CHAPTER 1
INTRODUCTION

1.1. Background of the study

Pakistan has become a major producer of fruits and vegetables, particularly cherries, due to its diverse climate and fertile land. According to the Trade Development Authority of Pakistan (TDAP, 2025). Pakistan cultivated on 2,500 hectares and annually produces 2.4 tons per hectares. Produce. The expansion in area and overall production in Pakistan has surpassed global averages, signaling substantial growth potential for cherries. The global cherry market has shown consistent growth(The Business Research Company, 2025). Pakistan ranks 49th globally in cherry production, contributing minimally to the international cherry market (Pakistan Horticulture Development & Export Company (PHDEC), 2023). Fruits and vegetables, particularly cherries, are playing an increasingly significant role in the agricultural sector. Agriculture as a whole accounts for about 24% of Pakistan's GDP and provides 37.4% of employment, making it a significant source of rural jobs and income (Trade Development Authority of Pakistan; Ministry of Commerce, Government of Pakistan, 2022). Gilgit-Baltistan is increasingly recognized as a premier region for high-quality cherry production and has gained unique fame due to the region's distinctive climate, particularly in areas such as Hunza, Nagar, Yasin, Phundar, and Nomal, where cherries with sweet taste, juicy texture, and high nutritional value are produced.

These qualities have established Gilgit-Baltistan as the premier cherry-producing area, now recognized in international markets. This growing demand

highlights the region's potential to become a major player in global cherry exports, offering significant economic opportunities for local farmers and businesses (APP, 2024). According to the Department of Agriculture of Gilgit-Baltistan, the annual yield is 5,000 tons of cherries. Recently, for the first time, cherries from this region were exported to China, with around six tons shipped and more or less than 100 orchards in Gilgit-Baltistan have been registered with China's General Administration of Customs, which enables direct exports to the Chinese market and access to better prices. Additionally, cherries from this region are exported at prices between Rs 700-1000 per kilogram in the Middle East, and further expected that it will increase production and export volumes. These developments underscore the region's growing potential in global cherry exports and highlight the need for strategic approaches, such as e-business, to fully capitalize on emerging market opportunities (*Cherry on the Top: Gilgit Baltistan's Shines*, 2024).

However, beyond traditional B2B export markets, there is an emerging opportunity for the cherry industry in Pakistan to transition from bulk exporting to an online B2C (business-to-consumer) model. This transition involves shifting from selling cherries through intermediaries and distributors to directly selling to end consumers using digital platforms. Such a shift can enhance profit margins, improve consumer relationships, and foster brand loyalty, thereby opening new growth prospects for farmers and businesses alike (Raza et al., 2025). To better understand, the study applies the Technology-Organization-Environment (TOE) framework, which explores key factors facilitating or hindering the adoption of online B2C e-

commerce in the cherry industry (Ismail & Abdul Wahid, 2020). The Technological dimension refers to the availability and quality of digital infrastructure, including internet connectivity and e-commerce platforms. Important parts of this include having the right technology, people who know how to use it, and customers who understand how e-commerce works. Utilizing modern equipment, high-speed internet, and skilled personnel is crucial for running an e-commerce business successfully (Alavinasab & Taleghani, 2016). This is especially important for places like Gilgit-Baltistan, where technology is still developing but has a big role to play, especially in helping farmers and businesses sell products like cherries online. Although interest in e-business is growing, many areas still have weak internet, limited digital skills, and not enough access to affordable technology (Prastiwi et al.,2025). To fully benefit from e-commerce and reach more international buyers, Gilgit-Baltistan needs better internet, more training, and smart investments in technology. This will help local farmers and businesses grow through online trade (Pamir Times, 2024)

The role of E-commerce and digital tools, including e-commerce platforms, social media marketing, and online communication, is altering how farmers interact with domestic markets. These tools allow direct access to buyers, overtake traditional intermediaries, and potentially increase profit margins (Ali & Siddiqui, 2021) Pakistan's B2C e-commerce market is estimated at US$7.6 billion and is projected to grow to US$9.1 billion by 2025, driven by a young, digitally active population rapidly embracing online shopping. Nature Within this expanding market, platforms such as Daraz.pk enable fruit sellers to reach millions of domestic

consumers across major cities including Karachi, Lahore, and Islamabad through nationwide cash-on-delivery services, while more than 45 million Facebook users in Pakistan have made social media platforms including Facebook, Instagram, and WhatsApp powerful B2C channels through which local agricultural sellers directly promote and sell their produce to domestic consumers (Xiuyi, 2021).

Early adoption examples from Gilgit-Baltistan are already emerging, with businesses such as GB Dry Fruit Supplier using WhatsApp-based ordering and cash-on-delivery to sell dried cherries and other local fruits directly to consumers across Pakistan (GB Dry Fruit Supplier, n.d). Such direct farmer-to-consumer B2C models can eliminate middlemen, provide fresher produce to consumers at lower prices, and simultaneously improve farmers' bargaining power and income share. However, only 15% of Pakistani farmers currently use digital platforms for selling their produce, with low digital literacy, inadequate cold chain infrastructure, and post-harvest losses exceeding 40% remaining as critical barriers to widespread B2C adoption in the agricultural sector. (Yang et al., 2025). Addressing these gaps is therefore essential for cherry producers in Gilgit-Baltistan to capitalize on the growing domestic demand for fresh fruits through online B2C channels. The Organizational dimension assesses the readiness of cherry producers and businesses in terms of skills, resources, and managerial support. Finally, the Environmental dimension evaluates external pressures, such as market competition, consumer demand, and government policies that encourage digital trade (Ali & Siddiqui, 2021).

Moreover, the Technology Acceptance Model (TAM) is utilized in this study to examine how both cherry producers and consumers perceive the use of e-commerce platforms for direct sales. By focusing on two key constructs, perceived ease of use, perceived usefulness, and optimism, the model helps explain the willingness of stakeholders to adopt digital selling and buying channels. Understanding these perceptions is essential for designing effective interventions to increase the adoption and sustained use of B2C platforms such as WhatsApp, Daraz, Facebook, and Instagram (Thomas-Francois & Somogyi, 2022).In this context, factors such as access to reliable internet, digital literacy, affordable technology, and trust in online transactions become critical for successful implementation. This is particularly relevant for cherry-producing regions like Gilgit-Baltistan, where digital infrastructure is still evolving but holds significant potential to connect farmers directly with consumers. This shift from traditional B2B methods to digital B2C selling models offers an opportunity to increase producer margins and market reach within the domestic economy (Jamil et al., 2022).

Although interest in e-business is growing, challenges such as weak internet connectivity, limited digital skills, and restricted access to technology remain barriers. To fully benefit from the transition to online B2C commerce and expand their market reach, cherry producers and sellers need better internet services, targeted training programs, and strategic investments in technology. Addressing these gaps will empower local farmers and businesses to capitalize on emerging consumer markets and foster sustainable growth in the Pakistani cherry industry

(The Friday Times, n.d). Therefore, this study explores transitioning from B2B to Online B2C: A Study of the Cherry Industry in Gilgit, Pakistan.

1.2. Problems formulation

The cherry industry in Gilgit-Baltistan has traditionally relied on B2B channels and intermediaries for sales. While this model has provided some economic benefits, it limits farmers' ability to directly engage with consumers, build brand identity, and capture higher profit margins.The transition to B2C e-commerce leveraging platforms like Daraz, WhatsApp, Instagram, and Facebook offers opportunities for direct sales, better pricing, and stronger customer relationships. Therefore, it is important to examine how different factors influence the adoption of online B2C e-commerce in the cherry industry of Gilgit-Baltistan, Pakistan. Using the Technology–Organization Environment (TOE) framework for producers and the Technology Acceptance Model (TAM) for consumers, this study considers how technological readiness, organizational capacity, environmental conditions, and consumer perceptions shape the transition from traditional B2B sales to B2C channels.

Therefore, this study aims to analyze the effects of these factors on B2C adoption through the following problem formulations:

1. How do technological factors contribute to the adoption of B2C e-commerce among cherry producers?
2. How do organizational factors contribute to the adoption of B2C e-commerce among cherry producers?

3. How do environmental factors contribute to the adoption of B2C e-commerce among cherry producers?
4. How do consumer perceptions (perceived ease of use and perceived usefulness) contribute to the intention to purchase cherries online?

1.3. Objectives of The Research

This research examines the effect of technological, organizational, environmental, and consumer perception factors on the adoption of B2C e-commerce in the cherry industry of Gilgit-Baltistan, Pakistan. It seeks to determine the extent to which each factor contributes to producers' readiness and consumers' willingness to engage in online trade. Moreover, the study aims to explore the impact of these factors on the overall adoption of online B2C sales.

1. To analyze how technological factors contribute to B2C e-commerce adoption among cherry producers.
2. To analyze how organizational factors contribute to B2C e-commerce adoption among cherry producers.
3. To analyze how environmental factors contribute to B2C e-commerce adoption among cherry producers.
4. To analyze how consumer perceptions (perceived ease of use and perceived usefulness) contribute to purchasing cherries online.

1.4. Research Contribution

This study contributes to both practical and theoretical domains by addressing key challenges and opportunities within Pakistan's cherry industry as it seeks to leverage online B2C channels for global trade and improved economic outcomes.

1.4.1. Practical Contribution

The study offers useful insights for cherry producers, agribusinesses, and policymakers in Gilgit-Baltistan to enhance their competitive position by adopting B2C e-commerce platforms and digital marketing strategies. It provides a framework for improving technological infrastructure, fostering digital literacy, and strengthening organizational capabilities, which can help local producers reach consumers directly, increase profit margins, and enhance brand loyalty within emerging markets. The research highlights the importance of targeted investments in internet services, capacity-building programs, and the adoption of e-commerce best practices, enabling practical steps to accelerate the digital transformation of rural supply chains.

1.4.2 Theoretical Contribution

The study expands the application of the Technology-Organization-Environment (TOE) framework to the context of agricultural transition from B2B to B2C digital commerce, providing empirical evidence on the roles of technological readiness, organizational support, and environmental pressures in e-business adoption. It bridges the TOE framework with the Technology Acceptance Model (TAM) by integrating producer and consumer perspectives, specifically examining how perceived ease of use and perceived usefulness drive willingness to engage with B2C platforms. The findings refine understanding of digital transformation in low-resource, agriculturally driven economies, supporting future research on technology adoption, rural entrepreneurship, and e-commerce diffusion in developing markets.

These contributions help address the existing gaps in both practice and theory for e-commerce adoption in emerging agricultural sectors, advancing knowledge for academics and delivering tangible benefits for industry stakeholders

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