO, 2023). In Balochistan, such perspectives are particularly important because the success of digital skills initiatives depends not only on training provision but also on connectivity, market access, entrepreneurship support, finance, and coordination among relevant institutions.

9.1 Perspectives of TVET Providers

TVET providers occupy a central position in developing the skills required for employment and entrepreneurship. Their perspectives can help explain how training programmes are selected, curricula are developed, instructors are prepared, and emerging market requirements are incorporated into course delivery. Digital transformation has increased pressure on vocational institutions to move beyond traditional

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

occupational training and introduce competencies related to information technology, digital marketing, freelancing, e-commerce, and other technology-enabled occupations. The ILO (2023) emphasizes that rapidly changing technologies require skills-development institutions to continuously respond to new occupational demands.

From the perspective of this study, TVET providers can also identify practical constraints affecting the delivery of digital training in Balochistan. These may include inadequate equipment, limited internet facilities, shortages of qualified instructors, outdated curricula, insufficient practical training, and difficulties maintaining links with industry. Providers can further explain whether programmes include entrepreneurship education, practical projects, market exposure, career counselling, mentorship, and post-training assistance. The World Bank, ILO, and UNESCO (2023) emphasize that the effectiveness of TVET depends on institutional capacity, labour-market relevance, qualified teachers, employer engagement, and mechanisms for monitoring outcomes. Provider perspectives therefore help assess whether institutions possess the resources and institutional arrangements necessary to translate training into employability and entrepreneurship.

9.2 Experiences of Successful Youth Entrepreneurs

The experiences of young entrepreneurs who have successfully converted digital competencies into businesses or income-generating activities provide valuable evidence about the transition from training to entrepreneurship. Their experiences can reveal how acquired skills are practically used, which digital markets offer opportunities, how customers are identified, and what strategies help overcome initial barriers. Digital entrepreneurship research demonstrates that technologies can transform entrepreneurial processes by enabling individuals to identify opportunities, reach customers, and organize business activities in new ways (Nambisan, 2017).

Successful entrepreneurs can also provide insights into challenges that formal training may not fully address. Establishing an enterprise frequently requires persistence, business networks, access to finance, customer management, marketing capability, and continuous learning in addition to technical skills. Their experiences can identify which components of TVET were useful and which competencies were acquired independently after graduation. Evidence from digital-skills interventions in Pakistan demonstrates that young people can generate online income and establish enterprises when training is connected with practical opportunities and entrepreneurship support (World Bank, 2025). Successful cases can therefore provide important lessons for designing more effective pathways from TVET participation to sustainable digital entrepreneurship in Balochistan.

9.3 Employers' Assessment of Digital Skills

Employers provide an important external assessment of whether the competencies developed by TVET institutions correspond with actual workplace requirements. Training providers and graduates may perceive particular competencies as sufficient, while employers may identify deficiencies in technical knowledge, practical experience, communication, problem solving, professionalism, and adaptability. Employer feedback is therefore essential for identifying mismatches between training provision and labour-market demand. The World Bank, ILO, and UNESCO (2023) emphasize that employer involvement is fundamental to making TVET systems more responsive and improving the transition from training to employment.

In the digital economy, employer expectations are also continuously changing as technologies, platforms, and business practices evolve. Employers may require graduates to possess combinations of technical and transferable competencies rather than isolated digital skills. For example, digital marketing may require content development, communication, data interpretation, customer engagement, and

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

familiarity with multiple platforms. The study therefore examines employers' assessment of graduates' technical proficiency, practical competence, communication ability, problem-solving capacity, workplace readiness, and ability to adapt to new technologies. These perspectives can help determine whether existing TVET programmes in Balochistan are producing skills that correspond with current employment and commercial requirements.

9.4 Perspectives of Government and Institutional Stakeholders

Government departments and institutional stakeholders play an important role in determining the broader policy and institutional environment within which TVET and digital entrepreneurship operate. Their responsibilities may include skills policy, programme financing, curriculum development, certification, employment promotion, entrepreneurship support, digital infrastructure, financial inclusion, and private-sector development. Pakistan has increasingly recognized the importance of market-driven and high-tech skills through national youth skills initiatives, while its e-commerce framework emphasizes digital skills, entrepreneurship, digital payments, financial inclusion, and market access (Ministry of Commerce, 2025; NAVTTC, n.d.).

Stakeholder perspectives are particularly useful for identifying coordination problems and implementation gaps. Digital entrepreneurship cuts across several policy areas, meaning that no single institution can independently address all the requirements of young entrepreneurs. Effective interventions require coordination among TVET authorities, educational institutions, information technology departments, financial institutions, business-development organizations, industry, and the private sector. Institutional stakeholders can therefore provide information regarding existing programmes, funding mechanisms, partnerships, monitoring systems, and future priorities. Their perspectives also help determine whether current policies sufficiently address the specific geographical and socio-economic conditions of Balochistan.

9.5 Skills Gaps Identified by Stakeholders

Identifying skills gaps is necessary for ensuring that TVET curricula remain responsive to labour-market and entrepreneurial requirements. A skills gap occurs when graduates possess qualifications but lack some of the competencies required by employers or markets. Rapid technological transformation can widen such gaps because technologies and business practices may change more quickly than formal training curricula. The ILO (2023) emphasizes that digitalization is continuously changing skills demand and requires training systems to develop mechanisms for identifying and responding to emerging competencies.

Stakeholders may identify gaps in both technical and non-technical areas. Technical gaps may include advanced digital marketing, e-commerce management, web development, graphic design, data-related skills, online payment systems, and platform-specific competencies. At the same time, graduates may require stronger communication, English-language proficiency, problem solving, financial literacy, customer management, business planning, and entrepreneurial skills. Successful digital entrepreneurship often requires combinations of these competencies rather than mastery of a single technical skill. Stakeholder identification of such gaps can therefore provide evidence for curriculum revision, instructor development, and introduction of more practical and market-responsive training.

9.6 Opportunities for Improving TVET–Market Linkages

Strengthening linkages between TVET institutions and markets is essential for improving employment and entrepreneurship outcomes. Training institutions require regular information about emerging occupations, employer requirements, technological changes, and market opportunities. At the same time, employers and businesses can contribute to curriculum

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

development, practical training, internships, mentoring, assessment, and recruitment. International evidence emphasizes that effective engagement between employers and TVET institutions can improve the relevance and quality of training and facilitate graduates' transition into productive employment (World Bank, ILO, & UNESCO, 2023).

For Balochistan, stronger TVET–market linkages should extend beyond conventional employer partnerships to include the digital economy and entrepreneurship ecosystem. Training institutions can develop partnerships with technology firms, e-commerce businesses, freelancing communities, financial institutions, business incubators, digital platforms, and successful entrepreneurs. Practical projects, internships, mentorship programmes, incubation facilities, entrepreneurship competitions, access-to-finance mechanisms, and graduate tracking can further strengthen the transition from training to economic activity. Evidence from Pakistan indicates that combining digital-skills training with innovation spaces and entrepreneurship support can create pathways toward online income and business development (World Bank, 2025). A stronger TVET–market linkage model for Balochistan should therefore connect training institutions, graduates, employers, entrepreneurs, markets, finance, technology, and government support, shifting the focus from the number of individuals trained toward sustainable employment, entrepreneurship, and income-generating outcomes.

10. Discussion

As digitalization impacts the nature of employment and economic participation, the relevance of the connection between TVET, digital skills, and youth entrepreneurship has grown. Digital skills can offer alternative opportunities for formal employment and private-sector growth in Balochistan, where job prospects are relatively limited. But TVET effectiveness should not only be measured based on enrolment or certification, but whether TVET graduates gain market-relevant skills and translate it into sustainable economic activities. Hence, attention is paid to the link between training, skill acquisition, entrepreneurship intention, business creation, self-employment and income generation, as well as the conditions and structures which affect the above.

The relationship between TVET and Digital Skills Acquisition is as follows: 10.1 Relationship between TVET and Digital Skills Acquisition

TVET offers an institutional pathway for youths to learn occupational and more and more digital skills. An investment in education and training increases an individual's productive capacity and this can lead to better outcomes in the labour market, as viewed from a Human Capital Theory perspective (Becker, 1964; Schultz, 1961). The connection is especially significant with digital technologies in an increasing number of occupations. The ILO (2023) states that the digital transformation has been affecting the demand for skills, and that education and training systems must constantly evolve with technological and labour market changes. Hence, TVET programs with digital marketing, e-commerce, information technology, freelancing, graphic designing, website designing and any other technology-oriented skills can lead to building the digital human capital of the youth.

In Pakistan, the vocational-training system has already taken a step towards this. The Prime Minister's Youth Skill Development Program has been providing high-tech training courses, like e-commerce, digital marketing and search engine optimization, web development, artificial intelligence, cloud computing, graphic design and so on (NAVTTC, 2024). But what matters for Balochistan is if the exposure to such training also leads to actual skills. When graduates can use their digital skills without assistance to solve problems, deliver services, communicate with clients, market products or engage with digital platforms, then they are valuable. Thus, the role of TVET in digital skills acquisition is highly reliant on training quality, hands-on exposure, competency of trainers, technological facilities and relevance of training to the evolving market demands.

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

10.2 Digital Skills and Entrepreneurial Intention

Digital skills can impact on entrepreneurial intention as they enhance individuals' confidence to see and take on economic opportunities. The Theory of Planned Behavior (TPB) suggests that attitudes towards entrepreneurship, subjective norms and perceived behavioral control (PBC) influence entrepreneurial intention (Ajzen, 1991). Practical digital skills may increase perceived behavioural control as they improve their self-efficacy in their ability to build a business, work independently, or reach customers as a result of digital skills. In addition, entrepreneurship is generally a planned and intentional act, and as such, intention is an important pre-cursor to subsequent entrepreneurial behaviour (Krueger et al., 2000).

This relationship can be especially significant for young people in Balochistan, as digital literacy can influence their perceptions of economic opportunities. A young graphic designer, digital marketer, e-commercer, web developer or freelancer is no longer solely reliant on the local workforce for salary-based employment. Digital platforms may have the potential to link skilled people with larger markets and consumers. UNCTAD (2024) notes that digitalization can foster new business models, reduce some start-up expenses and enhance market accessibility for entrepreneurs and small business in developing countries. However, do not confuse the concept of entrepreneurial intention with the concept of entrepreneurship. Even if a graduate is very motivated to start a digital enterprise they are still not able to do so because of poor finance, connectivity, family situation, poor market knowledge or a variety of other reasons.

10.3. E-Commerce Skills and Business Creation

The e-commerce skills can help overcome some of the traditional geographical market access constraints and thus can support business creation. Digital platforms provide an opportunity for an entrepreneur to market their products, interact with customers, take orders and connect with customers outside their local community. The magnitude of this opportunity is growing: according to UNCTAD, business e-commerce sales in 45 developed and developing economies amounted to some $28 trillion in 2024, and the growth rate has been quite dynamic in developing economies (UNCTAD, 2026). All of these indicate that the comprehension of digital commerce has become more relevant to entrepreneurship.

E-commerce could prove to be a game-changer for Balochistan, as some producers and entrepreneurs in the province have traditionally faced limitations on market access due to geographical isolation. But, e-commerce skills have to go beyond just being aware. The graduates should acquire practical skills in the presentation of products, online marketing, customer relations, pricing, digital transactions, order management and logistics. Furthermore, digital platforms do not provide for automatic equitable participation. Business e-commerce in developing economies remains significantly lower than its share of the economies, as measured in gross domestic product. As such, e-commerce training, together with digital infrastructure, payment systems, logistics, financing and actual market access, is most likely to lead to business creation.

10.4 TVET and Self-Employment Outcomes

TVET can help stimulate self-employment by equipping young people with skills that are suitable for both self-employment as well as paid employment. This is particularly vital in a labour market where formal jobs can no longer accommodate all new entrants. According to ILO (2024), labour-market interventions with a youth focus tend to have a positive impact on youth employment outcomes, and skills-training and entrepreneurship interventions have generally shown some impact, especially in LMICs. In this sense TVET can have a dual role of training the students for employment and for self-employment. But, one should be careful in interpreting self-employment outcomes. Self-employment does not always indicate successful entrepreneurship, because of restricted opportunities in the formal

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

labour market. In spite of the benefits of self-employment, it is still strongly linked to informal employment and may bring disadvantages in terms of income, protection and employment security (ILO, 2024). So, it is not enough that TVET would only aim for more graduates to become self-employed but also to become more productive, sustainable and self-employed in a way that maximizes earning potential. In Balochistan, this means combining technical and digital training and business-development services, finance, mentorship, and market opportunities.

10.5 Digital Skills and Income Generation

Digital skills ultimately become also economic value, which is how many people can use them to find a job or earn money. In terms of Human Capital Theory, investments in relevant knowledge and skills can yield economic returns in the form of increased productivity (Becker, 1964). Digital technologies have the potential to extend these returns further, allowing people to offer a service remotely and be able to engage in markets not just in their immediate vicinity. The total of digitally deliverable services exported from developing economies reached $1 trillion in 2023, highlighting the growing economic importance of these remote services (UNCTAD, 2024).

In the case of Balochistan, these opportunities could be significant as digitally deliverable services don't necessarily need to be near large industrial hubs. Design, programming, marketing, content creation, Virtual assistance, and other online services can be sources of income from national and international clients. However, having technical skills is not enough to generate income. Graduates need to understand how to recognize customers, professional communication, pricing of services, building a portfolio, collecting payment and maintaining quality. If commercial and entrepreneurial skills are expected to be developed as a result of the digital-skills development efforts, these skills should therefore be integrated with the digital skills development.

10.6 Why Training Does Not Always Translate into Entrepreneurship

A key concern in assessing TVET is that if skills are imparted, jobs or entrepreneurial activities will be generated. In reality, it's much more complicated. Entrepreneurial activity needs a wide enabling environment, whereas training is a means of developing individual capability. Sussan and Acs (2017) see digital entrepreneurship not only as an ecosystem of digital infrastructure, users and platforms, but also of entrepreneurs and institutions. Therefore, a graduate can have the relevant digital competency but may not be able to start an enterprise due to other factors in the ecosystem being weak.

This challenge is particularly significant for developing and less developed geographical settings. UNCTAD (2024) notes that the barriers to developing countries' fully leveraging the digital economy include inadequate infrastructure, lack of financial resources, lack of digital skills, and regulatory constraints. In the case of Balochistan, these wider barriers could be: internet connectivity, access to suitable equipment, start-up capital, digital payment issues, poor logistics, lack of mentorship, lack of business incubator and lack of support after training. Training programmes may thus generate less market economic impact if they do not facilitate the transition of their graduates. International evidence also shows that youth labour-market programmes combining different interventions are more likely to yield positive results than stand-alone interventions (ILO, 2024).

10.7.The results were compared with previous studies.

The conceptual expectations of the present study align with previous evidence that skills development can impact on youth economic participation if there is a connection between skills development and effective market opportunities. ILO (2024) finds that targeted active labour-market programmes, on average, are more effective in enhancing labour market outcomes; combining multiple components is more effective, especially for disadvantaged youth in low- and

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

middle-income countries. In another example, an entrepreneurship programme by the ILO via a vocational training centre was a mix of business-management training and mentorship and peer support, which extended entrepreneurship support beyond the technical training (ILO, 2024). The literature also backs up the study's focus on Digital Entrepreneurship as an alternative to employment. A study of one of the ILO's digital entrepreneurship programs demonstrates how digital learning can empower individuals to engage in new types of commercial activities, such as online and home based work (ILO, 2024). Meanwhile, international evidence warns of "taking for granted" equal access to such opportunities. UNCTAD (2024) notes that the digital divide may exacerbate the existing inequalities and that developing countries still have many limitations in realising the benefits of digital transformation. The Balochistan case thus provides a valuable regional aspect to the study and analyses how these relationships are applicable in a geographically remote and comparatively under-resourced provincial setting.

10.8 Policy Recommendations for Human Capital and youth employment in Balochistan

The overall message is that digital TVET can be a key factor in human-capital development in Balochistan, but its success will be dependent on the linkage of skills development and economic opportunities. Human Capital Theory stresses that investment in productive knowledge and capabilities (Becker, 1964; Schultz, 1961) is central but the economic pay-off from such investments is conditioned on the ability to use acquired skills. Digital skills can provide Balochistan with an opportunity to mitigate the reliance on labour markets, which are concentrated in specific geographic areas, to some degree by enabling young people to engage in freelancing, remote services, e-commerce and other digitally enabled activities. This is particularly pertinent because youth often struggle to gain entry to the labour market due to a lack of experience and employability skills (ILO, 2024).

The policy implication thus is to shift from the training-centred to the outcome-centred TVET system. The number of individuals enrolled, trained and certified should not be the primary measure of success. Rather, indicators should involve skills level attained, employment outcomes, self-employment, businesses started, access to digital markets, income, business survival and employment outcomes for graduates. Institutions providing training also need to build close ties with employers, digital companies, financial institutions, e-commerce companies, incubators and successful entrepreneurs. A strategy of this type would consider digital skills as a part of a broader pathway that connects human capital development → entrepreneurial capability → market participation → employment and income generation. In Balochistan, where mainstream job prospects are limited, improving this is likely to be a key mechanism for TVET to play a greater role in youth economic inclusion and sustainable livelihood development.

11. Policy Recommendations

11.1 Integrating Digital Skills across TVET Programmes

Digital competencies should be integrated across all relevant TVET programmes rather than offered only as separate courses. Training should include basic digital literacy, digital communication, online collaboration, digital marketing, e-commerce, and emerging technologies. Curricula should be regularly updated to ensure that graduates acquire practical skills aligned with changing labour-market requirements.

11.2 Strengthening E-Commerce and Entrepreneurship Education

TVET institutions should strengthen entrepreneurship and e-commerce education by incorporating business planning, digital marketing, customer management, financial literacy, online selling, and enterprise management. Training should emphasize practical business development rather than theoretical instruction, enabling graduates to transform technical and digital skills

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal

ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

into viable businesses, self-employment, and sustainable income-generating activities.

11.3 Establishing TVET-Based Business Incubation Centres

Business incubation centres should be established within major TVET institutions across Balochistan to support graduates interested in entrepreneurship. These centres should provide workspaces, internet facilities, business advisory services, mentorship, market information, and networking opportunities. Graduates should receive structured assistance during the critical transition from training completion to enterprise establishment.

11.4 Improving Access to Startup Finance

Dedicated financing mechanisms should be developed for TVET graduates seeking to establish digital and e-commerce businesses. Government agencies, banks, microfinance institutions, and development partners should provide accessible startup grants, interest-free or low-cost loans, and small business financing. Application procedures should be simplified for young entrepreneurs with limited collateral and financial histories.

11.5 Developing Post-Training Mentorship Programmes

Structured mentorship should continue after completion of TVET programmes. Graduates should be connected with experienced entrepreneurs, digital professionals, business experts, and successful freelancers who can provide practical guidance. Mentorship should focus on business establishment, client acquisition, financial management, marketing, problem solving, and enterprise growth during the initial stages of entrepreneurial activity.

11.6 Connecting Graduates with Digital Marketplaces

TVET institutions should establish mechanisms for connecting graduates directly with national and international digital marketplaces, freelancing platforms, e-commerce networks, and potential clients. Training should include practical account creation, portfolio development, product listing, bidding, customer communication, and digital marketing so that graduates can immediately apply acquired skills to income-generating opportunities.

11.7 Improving Internet and Digital Infrastructure

Reliable and affordable internet connectivity should be expanded across Balochistan, particularly in rural and remote districts. TVET institutions should have high-speed internet, updated computers, appropriate software, and digital laboratories. Community digital hubs can also provide graduates with continued access to technology after training, especially where household-level digital resources remain limited.

11.8 Supporting Female Digital Entrepreneurs

Targeted measures should encourage greater participation of women in digital training and entrepreneurship. Female trainees should receive flexible training opportunities, mentorship, financial assistance, digital resources, and access to home-based online work. Dedicated incubation and networking opportunities can enable women to overcome mobility, financial, and socio-cultural constraints while developing sustainable digital enterprises.

11.9 Strengthening Industry–TVET Linkages

Strong partnerships should be developed between TVET institutions, technology companies, employers, e-commerce businesses, financial institutions, and entrepreneurs. Industry representatives should participate in curriculum development, practical training, internships, and skills assessment. Regular labour-market consultations can ensure that training programmes respond to emerging technologies, employer expectations, and actual commercial opportunities available to graduates.

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

11.10 Developing a Digital Entrepreneurship Tracking System for TVET Graduates

A province-wide digital tracking system should monitor TVET graduates after training and record employment, self-employment, business creation, freelancing, income generation, and enterprise survival. Regular follow-up surveys should identify successful programmes and continuing barriers. Such evidence would enable policymakers to evaluate TVET performance based on measurable economic outcomes rather than training numbers alone.

12. Conclusion

With the digital transformation and e-commerce in Balochistan and changes in employment in the formal sector, new opportunities are arising to combat the problem of youth unemployment and limited access to jobs in the formal sector. This study emphasizes the relevance of integration of Technical and Vocational Education and Training (TVET) in enhancing youths' digital, technical, entrepreneurial and e-commerce skills to help them navigate the path to work, start their own businesses, freelance, work online or create new businesses. But the effectiveness of TVET can not be judged based on the number of individuals enrolled, trained and certified. Whether it delivers on its real promise is contingent upon whether the graduates develop market-relevant skills and can turn their skills into market opportunities and income.

Digital skills, such as digital marketing, e-commerce management, social media, freelancing, online business management, and digital financial skills, may increase employment opportunities for youth not just locally, but also internationally, and mitigate some disadvantages stemmed from the spread out population and lack of development in the private sector in Balochistan. However, it isn't a smooth or automatic path from training to entrepreneurship. Even though young graduates may have the technical expertise and entrepreneurial interest, they are not able to create sustainable economic activities due to low internet connectivity, poor digital infrastructure, lack of access to start-up capital, lack of access to digital payments and markets, lack of mentorship and incubation facilities, weak post-training support, gender constraints, and rural-urban divides. Such challenges are a proof that digital entrepreneurship cannot be solved merely through individual skills, but as an ecosystem.

TVET institutions should thus go beyond the traditional approach of imparting training to active supporters of graduates' labour market and digital economy integration. Digital skills need to be incorporated in relevant vocational programmes and e-commerce, entrepreneurship, financial literacy, business planning and learning through practice in a market context, should be an integral part of vocational training. Concurrently, there is a need for enhanced collaboration between TVET institutions and the government departments, employers, technology firms, financial institutions, ecommerce providers, business incubators and successful entrepreneurs. Special focus should be placed on women and youth in rural and remote regions to ensure that digital transformation does not exacerbate social and geographical gap.

Broadening access to reliable Internet, building business incubation spaces, creating access to start-up financing, providing organized mentoring after training, enabling graduates to access digital marketplaces and having a systematic follow-up on graduate outcomes are all effective ways of significantly enhancing the role of TVET in young people's economic inclusion. In the end, it is important to shift the focus from a training-based to an outcome-based TVET approach in which the success is defined by employment, self-employment, businesses established, participation in digital, income generated, enterprise sustainability and employment creation for others. Overall, TVET can be a significant tool in shaping human capital through Digital Skills and Entrepreneurship Education, enhancing the economic opportunities of youth, fostering digital inclusion, and driving livelier and sustainable livelihoods in Balochistan by integrating it with

ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 3 • July 2026

entrepreneurship education, finance, technology, mentorship, infrastructure, and market access.

REFERENCES

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211.

Becker, G. S. (1964). *Human capital: A theoretical and empirical analysis, with special reference to education*. University of Chicago Press.

International Labour Organization. (2023). *Changing demand for skills in digital economies and societies: Literature review and case studies from low- and middle-income countries*. International Labour Organization.

International Labour Organization. (2024a). *Decent Work Country Programme for Pakistan 2023–27 (DWCP-IV)*. International Labour Organization.

International Labour Organization. (2024b). *Global employment trends for youth 2024: Decent work, brighter futures*. International Labour Organization.

Krueger, N. F., Jr., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing, 15*(5–6), 411–432.

Ministry of Commerce, Government of Pakistan. (2025). *Draft e-Commerce Policy 2025–30*. Government of Pakistan.

Nambisan, S. (2017). Digital entrepreneurship: Toward a digital technology perspective of entrepreneurship. *Entrepreneurship Theory and Practice, 41*(6), 1029–1055.

National Vocational and Technical Training Commission. (n.d.). *Prime Minister's Youth Skill Development Program (PMYSDP)*. Government of Pakistan.

National Vocational and Technical Training Commission. (2024). *High-tech IT training: Prime Minister's Youth Skill Development Program, Batch-II*. Government of Pakistan.

Pakistan Bureau of Statistics. (2025). *Labour Force Survey 2024–25: Annual report*. Government of Pakistan.

Schultz, T. W. (1961). Investment in human capital. *The American Economic Review, 51*(1), 1–17.

Sussan, F., & Acs, Z. J. (2017). The digital entrepreneurial ecosystem. *Small Business Economics, 49*(1), 55–73.

United Nations Conference on Trade and Development. (2024a). *Business e-commerce sales and the role of online platforms*. United Nations.

United Nations Conference on Trade and Development. (2024b). *Developing economies surpass $1 trillion mark in digitally deliverable services exports*. United Nations.

United Nations Conference on Trade and Development. (2024c). *Digital economy report 2024: Shaping an environmentally sustainable and inclusive digital future*. United Nations.

United Nations Conference on Trade and Development. (2024d). *Making e-commerce and the digital economy work for all*. United Nations.

United Nations Conference on Trade and Development. (2025). *Indirect taxation of e-commerce and digital trade: Implications for developing countries*. United Nations.

World Bank. (2024). *Pakistan: Two new World Bank projects to support the digital economy and increase resilience to floods*. World Bank.

World Bank. (2025a). *Connecting youth to digital opportunities: The World Bank's collaborative approaches in Pakistan*. World Bank.

World Bank. (2025b). *Pakistan development update: Reimagining a digital Pakistan*. World Bank.

World Bank, International Labour Organization, & UNESCO. (2023). *Building better formal TVET systems: Principles and practice in low- and middle-income countries*. World Bank, International Labour Organization, & UNESCO.